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The Code of Federal Regulations is sold by the Superintendent of Documents.

SMALL BUSINESS ADMINISTRATION

13 CFR Parts 121, 124, 125, 126, and 127

RIN 3245-AH70

Ownership and Control and Contractual Assistance Requirements for the 8(a) Business Development Program; Correction

AGENCY: U.S. Small Business Administration.

ACTION: Final rule; correction.

SUMMARY: The U.S. Small Business Administration (SBA or Agency) is correcting a final rule in the **Federal Register** on April 27, 2023. The rule made several changes to the ownership and control requirements for the 8(a) Business Development (BD) program, several changes relating to 8(a) contracts, and several revisions to incorporate changes to SBA's other government contracting programs. This correction fixes a citation error contained in the April 27th final rule.

DATES: Effective May 30, 2023.

FOR FURTHER INFORMATION CONTACT: Mark Hagedorn, U.S. Small Business Administration, Office of General Counsel, 409 Third Street SW, Washington, DC 20416; (202) 205-7625; mark.hagedorn@sba.gov.

SUPPLEMENTARY INFORMATION: In FR Doc. 2023-07855 appearing on page 26164 in the **Federal Register** on Thursday, April 27, 2023 (88 FR 26164), the following correction is made:

§ 124.509 [Corrected]

■ 1. On page 26208, in the second column, in § 124.509, paragraph (c)(1) is corrected to read as follows:

“(c) * * *

(1) As part of its annual review after being admitted to the 8(a) BD program, a Participant must provide to SBA within 30 days from the end of its program year:

(i) Annual financial statements with a breakdown of 8(a) and non-8(a) revenue in accord with § 124.602; and

(ii) An estimate of 8(a) and non-8(a) revenue derived during the program year, which may be obtained from monthly, quarterly or semi-annual interim financial statements or otherwise.”

Larry Stubblefield,

Acting Associate Administrator, for Government Contracting and Business Development.

[FR Doc. 2023-09590 Filed 5-4-23; 8:45 am]

BILLING CODE 8026-03-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Docket No. FAA-2022-1445; **Airspace Docket No. 21-AWP-55**]

RIN 2120-AA66

Modification of Class E Airspace; Visalia Municipal Airport, Visalia, CA

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action modifies the Class E airspace designated as a surface area at Visalia Municipal Airport, CA. Additionally, this action modifies the Class E airspace extending upward from 700 feet above the surface at the airport. Furthermore, several administrative modifications were made to update the airport's legal descriptions. These actions will support the safety and management of instrument flight rules (IFR) operations at the airport.

DATES: Effective date 0901 UTC, August 10, 2023. The Director of the Federal Register approves this incorporation by reference under 1 CFR part 51, subject to the annual revision of FAA Order JO 7400.11 and publication of conforming amendments.

ADDRESSES: A copy of the Notice of Proposed Rulemaking (NPRM), all comments received, this final rule, and all background material may be viewed online at www.regulations.gov using the FAA Docket number. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year.

FAA Order JO 7400.11G, Airspace Designations and Reporting Points, and subsequent amendments can be viewed online at www.faa.gov/air_traffic/publications/. You may also contact the Rules and Regulations Group, Office of Policy, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone: (202) 267-8783.

FOR FURTHER INFORMATION CONTACT:

Keith Adams, Federal Aviation Administration, Western Service Center, Operations Support Group, 2200 S 216th Street, Des Moines, WA 98198; telephone (206) 231-2428.

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority, as it modifies the Class E airspace at Visalia Municipal Airport, CA, to support IFR operations at the airport.

History

The FAA published a notice of proposed rulemaking for Docket No. FAA-2022-1445 in the **Federal Register** (87 FR 76169; December 13, 2022), modifying Class E airspace designated as a surface area, the Class E airspace extending upward from 700 feet above the surface, and the administrative portion of the Class E airspace legal descriptions at Visalia Municipal Airport, CA. Interested parties were invited to participate in this rulemaking effort by submitting written comments on the proposal to the FAA. No comments were received.

Incorporation by Reference

Class E airspace designations are published in paragraphs 6002 and 6005, respectively, of FAA Order JO 7400.11, Airspace Designations and Reporting

Points, which is incorporated by reference in 14 CFR 71.1 on an annual basis. This document amends the current version of that order, FAA Order JO 7400.11G, dated August 19, 2022, and effective September 15, 2022. FAA Order JO 7400.11G is publicly available as listed in the **ADDRESSES** section of this document. These amendments will be published in the next update to FAA Order JO 7400.11.

FAA Order JO 7400.11G lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

The Rule

This action amends 14 CFR part 71 by modifying the Class E airspace designated as surface area at Visalia Municipal Airport, CA. The Class E surface area airspace radius is expanded from a 3.5-mile radius of the airport to a 4-mile radius to properly contain aircraft conducting circling maneuvers. Additionally, the Class E surface area airspace extension northwest of the airport is no longer needed and is removed. The modified lateral boundary of the Class E surface area is sufficient to contain IFR arrival operations while between the surface and 1,000 feet above the surface.

The Class E airspace extending upward from 700 feet above the surface at Visalia Municipal Airport, CA, is also modified. The Class E airspace is reduced from a 5-mile radius to a 4.5-mile radius of the airport as the additional airspace is no longer required. The extensions to the Class E airspace are now described in relation to the airport reference point, as the Visalia very high frequency omnidirectional range (VOR) navigational aid (NAVAID) was decommissioned on March 25, 2022. Furthermore, the existing Class E extensions are modified to properly contain IFR departures until reaching 1,200 feet above the surface. The extension to the southeast of the airport is modified to be within 2.1 miles each side of the airport's 138° bearing extending from the 4.5-mile radius to 6.6 miles southeast of the airport, and the extension to the northwest is modified to be within 1.8 miles each side of the airport's 314° bearing extending from the 4.5-mile radius to 6.6 miles northwest of the airport.

Finally, this action makes several administrative modifications to the airport's legal descriptions. The Visalia VOR NAVAID is removed from the Class E surface area text header and airspace description. It was decommissioned and is no longer needed to describe the airspace. Additionally, the Class E surface area

legal description is updated to replace the outdated use of the phrases "Notice to Airmen" and "Airport/Facility Directory." These phrases are amended to read "Notice to Air Missions" and "Chart Supplement," respectively, to match the FAA's current nomenclature. Finally, reference to the Swanson Ranch NR1 Airport, CA, is removed from the legal description and text header of the Class E airspace extending upward from 700 feet of the surface, as the airport no longer exists.

Regulatory Notices and Analyses

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current, is non-controversial, and unlikely to result in adverse or negative comments. It therefore: (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT regulatory policies and procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when promulgated, would not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Environmental Review

The FAA has determined that this action qualifies for categorical exclusion under the National Environmental Policy Act in accordance with FAA Order 1050.1F, "Environmental Impacts: Policies and Procedures," paragraph 5–6.5.a. This airspace action is not expected to cause any potentially significant environmental impacts, and no extraordinary circumstances exist that warrant the preparation of an environmental assessment.

List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 71 as follows:

PART 71—DESIGNATION OF CLASS A, B, C, D, AND E AIRSPACE AREAS; AIR TRAFFIC SERVICE ROUTES; AND REPORTING POINTS

■ 1. The authority citation for 14 CFR part 71 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

§ 71.1 [Amended]

■ 2. The incorporation by reference in 14 CFR 71.1 of FAA Order JO 7400.11G, Airspace Designations and Reporting Points, dated August 19, 2022, and effective September 15, 2022, is amended as follows:

Paragraph 6002 Class E Airspace Areas Designated as a Surface Area.

* * * * *

AWP CA E2 Visalia, CA [Amended]

Visalia Municipal Airport, CA
(Lat. 36°19'07" N, long. 119°23'34" W)

That airspace extending upward from the surface within a 4-mile radius of the airport. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Air Missions. The effective date and time will thereafter be continuously published in the Chart Supplement.

* * * * *

Paragraph 6005 Class E Airspace Areas Extending Upward From 700 Feet or More Above the Surface of the Earth.

* * * * *

AWP CA E5 Visalia, CA [Amended]

Visalia Municipal Airport, CA
(Lat. 36°19'07" N, long. 119°23'34" W)

That airspace extending upward from 700 feet above the surface within a 4.5-mile radius of the airport, and within 2.1 miles each side of the 138° bearing from the airport extending from the 4.5-mile radius to 6.6 miles southeast of the airport, and within 1.8 miles each side of the 314° bearing from the 4.5-mile radius to 6.6 miles northwest of the airport.

* * * * *

Issued in Des Moines, Washington, on April 27, 2023.

B.G. Chew,

Group Manager, Operations Support Group, Western Service Center.

[FR Doc. 2023–09370 Filed 5–4–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Docket No. FAA–2023–1013; Airspace Docket No. 23–ASO–20]

RIN 2120–AA66

Amendment of Class D Airspace; Smyrna, TN

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action amends the Smyrna, TN Class D airspace description by replacing the term Notice to Airmen with the term Notice to Air Missions. This action does not change the boundaries, altitudes, or operating requirements of the Class D airspace area.

DATES: Effective 0901 UTC, June 15, 2023. The Director of the Federal Register approves this incorporation by reference action under 1 CFR part 51, subject to the annual revision of FAA Order JO 7400.11 and publication of conforming amendments.

ADDRESSES: A copy of the Notice of Proposed Rulemaking (NPRM), all comments received, this final rule, and all background material may be viewed online at www.regulations.gov using the FAA Docket number. Electronic retrieval help and guidelines are available on the website. It is available 24 hours a day, 365 days a year.

FAA Order JO 7400.11G, Airspace Designations and Reporting Points, and subsequent amendments can be viewed online at www.faa.gov/air_traffic/publications/. You may also contact the Rules and Regulations Group, Office of Policy, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone: (202) 267-8783.

FOR FURTHER INFORMATION CONTACT: Jennifer Ledford, Operations Support Group, Eastern Service Center, Federal Aviation Administration, 1701 Columbia Avenue, College Park, GA 30337; Telephone: (404) 305-5649.

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority, as it amends the Class D airspace description in Smyrna, TN, by replacing the Notice to Airmen with the Notice to Air Missions.

Incorporation by Reference

Class D airspace designations are published in Paragraph 5000 of FAA Order JO 7400.11, Airspace

Designations and Reporting Points, incorporated by reference in 14 CFR 71.1 annually. This document amends the current version of that order, FAA Order JO 7400.11G, Airspace Designations and Reporting Points, dated August 19, 2022, and effective September 15, 2022. These updates will subsequently be published in the next update to FAA Order JO 7400.11. FAA Order JO 7400.11G is publicly available as listed in the **ADDRESSES** section of this document. FAA Order JO 7400.11G lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

The Rule

This action amends 14 CFR part 71 by amending Class D airspace for Smyrna Airport, Smyrna, TN, by replacing Notice to Airmen with Notice to Air Missions. This action does not affect the airspace's boundaries, altitudes, or operating requirements. Therefore, notice and public procedure under 5 U.S.C. 553(b) are unnecessary.

Regulatory Notices and Analyses

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore: (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is minimal. Since this is a routine matter that only affects air traffic procedures and air navigation, it is certified that this rule, when promulgated, does not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Environmental Review

The FAA has determined that this action qualifies for categorical exclusion under the National Environmental Policy Act in accordance with FAA Order 1050.1F, "Environmental Impacts: Policies and Procedures," paragraph 5-6.5a. This airspace action is not expected to cause any potentially significant environmental impacts, and no extraordinary circumstances warrant the preparation of an environmental assessment.

Lists of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 71 as follows:

PART 71—DESIGNATION OF CLASS A, B, C, D, AND E AIRSPACE AREAS; AIR TRAFFIC SERVICE ROUTES; AND REPORTING POINTS

■ 1. The authority citation for part 71 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g); 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959-1963 Comp., p. 389.

§ 71.1 [Amended]

■ 2. The incorporation by reference in 14 CFR 71.1 of FAA Order JO 7400.11G, Airspace Designations and Reporting Points, dated August 19, 2022, and effective September 15, 2022, is amended as follows:

Paragraph 5000 Class D Airspace.

* * * * *

ASO TN D Smyrna, TN

Smyrna Airport, TN
(Lat 36°00'32" N, long 86°31'12" W)

That airspace extending upward from the surface to but not including 2,500 feet MSL within a 3.9-mile radius of the Smyrna Airport, and within 1.2 miles each side of the 139° bearing from the airport, extending from the 3.9-mile radius to 5.5-miles southeast of the airport, and within 1.2-miles each side of the 184° bearing from the airport, extending from the 3.9-mile radius to 5.5-miles south of the airport. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Air Missions. The effective dates and times will thereafter be continuously published in the Chart Supplement.

Issued in College Park, Georgia, on April 20, 2023.

Andreese C. Davis,

Manager, Airspace & Procedures Team South, Eastern Service Center, Air Traffic Organization.

[FR Doc. 2023-08759 Filed 5-4-23; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Docket No. FAA-2022-1455; Airspace Docket No. 21-AWP-42]

RIN 2120-AA66

Amendment of Class D and Class E Airspace; Lemoore Naval Air Station (NAS) (Reeves Field), CA

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action modifies the Class D and Class E surface airspace at Lemoore Naval Air Station, Reeves Field. It removes the Class E airspace designated as an extension to a Class D or Class E surface area, removes the Class E airspace extending from 1,200 feet above the surface, modifies the Class E airspace extending from 700 feet above the surface of the earth, and it makes several administrative changes to update the airport's legal descriptions. These actions will support the safety and management of instrument flight rule (IFR) and visual flight rule (VFR) operations at the airport.

DATES: Effective date 0901 UTC, August 10, 2023. The Director of the Federal Register approves this incorporation by reference under 1 CFR part 51, subject to the annual revision of FAA Order JO 7400.11 and publication of conforming amendments.

ADDRESSES: A copy of the Notice of Proposed Rulemaking (NPRM), all comments received, this final rule, and all background material may be viewed online at www.regulations.gov using the FAA Docket number. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year.

FAA Order JO 7400.11G, Airspace Designations and Reporting Points, and subsequent amendments can be viewed online at www.faa.gov/air_traffic/publications/. You may also contact the Rules and Regulations Group, Office of Policy, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone: (202) 267-8783.

FOR FURTHER INFORMATION CONTACT: Keith Adams, Federal Aviation Administration, Western Service Center, Operations Support Group, 2200 S 216th Street, Des Moines, WA 98198; telephone (206) 231-2428.

SUPPLEMENTARY INFORMATION:**Authority for This Rulemaking**

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of airspace necessary to ensure the safety of aircraft and the efficient use of

airspace. This regulation is within the scope of that authority, as it modifies Class D and Class E airspace, and revokes Class E airspace at Lemoore NAS, Reeves Field, CA, to support IFR and VFR operations at the airport.

History

The FAA published a notice of proposed rulemaking for Docket No. FAA-2022-1455 in the **Federal Register** (87 FR 77044; December 16, 2022), modifying the Class D and E airspace designated as surface areas, removing the Class E airspace area designated as an extension to a Class D or Class E surface area, modifying the Class E airspace extending upward from 700 feet above the surface, removing the Class E airspace extending upward from 1,200 feet above the surface, and modifying the administrative portion of the Class D and Class E airspace legal descriptions at Lemoore NAS, Reeves Field, CA. Interested parties were invited to participate in this rulemaking effort by submitting written comments on the proposal to the FAA. No comments were received.

Incorporation by Reference

Class D and Class E airspace designations are published in paragraphs 5000, 6002, 6004, and 6005, of FAA Order JO 7400.11, Airspace Designations and Reporting Points, which is incorporated by reference in 14 CFR 71.1 on an annual basis. This document amends the current version of that order, FAA Order JO 7400.11G, dated August 19, 2022, and effective September 15, 2022. FAA Order JO 7400.11G is publicly available as listed in the **ADDRESSES** section of this document. These amendments will be published in the next update to FAA Order JO 7400.11.

FAA Order JO 7400.11G lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

The Rule

This action amends 14 CFR part 71 by modifying the Class D airspace at Lemoore NAS (Reeves Field), Lemoore, CA. The Class D airspace is expanded from a 5.2-mile radius of the airport to a 5.4-mile radius to contain IFR departure operations more appropriately while between the surface and the base of adjacent controlled airspace.

The Class E airspace designated as a surface area is modified to be coincident with the Class D airspace.

The Class E airspace designated as an extension to the Class D and Class E surface areas is no longer needed and is removed. The modified lateral boundaries of the Class D and Class E

surface areas are sufficient to contain IFR arrival operations while between the surface and 1,000 feet above the surface.

The Class E airspace extending upward from 700 feet above the surface at the airport is also modified. The north and southeast extensions of this Class E airspace are removed as the existing airspace within a 7.9-mile radius of the airport is sufficient to contain arriving IFR operations below 1,500 feet above the surface and departing IFR operations until they reach 1,200 feet above the surface.

The Class E airspace extending upward from 1,200 feet above the surface at the airport is removed as the area is already contained within the Sacramento Class E domestic en route airspace area, and duplication is not necessary.

Finally, this action makes several administrative modifications to the airport's legal descriptions. The city and airport name information in the first two lines of the text headers for both the Class D and Class E surface areas are incorrect. The term "NAS" is removed from line one of those descriptions, and the airport name is corrected by replacing the name "LeMoore" with "Lemoore" on the second line and in the body of both legal descriptions to match the FAA's database. The terms "Notice to Airmen" and "Airport/Facility Directory" in the Class D and E surface area legal descriptions are updated to read "Notice to Air Missions" and "Chart Supplement," respectively, to match the FAA's current nomenclature. Reference to the Lemoore NAS Tactical Air Navigation Navigational Aid is removed from the legal description for the Class E airspace extending from 700 feet above the surface and is replaced with the airport name and geographical location.

Regulatory Notices and Analyses

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current, is non-controversial, and unlikely to result in adverse or negative comments. It therefore: (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT regulatory policies and procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when

promulgated, would not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Environmental Review

The FAA has determined that this action qualifies for categorical exclusion under the National Environmental Policy Act in accordance with FAA Order 1050.1F, “Environmental Impacts: Policies and Procedures,” paragraph 5–6.5.a. This airspace action is not expected to cause any potentially significant environmental impacts, and no extraordinary circumstances exist that warrant the preparation of an environmental assessment.

List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 71 as follows:

PART 71—DESIGNATION OF CLASS A, B, C, D, AND E AIRSPACE AREAS; AIR TRAFFIC SERVICE ROUTES; AND REPORTING POINTS

■ 1. The authority citation for 14 CFR part 71 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

§ 71.1 [Amended]

■ 2. The incorporation by reference in 14 CFR 71.1 of FAA Order JO 7400.11G, Airspace Designations and Reporting Points, dated August 19, 2022, and effective September 15, 2022, is amended as follows:

Paragraph 5000 Class D Airspace.

* * * * *

AWP CA D Lemoore, CA [Amended]

Lemoore NAS (Reeves Field), CA
(Lat. 36°19'59" N, long. 119°57'08" W)

That airspace extending upward from the surface to and including 2,700 feet MSL within a 5.4-mile radius of the airport. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Air Missions. The effective date and time will thereafter be continuously published in the Chart Supplement.

* * * * *

Paragraph 6002 Class E Airspace Areas Designated as a Surface Area.

* * * * *

AWP CA E2 Lemoore, CA [Amended]

Lemoore NAS (Reeves Field), CA
(Lat. 36°19'59" N, long. 119°57'08" W)

That airspace extending upward from the surface within a 5.4-mile radius of the airport. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Air Missions. The effective date and time will thereafter be continuously published in the Chart Supplement.

* * * * *

Paragraph 6004 Class E Airspace Areas Designated as an Extension to a Class D or Class E Surface Area.

* * * * *

AWP CA E4 Lemoore NAS, CA [Removed]

Lemoore NAS (Reeves Field), CA
(Lat. 36°19'59" N, long. 119°57'08" W)

Lemoore TACAN
(Lat. 36°20'39" N, long. 119°57'59" W)

That airspace extending upward from the surface within 1.8 miles each side of the Lemoore TACAN 335° and 357° radials, extending from the 5.2-mile radius of Lemoore NAS (Reeves Field) to 7 miles northwest and north of the TACAN, and within 1.8 miles each side of the Lemoore TACAN 155° radial, extending from the 5.2-mile radius to 7 miles southeast of the TACAN.

* * * * *

Paragraph 6005 Class E Airspace Areas Extending Upward From 700 Feet or More Above the Surface of the Earth.

* * * * *

AWP CA E5 Lemoore, CA [Amended]

Lemoore NAS (Reeves Field), CA
(Lat. 36°19'59" N, long. 119°57'08" W)

That airspace extending upward from 700 feet above the surface within a 7.9-mile radius of the airport.

* * * * *

Issued in Des Moines, Washington, on April 25, 2023.

B.G. Chew,

*Group Manager, Operations Support Group,
Western Service Center.*

[FR Doc. 2023–09033 Filed 5–4–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[Docket No. USCG–2022–0303]

RIN 1625–AA09

Drawbridge Operation Regulation; Trail Creek, Michigan City, IN

AGENCY: Coast Guard, DHS.

ACTION: Final rule.

SUMMARY: The Coast Guard is modifying the operating schedule that governs the Amtrak Railroad Bridge, mil 0.9, across

Trail Creek, in Michigan City, Indiana, to allow it to operate remotely. The bridge has operated remotely since 2003 without inclusion in the CFR. During that period, the Coast Guard has not received any reports of incident or public complaint.

DATES: This rule is effective June 5, 2023.

ADDRESSES: To view documents mentioned in this preamble as being available in the docket, go to <https://www.regulations.gov>. Type the docket number (USCG–2022–0303) in the “SEARCH” box and click “SEARCH”. In the Document Type column, select “Supporting & Related Material.”

FOR FURTHER INFORMATION CONTACT: If you have questions on this proposed rule, call or email Mr. Lee D. Soule, Bridge Management Specialist, Ninth Coast Guard District; telephone 216–902–6085, email Lee.D.Soule@uscg.mil.

SUPPLEMENTARY INFORMATION:

I. Table of Abbreviations

CFR Code of Federal Regulations
DHS Department of Homeland Security
FR Federal Register IGLD85 International Great Lakes Datum of 1985
Left As viewed from the mouth of the river
LWD Low Water Datum Based on IGLD85
NPRM Notice of Proposed Rulemaking
OMB Office of Management and Budget
Right As viewed from the mouth of the river
§ Section
U.S.C. United States Code

II. Background Information and Regulatory History

On May 25, 2022, the Coast Guard published a NPRM entitled “Drawbridge Operation Regulation: Trail Creek, Michigan City, IN” in the **Federal Register** (87 FR 31794). There we stated why we issued the NPRM, and invited comments on our proposed regulatory action related to this regulatory change. During the comment period that ended on July 25, 2022, we received one comment unrelated to this rulemaking.

III. Legal Authority and Need for Rule

The Coast Guard is issuing this rule under authority 33 U.S.C. 499.

The Amtrak Railroad Bridge, mile 0.9, over Trail Creek, in Michigan City, Indiana, was authorized to operate remotely by letter during the United States Coast Guard’s transition from the Department of Transportation to the Department of Homeland Security. Inclusion of the Amtrak Railroad Bridge, mile 0.9, into the regulations was overlooked and this proposed rule will correct that oversight. Further, the Coast Guard was able to use the rulemaking process as a means to provide the public

the opportunity to comment on the bridge operations.

Trail Creek is 7.3 miles long and used by small powered and unpowered recreational vessels, commercial passenger vessels, and fishing vessels. Freighters have not utilized the waterway for several years. The Amtrak Railroad Bridge, mile 0.9, over Trail Creek is a swing railroad bridge and provides a horizontal clearance of 41 feet in the right draw and 44 feet in the left draw and a vertical clearance of 7 feet above LWD in the closed position and an unlimited vertical clearance in the open position. Each day during the summer, approximately 35 recreational and commercial fishing vessels transit the Amtrak Railroad Bridge, mile 0.9; most of the 35 vessels make daily roundtrips, transiting the bridge two times each day.

IV. Discussion of Comments, Changes, and the Final Rule

We did not receive any comments concerning the proposed regulatory language from the NPRM so the proposed language will be published in this FR without change.

V. Regulatory Analyses

We developed this rule after considering numerous statutes and Executive Orders related to rulemaking. Below we summarize our analyses based on a number of these statutes and Executive Orders.

A. Regulatory Planning and Review

Executive Orders 12866 and 13563 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits. This rule has not been designated a “significant regulatory action,” under Executive Order 12866. Accordingly, it has not been reviewed by the Office of Management and Budget (OMB).

This regulatory action determination is based on the ability that vessels can still transit the bridge without change to the operating schedule of the bridge. The remote operations equipment acts as if a drawtender is present with the ability to receive all signals.

B. Impact on Small Entities

The Regulatory Flexibility Act of 1980 (RFA), 5 U.S.C. 601–612, as amended, requires federal agencies to consider the potential impact of regulations on small entities during rulemaking. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their

fields, and governmental jurisdictions with populations of less than 50,000.

The Coast Guard did not receive any comments from the Small Business Administration on this rule.

The Coast Guard certifies under 5 U.S.C. 605(b) that this rule will not have a significant economic impact on a substantial number of small entities.

While some owners or operators of vessels intending to transit the bridge may be small entities, for the reasons stated in section V.A above, this rule will not have a significant economic impact on any vessel owner or operator.

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this rule. If the rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency’s responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1–888–REG–FAIR (1–888–734–3247). The Coast Guard will not retaliate against small entities that question or complain about this rule or any policy or action of the Coast Guard.

C. Collection of Information

This rule calls for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520).

D. Federalism and Indian Tribal Government

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this rule under that Order and have determined that it is consistent with the fundamental federalism principles and preemption requirements described in Executive Order 13132.

Also, this rule does not have tribal implications under Executive Order

13175, Consultation and Coordination with Indian Tribal governments, because it does not have a substantial direct effect on one or more Indian Tribes, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes.

During the NPRM comment period, we did not receive any comments concerning this bridge and we do not intend to make changes from the proposed language to the final rulemaking.

E. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 (adjusted for inflation) or more in any one year. Though this rule will not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble. During the NPRM comment period that lasted 60-days we did not receive any comments.

F. Environment

We have analyzed this rule under Department of Homeland Security Management Directive 023–01, Rev.1, associated implementing instructions, and Environmental Planning Policy COMDTINST 5090.1 (series) which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370f). The Coast Guard has determined that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. This rule promulgates the operating regulations or procedures for drawbridges and is categorically excluded from further review, under paragraph L49, of Chapter 3, Table 3–1 of the U.S. Coast Guard Environmental Planning Implementation Procedures.

Neither a Record of Environmental Consideration nor a Memorandum for the Record are required for this rule.

List of Subjects in 33 CFR Part 117

Bridges.

For the reasons discussed in the preamble, the Coast Guard amends 33 CFR part 117 as follows:

PART 117—DRAWBRIDGE OPERATION REGULATIONS

■ 1. The authority citation for part 117 continues to read as follows:

Authority: 33 U.S.C. 499; 33 CFR 1.05–1; Department of Homeland Security Delegation No. 00170.1, Revision No. 01.3.

■ 2. In § 117.401 Trail Creek, revise paragraph (b) to read as follows:

§ 117.401 Trail Creek.

* * * * *

(b) The draw of the Amtrak Railroad Bridge, mile 0.9, at Michigan City shall open on signal, except from December 1 through March 15 the draw shall open if at least 12-hours advance notice is given. The bridge is authorized to be operated remotely. The bridge shall operate and maintain a VHF–FM Marine Radio.

* * * * *

Dated: May 1, 2023.

E.J. Doucette,

Captain, U.S. Coast Guard, Acting Commander, Ninth Coast Guard District.

[FR Doc. 2023–09574 Filed 5–4–23; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[Docket Number USCG–2023–0210]

RIN 1625–AA00

Safety Zone; Allegheny River Mile Marker 0.25–0.8, Pittsburgh, PA

AGENCY: Coast Guard, Department of Homeland Security (DHS).

ACTION: Temporary final rule.

SUMMARY: The Coast Guard is establishing a temporary safety zone for the Allegheny River at Mile Marker 0.25–0.8 from 9:30 p.m. through 11 p.m. on May 19, 2023. This action is necessary to provide safety of life on these navigable waters during a drone show display. This rule prohibits persons and vessels from being in the safety zone unless authorized by the Captain of the Port Pittsburgh (COTP) or a designated representative.

DATES: This rule is effective from 9:30 p.m. through 11 p.m. on May 19, 2023.

ADDRESSES: To view documents mentioned in this preamble as being available in the docket, go to <https://www.regulations.gov>, type USCG–2023–0210 in the search box and click “Search.” Next, in the Document Type

column, select “Supporting & Related Material.”

FOR FURTHER INFORMATION CONTACT: If you have questions about this rule, call or email LTJG Eyobe Mills, Marine Safety Unit Pittsburgh, U.S. Coast Guard; at telephone 412–221–0807 ext. 225, email Eyobe.D.Mills@uscg.mil.

SUPPLEMENTARY INFORMATION:

I. Table of Abbreviations

CFR Code of Federal Regulations
DHS Department of Homeland Security
FR Federal Register
NPRM Notice of proposed rulemaking
§ Section
U.S.C. United States Code

II. Background Information and Regulatory History

On March 2, 2023, the Pittsburgh Pirates notified the Coast Guard that it will be conducting a drone show display from 9:30 p.m. through 11 p.m. on May 19, 2023. The drone show will be conducted approximately 100 feet toward the Allegheny River. In response, on April 3, 2023, the Coast Guard published a notice of proposed rulemaking (NPRM) titled “Safety Zone; Allegheny River Mile Marker 0.25–0.8, Pittsburgh, PA” (88 FR 19579). There we stated why we issued the NPRM and invited comments on our proposed regulatory action related to this drone show display. During the comment period that ended April 24, 2023, we received zero comments.

Under 5 U.S.C. 553(d)(3), the Coast Guard finds that good cause exists for making this rule effective less than 30 days after publication in the **Federal Register**. Delaying the effective date of this rule would be impracticable because immediate action is needed to respond to the potential safety hazards associated with the drone show.

III. Legal Authority and Need for Rule

The Coast Guard is issuing this rule under authority in 46 U.S.C. 70034. The COTP has determined potential hazards associated with the drone show on the Allegheny River at Mile Marker 0.25–0.8 from 9:30 p.m. through 11 p.m. on May 19, 2023. The purpose of this rule is to ensure safety of vessels and the navigable waters in the safety zone before, during, and after the scheduled event.

IV. Discussion of Comments, Changes, and the Rule

As noted above, we received zero comments on our NPRM published April 4, 2023. There are no changes in the regulatory text of this rule from the proposed rule in the NPRM.

This rule establishes a safety zone from 9:30 p.m. to 11 p.m. on May 19, 2023. The safety zone would cover all navigable waters on the Allegheny River from Miles 0.25 to Mile 0.8. The duration of the zone is intended to ensure the safety of vessels and these navigable waters before, during, and after the scheduled 10 p.m. through 11 p.m. drone show display. No vessel or person would be permitted to enter the safety zone without obtaining permission from the COTP or a designated representative.

V. Regulatory Analyses

We developed this rule after considering numerous statutes and Executive orders related to rulemaking. Below we summarize our analyses based on a number of these statutes and Executive orders, and we discuss First Amendment rights of protestors.

A. Regulatory Planning and Review

Executive Orders 12866 and 13563 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits. This rule has not been designated a “significant regulatory action,” under Executive Order 12866. Accordingly, this rule has not been reviewed by the Office of Management and Budget (OMB).

This regulatory action determination is based on size, location, and duration of the temporary safety zone. This safety zone impacts 0.55 miles stretch of the Allegheny River for a short amount of time of 1.5 hours on one evening. Vessel traffic will be informed about the safety zone through local notice to mariners. Moreover, the Coast Guard will issue Local Notice to Mariners and a Broadcast Notice to Mariner via VHF–FM marine channel 16 about the zone and the rule allows vessels to seek permission from the COTP to transit the zone.

B. Impact on Small Entities

The Regulatory Flexibility Act of 1980, 5 U.S.C. 601–612, as amended, requires Federal agencies to consider the potential impact of regulations on small entities during rulemaking. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000. The Coast Guard received zero comments from the Small Business Administration on this rulemaking. The Coast Guard certifies under 5 U.S.C. 605(b) that this rule will not have a

significant economic impact on a substantial number of small entities.

While some owners or operators of vessels intending to transit the safety zone may be small entities, for the reasons stated in section V.A above, this rule will not have a significant economic impact on any vessel owner or operator.

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this rule. If the rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please call or email the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1–888–REG–FAIR (1–888–734–3247). The Coast Guard will not retaliate against small entities that question or complain about this rule or any policy or action of the Coast Guard.

C. Collection of Information

This rule will not call for a new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520).

D. Federalism and Indian Tribal Governments

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this rule under that order and have determined that it is consistent with the fundamental federalism principles and preemption requirements described in Executive Order 13132.

Also, this rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it does not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes,

or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

E. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 (adjusted for inflation) or more in any one year. Though this rule will not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

F. Environment

We have analyzed this rule under Department of Homeland Security Directive 023–01, Rev. 1, associated implementing instructions, and Environmental Planning COMDTINST 5090.1 (series), which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4370f), and have determined that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. This rule involves a temporary safety zone lasting 1.5 hours that would prohibit entry within Allegheny River from mile 0.25 to mile 0.8. Normally such actions are categorically excluded from further review under paragraph L60(a) of Appendix A, Table 1 of DHS Instruction Manual 023–01–001–01, Rev. 1. A preliminary Record of Environmental Consideration supporting this determination is available in the docket. For instructions on locating the docket, see the **ADDRESSES** section of this preamble.

G. Protest Activities

The Coast Guard respects the First Amendment rights of protesters. Protesters are asked to call or email the person listed in the **FOR FURTHER INFORMATION CONTACT** section to coordinate protest activities so that your message can be received without jeopardizing the safety or security of people, places, or vessels.

List of Subjects in 33 CFR Part 165

Harbors, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Security measures, Waterways.

For the reasons discussed in the preamble, the Coast Guard amends 33 CFR part 165 as follows:

PART 165—REGULATED NAVIGATION AREAS AND LIMITED ACCESS AREAS

■ 1. The authority citation for part 165 continues to read as follows:

Authority: 46 U.S.C. 70034, 70051, 70124; 33 CFR 1.05–1, 6.04–1, 6.04–6, and 160.5; Department of Homeland Security Delegation No. 00170.1, Revision No. 01.3.

■ 2. Add § 165.T08–0210 to read as follows:

§ 165.T08–0210 Safety Zone; Allegheny River, Miles 0.25–0.8, Pittsburgh, PA.

(a) *Location.* The following area is a temporary safety zone: all navigable waters of the Allegheny River from Mile 0.25–Mile 0.8.

(b) *Definitions.* As used in this section, *designated representative* means a Coast Guard Patrol Commander, including a Coast Guard coxswain, petty officer, or other officer operating a Coast Guard vessel and a Federal, State, and local officer designated by or assisting the Captain of the Port Pittsburgh (COTP) in the enforcement of the safety zone.

(c) *Regulations.* (1) Under the general safety zone regulations in subpart C of this part, you may not enter the safety zone described in paragraph (a) of this section unless authorized by the COTP or the COTP's designated representative.

(2) To seek permission to enter, contact the COTP or the COTP's representative by phone at 412–670–4288. Those in the safety zone must comply with all lawful orders or directions given to them by the COTP or the COTP's designated representative.

(d) *Enforcement period.* This section will be enforced from 9:30 p.m. through 11 p.m. on May 19, 2023.

Eric J. Velez,

Commander, U.S. Coast Guard, Captain of the Port Marine Safety Unit Pittsburgh.

[FR Doc. 2023–09651 Filed 5–4–23; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[Docket No. USCG–2023–0340]

Safety Zones; Fireworks Displays in the Fifth Coast Guard District—Philadelphia, PA

AGENCY: Coast Guard, DHS.

ACTION: Notification of enforcement of regulation.

SUMMARY: The Coast Guard will enforce the Delaware River, Philadelphia, PA

Safety Zone on May 27, 2023, or on a rain date of May 28, 2023, to provide for the safety of life on navigable waterways during a barge-based fireworks display. Our regulation for marine events within the Fifth Coast Guard District identifies the boundaries of the regulated area. During the enforcement period, no person or vessel may enter, remain in, or transit through the regulated area, and anyone in the vicinity must comply with directions from the Patrol Commander or any Official Patrol displaying a Coast Guard ensign.

DATES: The portion of the regulation 33 CFR 165.506 for Philadelphia, PA, as identified in entry 10 of table 1 to paragraph (h)(1), will be enforced from 8:45 p.m. through 9:35 p.m. on May 27, 2023, or on a rain date of May 28, 2023.

FOR FURTHER INFORMATION CONTACT: If you have questions about this notice of enforcement, you may call or email Petty Officer Dylan Caikowski, U.S. Coast Guard, Sector Delaware Bay, Waterways Management Division, telephone 215-271-4814, email SecDelBayWWM@uscg.mil.

SUPPLEMENTARY INFORMATION: The Coast Guard will enforce the safety zone in table 1 to paragraph (h)(1) to 33 CFR 165.506, entry No. 10 for a barge-based fireworks display from 8:45 p.m. through 9:35 p.m. on May 27, 2023, or on a rain date of May 28, 2023. This action is necessary to ensure safety of life on the navigable waters of the United States immediately prior to, during, and immediately after a fireworks display. Our regulation for safety zones of fireworks displays within the Fifth Coast Guard District, table 1 to paragraph (h)(1) to 33 CFR 165.506, entry 10 specifies the location of the regulated area as all waters of the Delaware River, adjacent to Penn's Landing, Philadelphia, PA, within a 500-yard radius of the fireworks barge position. The approximate position for the display is latitude 39°56'52" N, longitude 075°08'09" W. During the enforcement period, as reflected in § 165.506(d), vessels may not enter, remain in, or transit through the safety zone unless authorized by the Captain of the Port or designated Coast Guard patrol personnel on-scene.

In addition to this notice of enforcement in the **Federal Register**, the Coast Guard will provide notification of this enforcement period via Local Notice to Mariners and Broadcast Notice to Mariners.

Dated: May 1, 2023.

Jonathan D. Theel,
Captain, U.S. Coast Guard Captain of the Port Delaware Bay.

[FR Doc. 2023-09593 Filed 5-4-23; 8:45 am]

BILLING CODE 9110-04-P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[Docket No. USCG-2023-0235]

Safety Zones; Recurring Safety Zones in Captain of the Port Sault Sainte Marie Zone

AGENCY: Coast Guard, DHS.

ACTION: Notice of enforcement of regulation.

SUMMARY: The Coast Guard will enforce various safety zones for maritime events in the Captain of the Port Sault Sainte Marie Zone. Enforcement of these safety zones is necessary to protect the safety of life and property on the navigable waters immediately prior to, during, and immediately after this event. During the aforementioned period, the Coast Guard will enforce restrictions upon, and control movement of, vessels in a specified area immediately prior to, during, and immediately after events. During each enforcement period, vessels must stay out of the established safety zone and may only enter with permission from the designated representative of the Captain of the Port Sault Sainte Marie.

DATES: The regulations listed in 33 CFR 165.918 will be enforced for the safety zones identified in the **SUPPLEMENTARY INFORMATION** section below for the dates and times specified.

FOR FURTHER INFORMATION CONTACT: If you have questions about this publication, call or email Waterways Management division, LT Deaven Palenzuela, Coast Guard Sector Sault Sainte Marie, U.S. Coast Guard; telephone 906-635-3223, email ssmprevention@uscg.mil.

SUPPLEMENTARY INFORMATION: The Coast Guard will enforce the safety zones in 33 CFR 165.918, Table 165.918, at the following dates and times for the following events:

(1) Mackinaw Area Visitors Bureau Friday Night Fireworks (Mackinaw City, MI): From 8:30 p.m. through 11 p.m. on May 26, 2023; June 2, 4, 9, 11, 16, 18, 23, 25, 30, 2023; July 2, 4, 7, 9, 14, 16, 21, 23, 28, 30, 2023; August 4, 6, 11, 13, 18, 20, 25, 27, 2023; and September 1, 3, 8, 15, 22, 29, 2023.

(2) Festivals of Fireworks Celebration Fireworks (St. Ignace, MI). From 9 p.m. through 11 p.m. on June 24, 2023; July 4, 8, 15, 22, 29, 2023; August 5, 12, 19, 26; and September 2, 2023.

This enforcement includes alternative rain dates one the day after any affected event.

Under the provisions of 33 CFR 165.918, entry into, transiting, or anchoring within the safety zones during an enforcement period is prohibited unless authorized by the Captain of the Port Sault Sainte Marie or his designated representative. Those seeking permission to enter the safety zone may request permission from the Captain of Port Sault Sainte Marie via channel 16, VHF-FM. Vessels and persons granted permission to enter the safety zone shall obey the directions of the Captain of Port Sault Sainte Marie or his designated representatives. While within the safety zone, all vessels shall operate at the minimum speed necessary to maintain a safe course.

This notice of enforcement is issued under authority of 33 CFR 165.918 and 5 U.S.C. 552(a). In addition to this notice of enforcement in the **Federal Register**, the Coast Guard will provide the maritime community with advance notification of this enforcement period via Broadcast Notice to Mariners or Local Notice to Mariners. If the Captain of the Port Sault Sainte Marie determines that the safety zone need not be enforced for the full duration stated in this notice he or she may suspend such enforcement and notify the public of the suspension via Broadcast Notice to Mariners and grant general permission to enter the respective safety zone.

Dated May 2, 2023.

A.R. Jones,

Captain, U.S. Coast Guard, Captain of the Port Sault Sainte Marie.

[FR Doc. 2023-09620 Filed 5-4-23; 8:45 am]

BILLING CODE 9110-04-P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 54

[WC Docket Nos. 18-143, 10-90; FCC 23-32; FR ID 138389]

The Uniendo a Puerto Rico Fund and the Connect USVI Fund, Connect America Fund

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission

(Commission) continues its efforts to bolster mobile and fixed voice and broadband services throughout Puerto Rico and the U.S. Virgin Islands (the Territories) and takes action to ensure support for providers in the Territories to continue strengthening their existing networks.

DATES: This rule is effective June 5, 2023.

FOR FURTHER INFORMATION CONTACT: For further information, please contact, Nathan Eagan, Telecommunications Access Policy Division, Wireline Competition Bureau, at Nathan.Eagan@fcc.gov or 202-418-7400.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order in WC Docket Nos. 18-143 and 10-90; FCC 23-32, adopted and released on April 19, 2023. Due to the COVID-19 pandemic, the Commission's headquarters will be closed to the general public until further notice. The full text of this document is available at the following internet address: <https://docs.fcc.gov/public/attachments/FCC-23-32A1.pdf>.

I. Introduction

1. In the Report and Order, the Commission continues its efforts to bolster mobile and fixed voice and broadband services throughout the Territories. In the aftermath of Hurricanes Maria and Irma in 2017, the Commission committed to ensuring the restoration, hardening, and expansion of advanced telecommunications networks in the Territories by creating the Bringing Puerto Rico Together Fund (PR Fund) and the Connect USVI Fund. As part of these efforts, the Commission adopted a plan to support state-of-the-art mobile wireless networks in the Territories, including the 5G services being deployed nationwide, and adopted a single-round competitive process to award fixed broadband support tied to defined broadband deployment obligations. Without Commission action, the support that mobile and incumbent fixed providers receive through these Funds will end by June 2023. The recent devastation caused by Hurricane Fiona in Puerto Rico, however, demonstrates the continued need for support to restore, harden, and expand critical communications infrastructure in areas prone to hurricanes.

2. The Commission takes action to ensure support for providers in the Territories to continue strengthening their existing networks. First, the Commission extends the PR Fund and the Connect USVI Fund mobile support for up to two years, with support at 50%

of its current monthly support level in the first year and 25% of its current monthly support level in the second year. The Commission also extends phase-down frozen support for fixed voice and broadband providers until December 31, 2025. The Commission's actions enable providers in the Territories to strengthen and harden mobile networks and make existing fixed networks more resilient and redundant while new networks are built.

II. Report and Order

3. After a careful review of the record, the Commission adopts many of its proposals from the *Transitional Support FNPRM*, 87 FR 67660, November 9, 2022. For mobile service, the Commission adopts a transitional support period of up to 24 months, which will allow support recipients to continue to receive support for hardening their networks as the Commission works to develop a long-term funding mechanism. For fixed service, the Commission extends the phase-down of frozen support at its current monthly amount until December 31, 2025. This extension of support will allow those fixed providers to harden their networks and ensure continuous service as new, storm-hardened networks are deployed throughout the Territories.

4. The Commission adopts a transitional support period of up to 24 months for eligible facilities-based mobile carriers currently receiving Stage 2 mobile support. In the *Transitional Support FNPRM*, the Commission sought comment on a number of issues relating to the provision of mobile support: whether transitional support should be provided after the current Stage 2 funding ends; the proper level of transitional support until a long-term funding mechanism is established; the appropriate length of a transitional support schedule; and several other issues.

5. *Transition for Mobile Support.* In the *Transitional Support FNPRM*, the Commission proposed a period of transitional support so carriers currently receiving Stage 2 mobile support would not see their support abruptly end at the conclusion of Stage 2. The Commission also sought comment on whether all facilities-based carriers that receive Stage 2 mobile support should be eligible to receive transitional support.

6. Commenters unanimously supported the Commission's proposal for the provision of transitional support, which it now adopts. The record shows that if the Commission does not provide transitional support after the conclusion

of Stage 2, all mobile wireless carriers receiving Stage 2 support would face a sudden, significant loss of support, which could harm their ability to provide service to consumers and endanger critical communications needs. With heightened risk from hurricanes, any lapse in funding, no matter how brief, may undermine progress made in increasing the robustness of existing 4G LTE services and 5G—New Radio (5G—NR) services. The Commission concludes that it is in the public interest to provide transitional support to help carriers strengthen and harden their existing networks and make advanced telecommunications service more resilient. This support will be for a limited period while the Commission develops a long-term funding mechanism for mobile support in the Territories.

7. *Eligibility for Transitional Support.* The Commission limits eligibility for transitional support to the facilities-based providers currently receiving Stage 2 mobile support in a given area. While T-Mobile proposed expanding eligibility to all facilities-based mobile carriers, including those that do not currently receive Stage 2 mobile support in a given area, if the transitional support amount the Commission adopts is lower than existing Stage 2 mobile support, it declines to adopt this proposal. The Commission's goal in providing transitional support is ensuring that the current recipients are able to continue their existing efforts to strengthen their networks until a long-term funding mechanism is established. The Commission believes that eligibility for other potential support recipients is best addressed as part of a long-term funding mechanism. Allowing other carriers to receive transitional support would require additional resources to administer, which would then delay and thwart the goal of this transitional support—to ensure that current support recipients can continue serving consumers without interruption.

8. *Transitional Support Schedule.* The Commission adopts a 24-month transitional support schedule, with support ending before 24 months if a long-term funding mechanism is established. In the *Transitional Support FNPRM*, the Commission proposed a support schedule of up to 24 months—beginning in the month immediately following the conclusion of each eligible carrier's current Stage 2 mobile support—in order to ensure continuous funding for recipients of Stage 2 mobile support. The Commission also proposed ending transitional support once support is authorized under a long-term

funding mechanism, even if such support was authorized before the 24-month period ended. Finally, the Commission sought comment on extending the 24-month schedule if authorizations under a long-term funding mechanism have not occurred by that time.

9. Commenters generally supported the Commission's proposal of establishing a 24-month transitional support schedule, and having that support end before 24 months if a long-term funding mechanism is established. The Commission now adopts that proposal. Transitional support will extend for 24 months after the end of the current term for Stage 2 mobile support and will end the month after a long-term funding mechanism is established, if such mechanism is established before the 24-month period ends. Specifically, the Commission will deem the long-term funding mechanism established the month after such support is authorized. Furthermore, the Commission emphasizes that no carrier shall receive transitional support and long-term support in the same month.

10. Many commenters supported automatically extending the 24-month schedule if a long-term funding mechanism has not been established by the end of the 24-month schedule. The Commission declines to adopt this proposal. The Commission believes that transitional funding is only meant to have a limited duration. Although PRTC noted that the Commission should act now to permit transitional support to continue until there is a long-term mobile funding mechanism in place in order to conserve public resources and protect against any potential gap in funding, it is not in the public interest to commit to maintaining funding beyond 24 months without the Commission first examining its effects on network hardening and resiliency, or any other changed circumstances in the Territories. The Commission concludes that it will be able to better determine the appropriate support amount in the future once it has been able to evaluate the effectiveness of transitional support, and they therefore decline to extend transitional support beyond its scheduled 24-month period.

11. *Transitional Support Amounts.* In the *Transitional Support FNPRM*, the Commission proposed providing transitional support to all current support recipients in the amount that they currently receive for 5G–NR technologies, meaning that carriers would receive 25% of their current monthly support amount as transitional support for both years of the transitional support period. The Commission

tentatively concluded that carriers had rebuilt and hardened their existing 4G-capable networks, and, as a result, less support would be required moving forward as it focused on facilitating the deployment of 5G–NR service.

12. Commenters generally opposed the Commission's proposal to reduce support to 25% of current monthly levels. Commenters argued that the proposed support reduction would leave them unable to sufficiently harden their existing networks, which would ultimately harm consumers. Other commenters argued that reduced support would impair 5G–NR deployment. After careful consideration of the record, the Commission adopts a modified version of its proposal, and will provide transitional support recipients with 50% of their current monthly support level for both 4G LTE and 5G–NR in the first year of transitional support, then 25% of their current monthly support in the second year of transitional support. The Commission believes that these support amounts strike the appropriate balance between managing its limited universal service funding resources and providing sufficient support to ensure that consumers in the Territories receive the benefits of strengthened networks.

13. The Commission disagrees with some commenters who argue that the transitional support amounts should remain the same as the Stage 2 support amounts. When the Commission announced the three-year funding period for Stage 2, it was clear that it would “revisit the amount of support necessary to further expand and/or harden mobile service available in the Territories.” As the Commission noted in the *Transitional Support FNPRM*, it had tentatively found that carriers in the Territories will have sufficiently restored and hardened their networks to at least pre-hurricane levels by the conclusion of Stage 2, so the level of transitional support should be lower than the current level of Stage 2 mobile support. While some support recipients argue that they have existing network upgrade plans that will cost more than the transitional support amounts they would receive, the primary goal of Stage 2 mobile support was to help carriers restore their networks to at least their pre-hurricane status and to foster greater access to advanced telecommunications services in the Territories. The Commission finds those goals have been met. The purpose of transitional support, in contrast, is to seamlessly provide some support that existing support recipients must use to harden mobile wireless networks to protect against future natural disasters. As such,

the Commission finds it appropriate to address additional support for 5G–NR deployment through a long-term funding mechanism rather than the transitional support considered here. Accordingly, based on the progress that Stage 2 support recipients have already made, the Commission does not believe that transitional support should continue at its current levels, and it adopts a reduced level of transitional support that will allow recipients to continue to make progress on strengthening and protecting their existing networks.

14. *Appropriate Use of Support.* In the *Transitional Support FNPRM*, the Commission noted its past conclusion that carriers were rapidly investing in 5G–NR service throughout the United States and that mobile customers in the Territories should not receive substandard service. Based on the Commission's observation that carriers are moving toward 5G–NR deployment, it proposed limiting transitional support to “restoring, hardening, or expanding networks with 5G–NR-capable networks, and to end use of this support for 4G LTE.” The Commission alternatively sought comment on allowing support recipients to use transitional support to “restore (as necessary), harden, or expand networks with 4G LTE and 5G–NR baseline performance requirements and standards set forth in the 2019 *PR USVI Order*, 84 FR 59937, November 7, 2019, or any subsequent standard adopted by [the] Commission.”

15. Some commenters supported requiring transitional support to be used on 5G–NR-capable networks; others disagreed, stating that limiting support to 5G–NR networks was too restrictive. Additionally, many commenters asked us to clarify that transitional support could be used on 4G-capable networks if that support would benefit a shared 4G and 5G–NR network. One commenter also proposed a waiver process that would allow transitional support to be used on 4G LTE networks.

16. The Commission concludes that recipients of transitional support must use it to improve the redundancy and resiliency of facilities for 4G LTE or better technologies, including the maintenance of backup power systems for such networks, to help ensure continuity of service by preventing or withstanding damage from natural disasters. While long-term 5G–NR network expansion is important, it is paramount, as Hurricane Fiona reminded us, that networks remain operational during times of natural disaster during this transitional period. To ensure that networks remain

operational, ubiquitous hardening is necessary. Consequently, the Commission determines that transitional support must be used for redundancy and resiliency for any part of the network with 4G LTE or better technologies. Transitional support may be used for either current facilities or for newly built facilities, as the Commission expects carriers will continue network expansion. Furthermore, recognizing the short-term nature of the support but still cognizant of recipients' time needed to plan, the Commission requires all transitional support to be spent within one year of the conclusion of the transitional support period.

17. While the Commission encourages transitional support recipients to use funding for 5G–NR networks, it is also mindful of the short-term nature of transitional support and of the importance of hardened, resilient, and redundant networks. The Commission also notes that some physical infrastructure of 5G–NR-capable networks may be inseparable from the infrastructure of 4G LTE-capable networks, such that an investment in a carrier's network may benefit both 4G LTE- and 5G–NR-capable networks. Limiting transitional support to 5G–NR networks could ultimately end up harming the residents of the Territories who rely on existing 4G LTE and 5G–NR-capable networks. By allowing transitional support recipients to use the support for both 4G LTE and 5G–NR-capable networks, the Commission believes that it will encourage the deployment of 5G–NR service while also ensuring resilient networks.

18. *Eligible Areas.* In the *Transitional Support FNPRM*, the Commission sought comment on continuing to allow support to be used throughout Puerto Rico and the U.S. Virgin Islands. The Commission also sought comment on limiting transitional support to less-populated areas of the Territories based on data from the Broadband Data Collection (BDC), and on whether alternative geographic or population limitations would be appropriate.

19. Commenters unanimously supported allowing transitional support to be used throughout the Territories. The Commission agrees, and does not impose a geographic requirement on where transitional support may be used within each Fund's respective territory. While the Commission is mindful of its obligation to use data from the BDC, it concludes that because they intended for carriers to use transitional support to strengthen and harden existing networks, it would be more appropriate to allow transitional support to be used

throughout the Territories. The entirety of these Territories are at risk from hurricanes, so geographically limiting where carriers can spend transitional support could hinder the benefit the Commission aims to achieve. Additionally, the Commission emphasizes that this final rule only establishes a short-term, transitional funding mechanism. The Commission anticipates that the BDC maps will be an integral and fundamental part of a long-term funding mechanism.

20. *Minimum Service Requirements and Reporting.* The Commission adopts the Stage 2 performance and reporting requirements for carriers receiving transitional support, with a few modifications, consistent with its decisions in this final rule. In the *Transitional Support FNPRM*, the Commission proposed that carriers receiving transitional support "continue to be subject to performance and reporting requirements during the transitional support period." The Commission sought comment on the specific requirements to adopt and noted that current support recipients must: (1) comply with minimum service requirements for 4G LTE and 5G–NR technologies, (2) file reports and data regarding the use of support for hardening networks and 5G–NR technology deployment, (3) maintain a Disaster Preparation and Response Plan, and (4) perform mandatory reporting using the Disaster Information Reporting System (DIRS).

21. Commenters generally supported the Commission's proposals, and several commenters stated that the minimum service requirements and reporting requirements for transitional support should remain the same as the current Stage 2 requirements, to minimize disruption as Stage 2 ends. The Commission agrees with these commenters and adopts the Stage 2 performance and reporting requirements for carriers receiving transitional support, with a few modifications to reflect its decisions in this final rule. The Commission will continue to require support recipients to file (1) an annual map reporting the network hardening activities undertaken during the prior calendar year; and (2) a detailed narrative description of the network hardening activities identified and of how it made use of the support to facilitate those network hardening activities. Given that the intended use of the support is to strengthen and harden rather than expand networks, transitional support recipients will not have to file reports detailing their 5G–NR technology deployment. Support recipients also must maintain a Disaster

Preparation and Response Plan and perform mandatory DIRS reporting. In addition, carriers will be subject to the same minimum service requirements for 4G LTE and 5G–NR service that currently exist for Stage 2 mobile support.

22. *Minimum Security Reporting and Requirements.* The Commission also requires transitional support recipients to submit network security reports. In recognition of the importance of network security, in the *Transitional Support FNPRM*, the Commission proposed requiring transitional support recipients to "report and explain the network security controls that [they have] implemented and how they are commensurate with established best practices or an established risk management framework." In addition, the Commission sought comment on requiring transitional support recipients to "report and explain to the them instances of unauthorized access to their systems and services."

23. As noted in the *Transitional Support FNPRM*, the "provision of advanced services necessitates a recognition that such services, in order to be effective and available, must be reasonably secure." All commenters agreed that requiring a report on network security controls is appropriate. Accordingly, the Commission requires transitional support recipients to submit a network security report by August 31, 2023, that identifies and explains the network security controls implemented, their effectiveness in fending off cyberattacks and how those controls are commensurate with established network security best practices and standards or an established risk management framework. A second report will be due by March 31, 2025, and will cover the time period between August 31, 2023 and March 1, 2025. These two reports will allow us to monitor changes and developments during the transitional support term. The Commission notes that commenters disagreed about whether it should require transitional support recipients to report and explain unauthorized network access. While unauthorized access to systems and services is an important issue for networks the Commission supports, it finds the record insufficient to make a determination at this time. Accordingly, the Commission will require transitional support recipients to submit network security reports but not report on unauthorized network access. Due to the inherently sensitive nature of information describing network security, the Commission will treat these reports as presumptively confidential.

24. *Election of Transitional Support.* In the *Transitional Support FNPRM*, the Commission proposed requiring transitional support recipients to affirmatively elect to receive that support. Commenters supported this idea, which the Commission now adopts. The Commission believes requiring recipients to affirmatively elect to receive transitional support will ensure that they understand the specific requirements that come with accepting that support. Accordingly, eligible mobile carriers may elect to receive transitional support from their respective funds through an election process.

25. Carriers shall submit their election letters through the Commission's Electronic Comment Filing System specifically referencing the PR Fund and Connect USVI Docket Number 18–143 and to the Bureau at ConnectAmerica@fcc.gov within 15 days of the publication of this final rule in the **Federal Register**. To elect the transitional mobile support, a carrier must submit a letter signed by an officer of the company confirming that the carrier elects the transitional mobile support described in this document and commits to satisfy the specific service obligations and requirements. If a carrier fails to submit any final election letter by the deadline, it will be deemed to have declined the transitional mobile support offer and will no longer continue to receive mobile high-cost support as part of either the PR Fund or the Connect USVI Fund. Carriers submitting election letters will receive an email confirming that their election letters have been received and reviewed for completeness, and should contact the Bureau no later than five business days following the deadline if they have not received such confirmation.

26. As discussed in more detail in this document, as part of the 2019 *PR USVI Order*, the Commission adopted a comprehensive long-term funding mechanism for fixed voice and broadband in the Territories via a single-round competitive proposal process (Stage 2 fixed support). Proposals were evaluated based on a series of objective criteria. As part of that funding mechanism, existing frozen support for fixed broadband is being phased down, with frozen support for providers that did not win long-term support in an area currently at $\frac{1}{3}$ of their legacy support and scheduled to end by May 2023. Providers authorized for Stage 2 fixed support have their first mandatory service milestone on December 31, 2024.

27. In light of the 19-month gap between the end of existing frozen

support for incumbent providers that did not win long-term support in an area and the first deployment obligation for the winners of the competitive proposal process, as well as the ongoing threat of natural disasters, the Commission proposed in the *Transitional Support FNPRM* to freeze the provision of phase-down support at the current $\frac{1}{3}$ support level until December 31, 2025, and it sought comment on alternative support schedules and appropriate uses of phase-down support.

28. The Commission adopts its proposal to extend phase-down support frozen at $\frac{1}{3}$ of the current support level until December 31, 2025, to avoid leaving incumbent providers that did not win support in an area with insufficient resources to maintain their existing networks until the long-term support recipients have made substantial progress deploying their networks. Upon examination of the record, the Commission believes that this extension most effectively addresses its concerns about the resilience of existing networks while also protecting limited universal service resources.

29. The Commission agrees with commenters who note the potential for disruption for residents of the Territories, as the long-term support recipients may not be able to broadly provide high-speed service until their networks are more fully deployed, and this could leave residents of the Territories without service. Moreover, consistent storm activity requires that the Territories' networks are resilient and capable of providing service to residents in the event of natural disasters. As commenters note, while significant progress has been made in restoring and hardening the Territories' existing networks, more work remains to be done.

30. The Commission rejects the arguments of legacy providers and the PRTRB that frozen support should be extended beyond the 31-month period it provides. Viya, which supports an extension of frozen support until December 31, 2027, states that when the phase-down ends, it will relinquish its Eligible Telecommunications Carrier (ETC) designation, and many existing consumers could be left without reliable high-speed internet service until Broadband VI fully fulfills its Stage 2 commitments. PRTC, which supports the same extension, argues that terminating frozen support when the competitive support recipient has deployed to 60% of the population of a given area would leave the other 40% of

that population at risk of losing access to reliable communications services.

31. The PRTRB argues that extending support is necessary to ensure that no areas are left without service during the transition to competitive support and asserts that, while it is mindful of the Commission's commitment to efficiently target support, the priority during this transition period should be on ensuring service for the most people. Additionally, the PRTRB argues that even if a competitive provider met its deployment obligation before the deadline, phase-down support should not be terminated before its scheduled end date, as the existing physical infrastructure of the incumbent LEC may not have fully depreciated.

32. The Commission is unpersuaded that these arguments justify an extension of phase-down support until December 31, 2027, for several reasons. Notably, PRTC has stated that it will continue to offer service in the areas where it did not win competitive support even after its phase-down support has ended. Viya, which serves 98% of the locations in the U.S. Virgin Islands, does not explain why the Commission's proposal to provide an additional 31 months of phase-down support to harden its existing network would be insufficient to ensure long-term network resiliency and redundancy and result in the decision to discontinue offering service to existing locations within its already-existing network. Indeed, it makes little sense to immediately cease providing service on a network which will have been hardened with several years of Universal Service Fund (USF) support. While Viya again raises the possibility of relinquishing its ETC designation, as the Commission previously noted, "Viya remains subject to section 214 discontinuance approval obligations and to carrier of last resort requirements which collectively guard against an abrupt loss of service." Given the record before the Commission, it is not convinced that customers in Puerto Rico and the U.S. Virgin Islands will face a significant risk of losing service once phase-down support ends. Because it would make sense for the incumbent carriers to continue offering service in the areas where they previously received phase-down support and continue to invest in their existing networks, the Commission believes that it would also make sense for them to continue to ensure that they have a sufficiently resilient network in those same areas in order to continue offering voice and broadband service even after phase-down support ends.

33. The Commission also rejects the arguments of Liberty, which won competitive support in both Puerto Rico (as Liberty Communications PR) and the U.S. Virgin Islands (as Broadband VI) that phase-down support should not be extended at all beyond the current May 2023 deadline. Liberty argues that extending phase-down support would be wasteful and that it would be unfair to Liberty, which relied upon the scheduled phase-out of frozen support when it calculated its competitive bids. Liberty also states that extending phase-down support would provide the incumbent LECs that did not win support in a given area with significant funding without any buildout requirements, which would put Liberty at a competitive disadvantage. Additionally, Liberty argues that if phase-down support is extended, Liberty should receive support in the areas where it provides service but did not win competitive support, even though it is not the incumbent and has not previously received frozen high-cost support in those areas. Finally, Liberty argues that if the Commission does extend phase-down support, that support should terminate once the competitive support winner has met its 60% deployment obligation, even if that occurs before December 31, 2025. As discussed in this document, while the Commission agrees that extending support beyond a *necessary* phase-down period would be wasteful, its analysis of the record indicates that the necessary phase-down period is longer than it originally anticipated in the *2019 PR USVI Order*. Hurricanes and other challenges in these insular areas have made it clear that the existing networks in the Territories require further support and an assurance that providers have resources to make their networks resilient and available during future natural disasters while new networks are constructed. Given the Commission's rationale here and the record, the current level of Liberty's deployment, while noted, is ultimately of limited consequence to the Commission's decision to extend the phase-down support for purposes of more storm-resistant networks.

34. Furthermore, to the extent that Liberty relied on its revenue projections on phase-down support ending in May 2023, it did so despite the Commission's reminder that "pending and future judicial proceedings, as well as certain pending and future proceedings before the Commission—including applications, applications for modification, notices of proposed rulemaking, notices of inquiry, petitions

for rulemaking, requests for special temporary authority, waiver requests, petitions to deny, petitions for reconsideration, informal objections, and applications for review—may relate to or affect licensees or applicants for support in the Stage 2 Competition." Because the Commission put Liberty on notice of the possibility that the phase-down support schedule could be modified when it made its proposals, it is unpersuaded that an extension of the support schedule causes unfair harm.

35. Liberty also asserts that extending phase-down support would result in "competitive harm" because it provides the incumbent LECs that did not win support with more money than Liberty will receive as the competitive support winner. The Commission disagrees. As discussed in this document, Liberty was on notice that modification of the phase-down support schedule was a possibility. Also as detailed in the following, the phase-down support may only be used on network resiliency and maintenance, and may not be used to deploy service to new areas. To the extent this additional high-cost funding would then allow incumbent LECs to reallocate resources for deployment, the Commission believes that ensuring there are resources for increased hardening and resiliency of existing networks during the construction of new networks outweighs other concerns.

36. The Commission also disagrees with Liberty that if it does extend phase-down support, it should end before December 31, 2025, if the competitive provider meets its 60% deployment obligation before that date. The Commission believes that recipients of phase-down support have a need for certainty and predictability so they can plan how to use that support to harden their existing networks. Ending phase-down support once the competitive provider has met its 60% deployment obligation, which can occur prior to December 31, 2025, could undermine that certainty, as the recipients of phase-down support would not reasonably know in advance when their phase-down support could end. The Commission distinguishes this from its adoption of the rule to end transitional mobile support upon the implementation of a long-term mobile support mechanism. Any process for adoption of a long-term mobile funding mechanism will provide carriers with ample notice and transparency for carriers to reasonably plan. Conversely, Liberty's proposal to end phase-down support, which is based on the winning applicant's meeting its internal buildout plan for geographic areas, does not provide the predictability and certainty

of a specific end date or substantial advance notice.

37. *Appropriate Uses of Phase-Down Support.* The Commission adopts its proposals to limit the use of phase-down support to resiliency and redundancy measures and to require recipients of phase-down support to at least maintain their current footprint for voice and broadband services. The Commission also adopts its proposal to require recipients of additional phase-down support to maintain their Disaster Preparation and Preparedness Plan.

38. Commenters generally supported the Commission's proposal to limit phase-down support to resiliency and redundancy measures and to require recipients of phase-down support to maintain their current footprint for voice and broadband services. Given the importance of services during times of natural disaster and the intended use of the support, the Commission requires phase-down support recipients to maintain a Disaster Preparation and Preparedness Plan and report using the Disaster Information Reporting System. The Commission makes clear that if an eligible mobile provider or incumbent LEC has not previously submitted a Disaster Preparation and Response Plan to the Bureau and was approved to receive Stage 2 mobile or fixed support, an eligible carrier of transitional mobile support or phase-down support must submit such a plan to the Bureau by July 1, 2023. The Commission finds it is in the public interest to permit an eligible carrier to receive transitional mobile support or phase-down support prior to the Bureau's approval of the Disaster Preparation and Response Plan in order to facilitate the seamless hardening of advanced telecommunications networks. Finally, in response to comments, the Commission clarifies that phase-down support may be used on maintenance of existing networks as well as backup power to ensure continuity of voice and broadband service because maintenance of the network backup power inherently aids resiliency.

39. *Oversight and Reporting for Phase-Down Support Recipients.* In order to provide oversight and prevent waste, fraud, and abuse, the Commission adopts its proposal to subject phase-down support recipients to ongoing oversight from the Commission and the Universal Service Administrative Company (USAC) by adding new requirements. Specifically, the Commission requires each phase-down support recipient to "submit a spending plan for its use of phase-down support for redundancy and resiliency measures to the Bureau for approval,"

by July 1, 2023, and, at the end of each calendar year, to provide the Commission with a report of how the phase-down support was spent on resiliency and redundancy measures consistent with the Bureau-approved plan, along with a certification pursuant to § 54.313 of the Commission's rules that the support was used only for authorized purposes. Commenters supported the Commission's proposal, and it finds that a spending plan will provide an important layer of oversight and help us ensure that the phase-down support is going to its intended purpose. Recognizing the short-term nature of the support but also cognizant of the time that recipients need to plan, the Commission requires all phase-down support to be spent by December 31, 2026, which is one year after the end of the support term. Recipients must submit a final spending report by January 31, 2027, and shall return an amount equal to the unused (*i.e.*, not spent consistently with the approved spending plan) amount of support to USAC within 30 days of December 31, 2026. In addition, recipients of phase-down support will continue to be subject to all current obligations associated with the receipt of high-cost support and designation as an ETC.

III. Procedural Matters

40. *Paperwork Reduction Act Analysis.* As the Commission noted in the *Transitional Support FNPRM*, the rules that it adopts today specifically apply only to the four existing recipients of Stage 2 mobile support and the three existing recipients of phase-down support for fixed services in Puerto Rico and the USVI. Therefore the reporting and recordkeeping requirements adopted in this final rule are imposed on fewer than ten persons and are not subject to the Paperwork Reduction Act.

41. *Final Regulatory Flexibility Certification.* The Regulatory Flexibility Act of 1980, as amended (RFA), requires that a regulatory flexibility analysis be prepared for rulemaking proceedings, unless the agency certifies that "the rule will not have a significant economic impact on a substantial number of small entities." The RFA generally defines "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any

additional criteria established by the Small Business Administration (SBA).

42. This final rule provides transitional support for mobile providers in Puerto Rico and the U.S. Virgin Islands, and it extends the provision of phase-down support for fixed voice and broadband providers in the same areas. This final rule makes transitional mobile support available to the mobile providers who already receive Stage 2 support in the Puerto Rico and the U.S. Virgin Islands, and it extends frozen phase-down fixed broadband support to the providers that currently receive it. Four mobile carriers and three fixed providers in Puerto Rico and the U.S. Virgin Islands currently receive Stage 2 mobile support and phase-down support for fixed services, respectively.

43. These rules will not affect more than 7 providers out of the 1,778 providers currently receiving high-cost support. Accordingly, the Commission anticipates that this final rule will not affect a substantial number of carriers, and so it does not anticipate that it will affect a substantial number of small entities. Therefore, the Commission certifies that the requirements of this final rule will not have a significant economic impact on a substantial number of small entities.

44. The Commission will send a copy of the Report and Order, including a copy of the Final Regulatory Flexibility Certification, in a report to Congress pursuant to the Congressional Review Act. In addition, the Report and Order and the final certification will be sent to the Chief Counsel for Advocacy of the SBA, and will be published in the **Federal Register**.

45. *Congressional Review Act.* The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs, that this rule is non-major under the Congressional Review Act, 5 U.S.C. 804(2). The Commission will send a copy of the Report and Order to Congress and the Government Accountability Office pursuant to 5 U.S.C. 801(a)(1)(A).

IV. Ordering Clauses

46. Accordingly, *it is ordered*, pursuant to the authority contained in sections 1, 2, 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. 151, 152, 154(i), 214, 254, 303(r), and 403, §§ 1.1 and 1.425 of the Commission's rules, 47 CFR 1.1 and 1.425, that the Report and Order *is adopted*.

47. *It is further ordered* that Part 54 of the Commission's rules *is amended* as

set forth in the following, and that any such rule amendments *shall be effective* 30 days after publication in the **Federal Register**.

List of Subjects in 47 CFR Part 54

Communications common carriers, Health facilities, Infants and children, Internet, Libraries, Puerto Rico, Reporting and recordkeeping requirements, Schools, Telecommunications, Telephone, Virgin Islands.

Federal Communications Commission.

Marlene Dortch,

Secretary.

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 54 as follows:

PART 54—UNIVERSAL SERVICE

■ 1. The authority for part 54 continues to read as follows:

Authority: 47 U.S.C. 151, 154(i), 155, 201, 205, 214, 219, 220, 254, 303(r), 403, and 1302 unless otherwise noted.

Subpart D—Universal Service Support for High Cost Areas

■ 2. Amend § 54.313 by revising paragraphs (c) introductory text, (c)(4), and (o), and adding paragraphs (p) and (q) to read as follows:

§ 54.313 Annual reporting requirements for high-cost recipients.

* * * * *

(c) In addition to the information and certifications in paragraph (a) of this section, price cap carriers that receive frozen high-cost support pursuant to § 54.312(a) shall provide:

* * * * *

(4) By July 1, 2016 and in subsequent years. A certification that all frozen-high cost support the company received in the previous year was used to build and operate broadband-capable networks used to offer the provider's own retail broadband service in areas substantially unserved by an unsubsidized competitor. Recipients of frozen high-cost support under § 54.1504(b), for annual reports due July 1, 2024, 2025, and 2026, shall certify that such support received after June 1, 2023 was used for resiliency and redundancy measures and to maintain their network footprint for voice and broadband services as of June 1, 2023.

* * * * *

(o) Recipients of Uniendo a Puerto Rico Fund or Connect USVI Fund Stage 2 mobile support and recipients of

transitional support under § 54.1516 shall certify that they are in compliance with all requirements in this part for receipt of such support to continue.

(p) [Reserved]

(q) Recipients of transitional support under § 54.1516, as part of either the Uniendo a Puerto Rico Fund or Connect USVI Fund shall certify that such support was not used for costs that are (or will be) reimbursed by other sources of support, including Federal or local government aid or insurance reimbursements; and that support was not used for other purposes, such as the retirement of company debt unrelated to eligible expenditures, or other expenses not directly related to network restoration, hardening, and expansion consistent with the framework of the Uniendo a Puerto Rico Fund or Connect USVI Fund, respectively. Recipients of transitional support under § 54.1516 shall certify that they have conducted an annual review of the documentation required by § 54.1515(a) through (c) or § 54.1524, respectively, to determine the need for and to implement changes or revisions to disaster preparation and recovery documentation.

■ 3. Amend § 54.1504 by revising the section heading and paragraph (b) to read as follows:

§ 54.1504 Term of Stage 2 fixed support, phase-down of legacy fixed support, and reporting obligations for phase-down support recipient.

* * * * *

(b) *Phase-down of legacy support.* Stage 2 of the fixed Uniendo a Puerto Rico Fund and of the fixed Connect USVI Fund shall replace the legacy frozen high-cost support for the Territories. Beginning on a date determined by the Wireline Competition Bureau and announced by public notice following authorization of a winning application, frozen support recipient carriers will receive $\frac{2}{3}$ frozen fixed support amortized for the first 12 months following the date announced by public notice; and $\frac{1}{3}$ frozen fixed support amortized over the second 12-month period. Beginning June 1, 2023, legacy frozen support recipient carriers that continue receiving phase-down legacy support for use in accordance with applicable rules shall be authorized to continue to receive $\frac{1}{3}$ frozen fixed support for the geographic areas in which it was not selected as the winning applicant of the Stage 2 competitive process. The frozen support recipient carriers shall receive a monthly support amount equal to the amortized monthly $\frac{1}{3}$ frozen fixed support amount until December 31, 2025, and zero frozen support thereafter.

■ 4. Add §§ 54.1516 through 54.1524 to subpart O to read as follows:

Subpart O—Uniendo a Puerto Rico Fund and Connect USVI Fund

Sec.

*	*	*	*	*
54.1516	Uniendo a Puerto Rico Fund and the Connect USVI Fund—Transitional support for mobile service.			
54.1517	Transitional support mobile carrier eligibility.			
54.1518	Appropriate uses of transitional mobile support.			
54.1519	Geographic area eligible for transitional mobile support.			
54.1520	Provision of transitional mobile support.			
54.1521	Transitional mobile support additional annual reporting.			
54.1522	Security reporting.			
54.1523	Spending Plans for recipients of legacy frozen phase-down support.			
54.1524	Disaster preparation and response measures; Disaster Information Reporting System.			

§ 54.1516 Uniendo a Puerto Rico Fund and the Connect USVI Fund—Transitional support for mobile service.

(a) *Term of support.* Uniendo a Puerto Rico Fund or the Connect USVI Fund transitional mobile support shall be made available to eligible mobile carriers that elect to make a commitment to their eligible service areas for a term of up to 24 months to begin in the month immediately following the end of the carrier's Stage 2 mobile support. The term of support shall end the earlier of either 24 months following a carrier's authorization to begin receiving transitional support or the authorization of support under a long-term funding mechanism subsequently adopted by the Commission providing mobile wireless support in the carrier's respective territory.

(b) *Election of support.* Eligible mobile carriers as provided in § 54.1517 shall have a one-time option to elect to receive transitional mobile support from the Uniendo a Puerto Rico Fund and the Connect USVI Fund for the eligible service area. To participate, an eligible carrier must submit an election to participate within 15 days following publication in the **Federal Register** of the order adopting transitional mobile support of the Uniendo a Puerto Rico Fund and the Connect USVI Fund. Each carrier must submit its election to receive transitional support to the Commission through the Commission's Electronic Comment Filing System as well as by emailing a copy of its election to ConnectAmerica@fcc.gov.

(c) *Support amounts.* An eligible carrier that elects to receive transitional

support shall receive a pro rata share of its monthly Stage 2 mobile support as of May 1, 2023. Each eligible carrier may receive 50% of its Stage 2 monthly mobile support amount as of May 1, 2023 in the first 12-month period (months 1–12) of transitional support, and 25% of its current monthly mobile Stage 2 support as if May 1, 2023 in the second 12-month period (months 13–24) of transitional support. However, the provision of monthly transitional support may end prior to the completion of the 24-month term as provided in subsection (a).

(d) *Return of unused support.* Each eligible mobile carrier that elects to receive transitional support from the Uniendo a Puerto Rico Fund or the USVI Connect Fund will receive monthly installments of its pro rata share of mobile support over the support period provided in subsections (a) and (c). A mobile carrier that fails to use all its eligible transitional mobile support pursuant to section 54.1517 within one year of the end of the support term shall return an amount equal to the unused amount of transitional support to the Administrator within 30 days following the end of the term of support under paragraph (a).

§ 54.1517 Transitional support mobile carrier eligibility.

Facilities-based mobile carriers that are recipients of mobile support from Stage 2 as of May 1, 2023 of the Uniendo a Puerto Rico Fund or the Connect USVI Fund shall be eligible to elect and receive transitional mobile support in the areas where they receive Stage 2 support.

§ 54.1518 Appropriate uses of transitional mobile support.

Recipients of Uniendo a Puerto Rico and Connect USVI transitional mobile support shall use the support to improve the redundancy and resiliency of facilities for 4G LTE or better technologies to help ensure continuity of service by preventing or withstanding damage from disasters, including the maintenance of backup power systems for such networks.

§ 54.1519 Geographic area eligible for transitional mobile support.

Uniendo a Puerto Rico Fund and Connect USVI Fund transitional mobile support may be used for all geographic areas of Puerto Rico or of the U.S. Virgin Islands, respectively, within a recipient's designated eligible telecommunications carrier service area.

§ 54.1520 Provision of transitional mobile support.

A recipient of transitional mobile support shall commit to, at a minimum, maintaining its network coverage area as of June 30, 2023, or 100 percent of its network coverage area prior to Hurricanes Maria and Irma as specified by § 54.1514(a), whichever is greater. The recipient shall also commit to provide a minimum level of service that meets or exceeds network levels and at reasonably comparable levels to those services and rates available in urban areas as required by § 54.1521(a).

§ 54.1521 Transitional mobile support additional annual reporting.

(a) Each recipient of transitional mobile support shall report and certify, no later than thirty (30) days following the end of the calendar year in which it receives such transitional support, that it has met the requisite mobile transmissions supporting voice and data to and from the network meeting or exceeding the following:

(1) For 4G LTE service, outdoor data transmission rates of at least 10 Mbps download/1 Mbps upload, at least one service plan that includes a data allowance of at least 5 GB that is offered to consumers at a rate that is reasonably comparable to similar service plans offered by mobile wireless providers in urban areas, and latency of 100 milliseconds or less round trip; and

(2) For 5G-NR service, outdoor data transmission rates of at least 35 Mbps download/3 Mbps upload and a plan offered to consumers at a rate that is reasonably comparable to similar service plans offered by mobile wireless providers in urban areas.

(b) Each recipient of transitional mobile support shall submit no later than thirty (30) days following the end of the calendar year an annual map reporting the network hardening activities undertaken during the prior calendar year. The recipient must submit, along with the map, a detailed narrative description of the network hardening activities identified and of how it made use of the support to facilitate those network hardening activities.

(c) Each report shall be submitted to the Office of the Secretary of the Commission through the Electronic Comment Filing System clearly referencing the appropriate docket for the Uniendo a Puerto Rico Fund and the Connect USVI Fund; the Administrator; and the authority in the U.S. Territory, or Tribal governments, as appropriate. All filings and certifications shall also be submitted to the Bureau at ConnectAmerica@fcc.gov.

(d) Recipients of transitional mobile support have a continuing obligation to maintain the accuracy and completeness of the information provided in their reports. All recipients of transitional mobile support shall provide information about any substantial change that may be of decisional significance regarding their eligibility for transitional support and compliance with Uniendo a Puerto Rico Fund and the Connect USVI Fund requirements as an update to their report submitted to the entities listed in paragraph (c) of this section. Such notification of a substantial change, including any reduction in the network coverage area being served or any failure to comply with any of the transitional support requirements, shall be submitted within ten (10) business days after the reportable event occurs.

(e) In order for a recipient of transitional mobile support to continue to receive transitional mobile support for the second 12-month period, it must submit the reports and certification required by this section by the deadlines set forth above.

§ 54.1522 Security reporting.

By August 31, 2023, support recipients under § 54.1516 shall file their first network security report that identifies and explains the network security controls implemented, their effectiveness in fending off cybersecurity attacks, and how those controls are commensurate with established network security best practices and standards or an established risk management framework. By March 31, 2025, support recipients under § 54.1516 shall file their second network security report, covering the time period between August 31, 2023, and March 1, 2025, that identifies and explains the network security controls implemented, their effectiveness in fending off cybersecurity attacks and how those controls are commensurate with established network security best practices and standards or an established risk management framework.

§ 54.1523 Spending plans for recipients of legacy frozen phase-down support.

(a) *Spending plan submissions for phase-down support recipients.* By July 1, 2023, recipients of support under § 54.1504(b) shall submit a spending plan for its use of that support for redundancy, resiliency, and maintenance measures to the Bureau for approval. Phase-down support shall be suspended if a recipient fails to submit a spending plan by the requisite

deadline or fails to receive approval from the Bureau. Recipients of support must submit an updated spending plan if the details in their spending plan change.

(b) *Annual reporting requirements for phase-down support recipients.* By January 31, 2024, 2025, and 2026, recipients of support under § 54.1504(b) shall file with the Commission a report of how they spent phase-down support on resiliency and redundancy measures consistent with the approved spending plan approved under paragraph (a).

(c) Recipients of support under § 54.1504(b) that fail to use all such support consistent with the approved spending plan approved under paragraph (a) by December 31, 2026 shall return an amount equal to the unused amount of support to the Administrator within 30 days of December 31, 2026.

(d) By January 31, 2027 recipients of support under § 54.1504(b) shall file with the Commission a final report of how they spent phase-down support on resiliency and redundancy measures consistent with the approved spending plan approved under paragraph (a).

§ 54.1524 Disaster preparation and response measures; Disaster Information Reporting System.

(a) Each recipient of support under § 54.1504(b) or § 54.1516 shall maintain a Disaster Preparation and Response Plan document approved by the Bureau for Stage 2 of the Uniendo a Puerto Rico Fund or Connect USVI Fund, as applicable, that describes and commits to the methods and procedures that it will use, during the period in which it receives support under § 54.1516 or § 54.1504(b), to prepare for and respond to disasters in the Territories, including detailed descriptions of methods and processes to strengthen infrastructure; to ensure network diversity; to ensure backup power; to monitor its network; and to prepare for emergencies. If an eligible recipient has not previously submitted a Disaster Preparation and Response Plan that was approved by the Bureau prior to the authorization to receive fixed or mobile support, as applicable, the eligible recipient must submit a Disaster Preparation and Response Plan for Bureau approval by July 1, 2023. Phase-down support shall be suspended if a recipient fails to submit a Disaster Preparation and Response Plan by the requisite deadline or fails to receive approval from the Bureau.

(b) Each recipient of support under § 54.1504(b) or § 54.1516 shall maintain the Disaster Preparation and Response Plan approved by the Bureau for Stage

2 of each funding mechanism that completely and thoroughly address the criteria enumerated in paragraph (a) of this section. Recipients shall materially comply with the representations in the document and shall amend their Disaster Preparation and Response Plan following any material change(s) to

internal processes and responsibilities and provide the updated Disaster Preparation and Response Plan to the Bureau within 10 business days following the material change(s).

(c) Each recipient of support under § 54.1504(b) or § 54.1516 shall perform mandatory Disaster Information Reporting System reporting.

(d) A recipient's failure to comply with the requirements of this section may result in the withholding of transitional or phase-down support until the support recipient has cured deficiencies identified by the Bureau.

[FR Doc. 2023-09089 Filed 5-4-23; 8:45 am]

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Proposed Rules

Federal Register

Vol. 88, No. 87

Friday, May 5, 2023

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF THE TREASURY

Office of Investment Security

31 CFR Part 802

Provisions Pertaining to Certain Transactions by Foreign Persons Involving Real Estate in the United States

AGENCY: Office of Investment Security, Department of the Treasury.

ACTION: Proposed rule.

SUMMARY: The rule would amend the regulations that implement the provisions relating to real estate transactions pursuant to section 721 of the Defense Production Act of 1950, as amended. Specifically, the rule would add eight military installations to the appendix and make corresponding revisions to the definition of the term “military installation.”

DATES: Written comments must be received by June 5, 2023.

ADDRESSES: Written comments may be submitted through one of two methods:

- **Electronic Submission:** Comments may be submitted electronically through the Federal government eRulemaking portal at <https://www.regulations.gov>. Electronic submission of comments allows the commenter maximum time to prepare and submit a comment, ensures timely receipt, and enables the Treasury Department to make the comments available to the public.

- **Mail:** Send to U.S. Department of the Treasury, Attention: Meena Sharma, Deputy Director of Investment Security Policy and International Relations, 1500 Pennsylvania Avenue NW, Washington, DC 20220.

We encourage comments to be submitted via <https://www.regulations.gov>. Please submit comments only and include your name and company name (if any) and cite “Provisions Pertaining to Certain Transactions by Foreign Persons Involving Real Estate in the United States” in all correspondence. In general, the Treasury Department will

post all comments to <https://www.regulations.gov> without change, including any business or personal information provided, such as names, addresses, email addresses, or telephone numbers. All comments received, including attachments and other supporting material, will be part of the public record and subject to public disclosure. You should only submit information that you wish to make publicly available.

FOR FURTHER INFORMATION CONTACT:

Meena R. Sharma, Deputy Director of Investment Security Policy and International Relations; or James Harris, Senior Policy Advisor, at U.S. Department of the Treasury, 1500 Pennsylvania Avenue NW, Washington, DC 20220; telephone: (202) 622–3425; email: CFIUS.FIRRMA@treasury.gov.

SUPPLEMENTARY INFORMATION:

I. Background

The regulations at part 802 to title 31 of the Code of Federal Regulations (part 802) implement the provisions in section 721 of the Defense Production Act of 1950, as amended (DPA), and establish the process and procedures of the Committee on Foreign Investment in the United States (CFIUS) with respect to reviewing transactions involving the purchase or lease by, or concession to, a foreign person of certain real estate in the United States.

The final rule establishing part 802 (see 85 FR 3158) identifies a subset of military installations around which certain real estate transactions are covered under CFIUS jurisdiction. The specific military installations are listed in appendix A by name and location. Section 802.227 sets forth the category descriptions of military installations identified in Appendix A. The preamble to the final rule establishing part 802 noted that the military installations listed in the appendix were determined by the U.S. Department of Defense based upon an evaluation of national security considerations, and that the Department of Defense will continue on an ongoing basis to assess its military installations and the geographic scope set under the rules to ensure appropriate application in light of national security considerations.

This proposed rule would make certain amendments to part 802 as a result of the ongoing evaluation of

military installations by the Department of Defense.

II. Discussion of the Rule

This proposed rule would amend the definition of “military installation” at § 802.227 and add eight military installations to the list at appendix A.

A. Military Installation

This proposed rule includes an amended definition of the term “military installation.” As defined in the existing regulations, the term “military installation” means any site that meets certain category descriptions, as identified in the list at appendix A to part 802. The definition of “military installation” would be amended with respect to paragraph (m) of § 802.227. This proposed rule would add Arizona, California, Iowa, North Dakota, South Dakota, and Texas to the set of states listed in paragraph (m).

B. Appendix A

The appendix to the existing regulations identified bases, ranges, and other installations that meet the definition of “military installation” at § 802.227, and, as applicable, related counties or other geographic areas throughout the United States that are covered real estate for the purposes of this part.

This proposed rule would include revisions to appendix A to include the eight sites listed below.

- Air Force Plant 42, located in Palmdale, California
- Dyess Air Force Base, located in Abilene, Texas
- Ellsworth Air Force Base, located in Box Elder, South Dakota
- Grand Forks Air Force Base, located in Grand Forks, North Dakota
- Iowa National Guard Joint Force Headquarters, located in Des Moines, Iowa
- Lackland Air Force Base, located in San Antonio, Texas
- Laughlin Air Force Base, located in Del Rio, Texas
- Luke Air Force Base, located in Glendale, Arizona

III. Rulemaking Requirements

Executive Order 12866

This rule is not subject to the general requirements of Executive Order 12866, as amended, which covers review of regulations by the Office of Information

and Regulatory Affairs in the Office of Management and Budget (OMB), because it relates to a foreign affairs function of the United States, pursuant to section 3(d)(2) of that order. In addition, this rule is not subject to review under section 6(b) of Executive Order 12866 pursuant to section 7(c) of the April 11, 2018 Memorandum of Agreement between the Treasury Department and OMB, which states that CFIUS regulations are not subject to OMB's standard centralized review process under Executive Order 12866.

Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*) generally requires an agency to prepare a regulatory flexibility analysis, unless the agency certifies that the rule will not, once implemented, have a significant economic impact on a substantial number of small entities. The RFA applies whenever an agency is required to publish a general notice of proposed rulemaking under section 553(b) of the Administrative Procedure Act (APA) (5 U.S.C. 553), or any other law. As set forth below, because regulations issued pursuant to the DPA, such as these regulations, are not subject to the APA, or other law requiring the publication of a general notice of proposed rulemaking, the RFA does not apply.

This proposed rule makes amendments to the regulations implementing section 721 of the DPA. Section 709(a) of the DPA provides that the regulations issued under it are not subject to the rulemaking requirements of the APA. Section 709(b)(1) instead provides that any regulation issued under the DPA be published in the **Federal Register** and opportunity for public comment be provided for not less than 30 days. Section 709(b)(3) of the

DPA also provides that all comments received during the public comment period be considered and the publication of the final regulation contain written responses to such comments. Consistent with the plain text of the DPA, legislative history confirms that Congress intended that regulations under the DPA be exempt from the notice and comment provisions of the APA and instead provided that the agency include a statement that interested parties were consulted in the formulation of the final regulation. See H.R. Conf. Rep. No. 102–1028, at 42 (1992) and H.R. Rep. No. 102–208 pt. 1, at 28 (1991). The limited public participation procedures described in the DPA do not require a general notice of proposed rulemaking as set forth in the RFA. Further, the mechanisms for publication and public participation are sufficiently different to distinguish the DPA procedures from a rule that requires a general notice of proposed rulemaking. In providing the President with expanded authority to suspend or prohibit certain real estate transactions involving foreign persons if such a transaction would threaten to impair the national security of the United States, Congress could not have contemplated that regulations implementing such authority would be subject to RFA analysis. For these reasons, the RFA does not apply to these regulations. Regardless of whether the provisions of the RFA apply to this rulemaking, for reasons noted in the preamble to the final rule establishing part 802 (see 85 FR 3158), the Treasury Department determined that the implementation of the provisions of section 721 relating to real estate transactions would most likely not affect a substantial number of small entities. The amendments in this

rule do not change that analysis or determination. Notwithstanding this certification, the Treasury Department invites comments on the potential impacts of this rule on small entities.

List of Subjects in 31 CFR Part 802

Foreign investments in the United States, Federal buildings and facilities, Government property, Investigations, Investments, Investment companies, Land sales, National defense, Public lands, Real property acquisition, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, the Treasury Department proposes to amend part 802 to title 31 of the Code of Federal Regulations to read as follows:

PART 802—REGULATIONS PERTAINING TO CERTAIN TRANSACTIONS BY FOREIGN PERSONS INVOLVING REAL ESTATE IN THE UNITED STATES

■ 1. The authority citation for part 802 continues to read as follows:

Authority: 50 U.S.C. 4565; E.O. 11858, as amended, 73 FR 4677.

§ 802.227 [Amended]

■ 2. Amend § 802.227 paragraph (m) by replacing “Oregon, Nevada, Idaho, Wisconsin, Mississippi, North Carolina, or Florida;” with “Arizona, California, Florida, Idaho, Iowa, Mississippi, Nevada, North Carolina, North Dakota, Oregon, South Dakota, Texas or Wisconsin;”.

■ 3. Revise Part 2 of Appendix A to read as follows:

Appendix A to Part 802—List of Military Installations and Other U.S. Government Sites

Site name	Location
Part 2:	
Aberdeen Proving Ground	Aberdeen, MD.
Air Force Plant 42	Palmdale, CA.
Camp Shelby	Hattiesburg, MS.
Cape Canaveral Air Force Station	Cape Canaveral, FL.
Dare County Range	Manns Harbor, NC.
Dyess Air Force Base	Abilene, TX.
Edwards Air Force Base	Edwards, CA.
Eglin Air Force Base	Valparaiso, FL.
Ellsworth Air Force Base	Box Elder, SD.
Fallon Range Complex	Fallon, NV.
Fort Bragg	Fayetteville, NC.
Fort Greely	Delta Junction, AK.
Fort Huachuca	Sierra Vista, AZ.
Fort Irwin	San Bernardino County, CA.
Fort Polk	Leesville, LA.
Fort Wainwright	Fairbanks, AK.
Grand Forks Air Force Base	Grand Forks, ND.
Hardwood Range	Necehuenemedah, WI.
Hill Air Force Base	Ogden, UT.
Iowa National Guard Joint Force Headquarters	Des Moines, IA.

Site name	Location
Lackland Air Force Base	San Antonio, TX.
Laughlin Air Force Base	Del Rio, TX.
Luke Air Force Base	Glendale, AZ.
Mountain Home Air Force Base	Mountain Home, ID.
Naval Air Station Meridian	Meridian, MS.
Naval Air Station Patuxent River	Lexington Park, MD.
Naval Air Weapons Station China Lake	Ridgecrest, CA.
Naval Base Kitsap—Keyport	Keyport, WA.
Naval Base Ventura County—Point Mugu Operating Facility	Point Mugu, CA.
Naval Weapons Systems Training Facility Boardman	Boardman, OR.
Nellis Air Force Base	Las Vegas, NV.
Nevada Test and Training Range	Tonopah, NV.
Pacific Missile Range Facility	Kekaha, HI.
Patrick Air Force Base	Cocoa Beach, FL.
Tropic Regions Test Center	Wahiawa, HI.
Utah Test and Training Range	Barro, UT.
Vandenberg Air Force Base	Lompoc, CA.
West Desert Test Center	Dugway, UT.
White Sands Missile Range	White Sands Missile Range, NM.
Yuma Proving Ground	Yuma, AZ.

Dated: April 27, 2023.

Paul Rosen,

Assistant Secretary for Investment Security.

[FR Doc. 2023–09259 Filed 5–4–23; 8:45 am]

BILLING CODE 4810–25–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[Docket No. USCG–2023–0183]

RIN 1625–AA09

Drawbridge Operation Regulation; River Rouge, Detroit, MI

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to modify the operations of all movable bridges over the River Rouge, Detroit, MI to improve communications and establish winter hours. We invite your comments on this proposed rulemaking.

DATES: Comments and relate material must reach the Coast Guard on or before July 5, 2023.

ADDRESSES: You may submit comments identified by docket number USCG–2023–0183 using Federal Decision-Making Portal at <https://www.regulations.gov>.

See the “Public Participation and Request for Comments” portion of the **SUPPLEMENTARY INFORMATION** section below for instructions on submitting comments.

FOR FURTHER INFORMATION CONTACT: If you have questions on this temporary final rule, call or email Mr. Lee D.

Soule, Bridge Management Specialist, Ninth Coast Guard District; telephone 216–902–6085, email Lee.D.Soule@uscg.mil.

SUPPLEMENTARY INFORMATION:

I. Table of Abbreviations

CFR Code of Federal Regulations
DHS Department of Homeland Security
FR Federal Register
IGLD85 International Great Lakes Datum of 1985
LWD Low Water Datum based on IGLD85
OMB Office of Management and Budget
NPRM Notice of Proposed Rulemaking
§ Section
U.S.C. United States Code

II. Background, Purpose, and Legal Basis

The River Rouge is a 127-mile river that winds through the Detroit metropolitan area of southeastern Michigan. The river flows into the Detroit River at Zug Island, which is the boundary between the cities of River Rouge and Detroit.

The River Rouge is highly polluted and was designated as a Great Lakes Area of Concern (AOC) under the Great Lakes Water Quality Agreement in 1987. The designated AOC covers the entire River Rouge watershed, which touches 48 communities. The River Rouge watershed drains into the Detroit River, which serves as a maritime border between the United States and Canada.

In the 1970s, the lower three miles of the river were channelized, widened, and dredged to allow freighter access to Ford’s River Rouge Plant inland factory facilities. The plant was built between 1915 and 1927. It was the first manufacturing facility for automobiles that included within the plant virtually everything needed to produce the cars: blast furnaces, an open-hearth mill, a

steel rolling mill, a glass plant, a huge power plant, and an assembly line. During the 1930s, some 100,000 workers were employed here. The plant has been designated as a National Historic Landmark and is still in use.

Domestic and foreign freighters continue to use the lower three miles of the River Rouge for trade. A steel mill near the head of navigation receives bulk shipments regularly; other industries using the river include a petroleum refinery, cement dock, and stone dock. Other smaller docks are located along the banks of the river. A dormant steel mill can be found on Zug Island at the mouth of the river.

Recreational vessels are welcome to use the River Rouge, but there is little infrastructure to support recreational vessels in this waterway.

Thirteen bridges cross the Rouge River between the river mouth and river mile 2.75; eight of these bridges are movable. The controlling fixed structure is the Fisher Freeway I–75 Bridge, mile 1.85, that provides a horizontal clearance of 230-feet and a vertical clearance of 100-feet above LWD.

The National Steel Cooperation Railroad Bridge, mile 0.40, is a single leaf bascule bridge that provides horizontal clearance of 125-feet and a vertical clearance of 6-feet in the closed and an unlimited clearance above LWD.

The West Jefferson Avenue Bridge, mile 1.10, is a double leaf bascule Bridge that provides horizontal clearance of 125-feet and a vertical clearance of 9-feet in the closed and an unlimited clearance in the open position above LWD.

The Conrail Bridge, mile 1.48, is a single leaf bascule bridge that provides horizontal clearance of 123-feet and a vertical clearance of 8-feet in the closed

and an unlimited clearance in the open position above LWD. It is remotely operated.

The Norfolk Southern Railroad Bridge, mile 1.87, is a single leaf bascule Bridge that provides horizontal clearance of 125-feet and a vertical clearance of 8-feet in the closed and an unlimited clearance in the open position above LWD.

The Fort Street Bridge, mile 2.20, is a single leaf bascule Bridge that provides horizontal clearance of 118-feet and a vertical clearance of 9-feet in the closed and an unlimited clearance in the open position above LWD.

The main channel of the river was the result of Mr. Henry Ford needing to straighten the entrance of the River Rouge to accommodate deliveries of raw materials to his automotive plant. This main channel, formally known as the short cut channel, formed Zug Island at the mouth of the river. The original channel that curves around the north and west sides of Zug Island is known as the old channel and is crossed by two movable bridges.

The Delray Connecting Railroad Bridge, mile 0.34, is a single leaf bascule Bridge that provides horizontal clearance of 120-feet and a vertical clearance of 7-feet in the closed and an unlimited clearance in the open position above LWD.

The Delray Connecting Railroad Bridge, mile 0.80, is a swing Bridge that provides horizontal clearance of 102-feet and a vertical clearance of 7-feet in the closed and an unlimited clearance in the open position above LWD.

Large freighters will not enter the River Rouge without communicating their intentions to the drawbridges they need to pass through because the river has several bends and, due to the large drainage area, river currents in the River Rouge can vary from mild to wild in a short amount of time. This deviation increases the difficulty for large vessels to maintain position near bridges.

There are no alternate routes for vessels to avoid going through the bridges listed here.

III. Discussion of Proposed Rule

The Coast Guard has received an increase in delay reports for the River Rouge caused by a failure in communications between bridgetenders and mariners. We propose to require all bridges to operate and maintain a radiotelephone.

Because most of the delays have been at rail bridges, we propose to require the Conrail Bridge, mile 1.48 and the Norfolk Southern Railroad Bridge to maintain and operate a telephone. Both bridges currently provide telephone

numbers to mariners, as requested, and this proposed rule would not require the installment of any new equipment.

The regulations for the National Steel Cooperation Railroad Bridge, mile 0.40, the Delray Connecting Railroad Bridge, mile 0.34, and the Delray Connecting Railroad Bridge, mile 0.80 would remain as written.

Most of the rivers in the Great Lakes have winter hours that allow bridge owners to receive a 12-hour advance notice for openings during times when ice hinders navigation or during reduced river traffic. We asked the Lake Carriers Association, the Passenger Vessel Association, and the Chamber of Marine Commerce in Canada for informal comments and did not receive any.

We are proposing starting winter hours on January 1 through March 31 for all bridges crossing the River Rouge. Each bridge would be required to provide the Coast Guard District Bridge office with appropriate phone number each fall to advertise to the mariners to provide the 12-hour advance notice.

IV. Regulatory Analyses

We developed this proposed rule after considering numerous statutes and Executive Orders related to rulemaking. Below we summarize our analyses based on these statutes and Executive Orders.

A. Regulatory Planning and Review

Executive Orders 12866 and 13563 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits. This NPRM has not been designated a “significant regulatory action,” under Executive Order 12866. Accordingly, the NPRM has not been reviewed by the Office of Management and Budget (OMB).

This regulatory action determination is based on the ability that vessels can still transit the bridge given advanced notice.

B. Impact on Small Entities

The Regulatory Flexibility Act of 1980 (RFA), 5 U.S.C. 601–612, as amended, requires Federal agencies to consider the potential impact of regulations on small entities during rulemaking. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000. The Coast Guard certifies under 5 U.S.C. 605(b) that this proposed rule would not

have a significant economic impact on a substantial number of small entities.

While some owners or operators of vessels intending to transit the bridge may be small entities, for the reasons stated in section IV.A above this proposed rule would not have a significant economic impact on any vessel owner or operator.

If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rule would have a significant economic impact on it, please submit a comment (see **ADDRESSES**) explaining why you think it qualifies and how and to what degree this rule would economically affect it.

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this proposed rule. If the rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section. The Coast Guard will not retaliate against small entities that question or complain about this proposed rule or any policy or action of the Coast Guard.

C. Collection of Information

This proposed rule would call for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520.).

D. Federalism and Indian Tribal Governments

A rule has implications for federalism under Executive Order 13132 (Federalism), if it has a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this proposed rule under that Order and have determined that it is consistent with the fundamental federalism principles and preemption requirements described in Executive Order 13132.

Also, this proposed rule does not have tribal implications under Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments) because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. If you believe this proposed rule has

implications for federalism or Indian tribes, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

E. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 (adjusted for inflation) or more in any one year. Though this proposed rule will not result in such an expenditure, we do discuss the effects of this proposed rule elsewhere in this preamble.

F. Environment

We have analyzed this rule under Department of Homeland Security Management Directive 023–01, Rev. 1, associated implementing instructions, and Environmental Planning Policy COMDTINST 5090.1 (series), which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370f). The Coast Guard has determined that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. This proposed rule promulgates the operating regulations or procedures for drawbridges. Normally such actions are categorically excluded from further review, under paragraph L49, of Chapter 3, Table 3–1 of the U.S. Coast Guard Environmental Planning Implementation Procedures.

Neither a Record of Environmental Consideration nor a Memorandum for the Record are required for this rule. We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

V. Public Participation and Request for Comments

We view public participation as essential to effective rulemaking and will consider all comments and material received during the comment period. Your comment can help shape the outcome of this rulemaking. If you submit a comment, please include the docket number for this rulemaking, indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation.

Submitting comments. We encourage you to submit comments through the Federal Decision-Making Portal at

<https://www.regulations.gov>. To do so, go to <https://www.regulations.gov>, type USCG- 2023–0183 in the search box and click “Search.” Next, look for this document in the Search Results column, and click on it. Then click on the Comment option. If your material cannot be submitted using <https://www.regulations.gov>, contact the person in the **FOR FURTHER INFORMATION CONTACT** section of this document for alternate instructions.

Viewing material in docket. To view documents mentioned in this proposed rule as being available in the docket, find the docket as described in the previous paragraph, and then select “Supporting & Related Material” in the Document Type column. Public comments will also be placed in our online docket and can be viewed by following instructions on the <https://www.regulations.gov> Frequently Asked Questions web page. We review all comments received, but we will only post comments that address the topic of the proposed rule. We may choose not to post off-topic, inappropriate, or duplicate comments that we receive. Additionally, if you go to the online docket and sign up for email alerts, you will be notified when comments are posted, or a final rule is published of any posting or updates to the docket.

We accept anonymous comments. Comments we post to <https://www.regulations.gov> will include any personal information you have provided. For more about privacy and submissions in response to this document, see DHS’s eRulemaking System of Records notice (85 FR 14226, March 11, 2020).

List of Subjects in 33 CFR Part 117

Bridges.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 117 as follows:

PART 117—DRAWBRIDGE OPERATION REGULATIONS

- 1. The authority citation for part 117 continues to read as follows:

Authority: 33 U.S.C. 499; 33 CFR 1.05–1; Department of Homeland Security Delegation No. 00170.1, Revision No. 01.3

- 2. Amend § 117.645 River Rouge by revising paragraph (d) and adding paragraphs (e) through (h) to read as follows:

§ 117.645 River Rouge.

* * * * *

(d) The draw of the West Jefferson Avenue Bridge, mile 1.10, is required to operate a radiotelephone, and shall open on signal except from January 1

through March 31 when the bridge shall open on signal if provided a 12-hour advance notice.

(e) The draw of the Conrail Bridge, mile 1.48, is remotely operated, is required to operate a radiotelephone and telephone, and shall open on signal except from January 1 through March 31 when the bridge shall open on signal if provided a 12-hour advance notice.

(f) The draw of the Norfolk Southern Railroad Bridge, mile 1.87, is required to operate a radiotelephone and telephone, and shall open on signal except from January 1 through March 31 when the bridge shall open on signal if provided a 12-hour advance notice.

(g) The draw of the Fort Street Bridge, mile 2.20, is required to operate a radiotelephone, and shall open on signal except from January 1 through March 31 when the bridge shall open on signal if provided a 12-hour advance notice.

(h) The draw of the Dix Avenue Bridge, mile 2.73, is remotely operated, is required to operate a radiotelephone, and shall open on signal except from January 1 through March 31 when the bridge shall open on signal if provided a 12-hour advance notice.

Dated: May 1, 2023.

E.J. Doucette,

Captain, U.S. Coast Guard, Acting Commander, Ninth Coast Guard District.

[FR Doc. 2023–09575 Filed 5–4–23; 8:45 am]

BILLING CODE 9110–04–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[Docket No. USCG–2023–0186]

RIN 1625–AA09

Drawbridge Operation Regulation; Portage River, Port Clinton, OH

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to modify the operating regulations of the Monroe Street Highway Bridge, mile 0.4 and the Norfolk Southern Railroad Bridge, mile 1.5, over the Portage River at Port Clinton, Ohio. We invite your comments on this proposed rulemaking.

DATES: Comments and relate material must reach the Coast Guard on or before July 5, 2023.

ADDRESSES: You may submit comments identified by docket number USCG–2023–0186 using Federal Decision-

Making Portal at <https://www.regulations.gov>.

See the “Public Participation and Request for Comments” portion of the **SUPPLEMENTARY INFORMATION** section below for instructions on submitting comments.

FOR FURTHER INFORMATION CONTACT: If you have questions on this temporary final rule, call or email Mr. Lee D. Soule, Bridge Management Specialist, Ninth Coast Guard District; telephone 216–902–6085, email Lee.D.Soule@uscg.mil.

SUPPLEMENTARY INFORMATION:

I. Table of Abbreviations

CFR Code of Federal Regulations
DHS Department of Homeland Security
FR Federal Register
IGLD International Great Lakes Datum of 1985
LWD Low Water Datum based on IGLD85
OMB Office of Management and Budget
NPRM Notice of Proposed Rulemaking
§ Section
U.S.C. United States Code

II. Background, Purpose and Legal Basis

The Portage River is 41.5 miles long and empties into Lake Erie at Port Clinton, Ohio. The lower twelve miles of the Portage River, between Oak Harbor and the mouth at Port Clinton, is an estuary and is over 3,000 feet wide making it a prime location for recreational boating, canoeing, and kayaking.

Several inspected and uninspected passenger vessels operate in the river, sharing the waterway with approximately 12,000 (state registered) powered and unpowered recreational vessels.

The river is crossed by two movable bridges. The Monroe Street Highway Bridge, mile 0.4, is a double leaf bascule bridge that provides a horizontal clearance of 75-feet and a vertical clearance of 9-feet in the closed position and an unlimited clearance in the open position based on LWD. The Norfolk Southern Railroad Bridge, mile 1.5, is a single leaf bascule bridge with a horizontal clearance of 109-feet and a vertical clearance of 9-feet in the closed position and an unlimited clearance in the open position based on LWD and is remotely operated by the Norfolk Southern Railroad Bridge, mile 5.76, over the Maumee River, Toledo, OH.

The current bridge regulation was written in 1986 (49 FR 17452); it has been amended four times. We intend to revise the regulation to make it easy to understand and to align this regulation with the regulations of the Maumee and

Sandusky Rivers, for the ease of drawtenders and the mariners.

III. Discussion of Proposed Rule

Paragraph (a) of 33 CFR 117.851 speaks of emergency and public vessels crossing at the bridge. This requirement was included with the original regulation before the requirements of 33 CFR 117.31 were promulgated and to prevent any confusion with part a of 33 CFR 117. Accordingly, we propose removing this language.

We propose to remove the board gauge requirement in paragraph (b) since the water fluctuations in the river do not change rapidly and both bridges over the river will be required to open on signal. If a mariner is not certain of the clearance under the bridge, they can request a full opening. We look forward to public comments on the actual need and usefulness of the current board gauges.

Monroe Street Highway Bridge, mile 0.4, currently the bridge opens on the hour and half-hour in the summer; this schedule was intended to preserve the bridge until it could be replaced. However, since the publication of the original rule, the bridge has completed an extensive rehabilitation, with both leaves having been removed and new leaves fabricated for the bridge. New modern controls have been installed. The bridge has annual daily crossings of 3,227 vehicles in 2022, compared to 1994, when the bridge had an annual daily crossing of 5,800 vehicles. The trend has been a 2% to 17% drop in vehicles crossing this bridge year over year. Hourly and half-hour opening are tools used to extend the longevity of a failing drawbridge and balance the needs of vehicle crossings while still meeting the reasonable needs of navigation in the waterway. The Coast Guard believes that the previous justifications for hourly and half-hour openings have diminished. Accordingly, the Coast Guard is proposing removal of the hourly and half-hour openings. Rather, the Coast Guard is proposing that the bridge open on signal (with notice requirements during certain winter months).

The Norfolk Southern Railroad Bridge, mile 1.5, will continue to operate remotely, maintain and operate a radiotelephone, and open on signal. At this time, we do not propose that the bridge should remain in the open position through the summer like the nearby Norfolk Southern Railroad Bridge, mile 5.76; however, we will propose the bridge operate and maintain a telephone the number, to be posted at the bridge, so mariners may call and request an opening.

When the winds exceed 40 mph there is a danger that lightweight railcars could be blown off the Norfolk Southern Railroad Bridge, mile 1.5. These half floating railcars are a potential hazard to motorists and marine traffic. During wind events, the railroad routinely sets upwind blocker, composed of heavy railcars on the parallel track to block the wind, which protects railcars from the wind. However, the railroad must coordinate with the local Coast Guard Sector office before posting wind blockers, as the wind blockers may disrupt a bridge's posted operating schedule. Often, there is confusion on how long the wind blocker can be posted and when it needs to be moved to allow vessels to pass through the bridge. The Coast Guard is proposing new language that will specify when a wind blocker is appropriate and stipulate how it will be used by the railroad.

The winter hours noted in paragraph 2 of the current regulation is an antiquated regulation from when the U.S. Army Corps of Engineers regulated bridges over navigable waters and allowed a 24-hour advance notice. We propose amending the winter hours to require a 12-hour advance notice, in line with current policies. Further, we propose moving the dates from December 1 to April 30 to November 1 to April 30. These dates will be in harmony with the inspected and uninspected passenger vessels schedules and better meet the reasonable needs of navigation for both the Monroe Street Highway Bridge, mile 0.4, and the Norfolk Southern Railroad Bridge, mile 1.5.

IV. Regulatory Analyses

We developed this proposed rule after considering numerous statutes and Executive orders related to rulemaking. Below we summarize our analyses based on these statutes and Executive orders.

A. Regulatory Planning and Review

Executive Orders 12866 and 13563 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits. This NPRM has not been designated a “significant regulatory action,” under Executive Order 12866. Accordingly, the NPRM has not been reviewed by the Office of Management and Budget (OMB).

This regulatory action determination is based on the ability that vessels can still transit the bridge given advanced notice.

B. Impact on Small Entities

The Regulatory Flexibility Act of 1980 (RFA), 5 U.S.C. 601–612, as amended, requires Federal agencies to consider the potential impact of regulations on small entities during rulemaking. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000. The Coast Guard certifies under 5 U.S.C. 605(b) that this proposed rule would not have a significant economic impact on a substantial number of small entities.

While some owners or operators of vessels intending to transit the bridge may be small entities, for the reasons stated in section IV.A above this proposed rule would not have a significant economic impact on any vessel owner or operator.

If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rule would have a significant economic impact on it, please submit a comment (see **ADDRESSES**) explaining why you think it qualifies and how and to what degree this rule would economically affect it.

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this proposed rule. If the rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section. The Coast Guard will not retaliate against small entities that question or complain about this proposed rule or any policy or action of the Coast Guard.

C. Collection of Information

This proposed rule would call for no new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520.).

D. Federalism and Indian Tribal Governments

A rule has implications for federalism under Executive Order 13132 (Federalism), if it has a substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this proposed rule under that order and have determined that it is consistent

with the fundamental federalism principles and preemption requirements described in Executive Order 13132.

Also, this proposed rule does not have tribal implications under Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments) because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. If you believe this proposed rule has implications for federalism or Indian tribes, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

E. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 (adjusted for inflation) or more in any one year. Though this proposed rule will not result in such an expenditure, we do discuss the effects of this proposed rule elsewhere in this preamble.

F. Environment

We have analyzed this rule under Department of Homeland Security Management Directive 023–01, Rev. 1, associated implementing instructions, and Environmental Planning Policy COMDTINST 5090.1 (series), which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370f). The Coast Guard has determined that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. This proposed rule promulgates the operating regulations or procedures for drawbridges. Normally such actions are categorically excluded from further review, under paragraph L49, of Chapter 3, Table 3–1 of the U.S. Coast Guard Environmental Planning Implementation Procedures.

Neither a Record of Environmental Consideration nor a Memorandum for the Record are required for this rule. We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

V. Public Participation and Request for Comments

We view public participation as essential to effective rulemaking and will consider all comments and material received during the comment period. Your comment can help shape the outcome of this rulemaking. If you submit a comment, please include the docket number for this rulemaking, indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation.

Submitting comments. We encourage you to submit comments through the Federal Decision-Making Portal at <https://www.regulations.gov>. To do so, go to <https://www.regulations.gov>, type USCG–2023–0186 in the search box and click “Search.” Next, look for this document in the Search Results column, and click on it. Then click on the Comment option. If your material cannot be submitted using <https://www.regulations.gov>, contact the person in the **FOR FURTHER INFORMATION CONTACT** section of this document for alternate instructions.

Viewing material in docket. To view documents mentioned in this proposed rule as being available in the docket, find the docket as described in the previous paragraph, and then select “Supporting & Related Material” in the Document Type column. Public comments will also be placed in our online docket and can be viewed by following instructions on the <https://www.regulations.gov> Frequently Asked Questions web page. We review all comments received, but we will only post comments that address the topic of the proposed rule. We may choose not to post off-topic, inappropriate, or duplicate comments that we receive. Additionally, if you go to the online docket and sign up for email alerts, you will be notified when comments are posted, or a final rule is published of any posting or updates to the docket.

We accept anonymous comments. Comments we post to <https://www.regulations.gov> will include any personal information you have provided. For more about privacy and submissions in response to this document, see DHS’s eRulemaking System of Records notice (85 FR 14226, March 11, 2020).

List of Subjects in 33 CFR Part 117

Bridges.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 117 as follows:

PART 117—DRAWBRIDGE OPERATION REGULATIONS

■ 1. The authority citation for part 117 continues to read as follows:

Authority: 33 U.S.C. 499; 33 CFR 1.05–1; Department of Homeland Security Delegation No. 00170.1, Revision 01.3.

■ 2. Revise § 117.851 Portage River to read as follows:

§ 117.851 Portage River.

(a) The draw of the Monroe Street Highway Bridge, mile 0.4, will open on signal, except from November 1 through April 30 the draw will open on signal if at least 12-hours' notice is given.

(b) The draw of the Norfolk Southern Railroad Bridge, mile 1.5, is remotely operated, is required to operate a radiotelephone and a telephone, and will open on signal, except from November 1 through April 30 the draw will open on signal if at least 12-hours' notice is given. If the winds are predicted to be over 40 MPH, a wind blocker is authorized, and the bridge will open with a 2-hour advance notice until the end of the wind event. The drawtender will request the cognizant USCG Sector to issue a broadcast notice to mariners to alert vessels of the wind blocker and the 2-hour advance notice requirement.

Dated: May 1, 2023.

E.J. Doucette,

Captain, U.S. Coast Guard, Acting Commander, Ninth Coast Guard District.

[FR Doc. 2023–09576 Filed 5–4–23; 8:45 am]

BILLING CODE 9110–04–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[EPA–HQ–OPP–2023–0225; FRL–10919–01–OCSPP]

RIN 2070–ZA16

O-Benzyl-P-Chlorophenol (OBPCP); Exemption From the Requirement of a Pesticide Tolerance

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to exempt residues of the antimicrobial pesticide ingredients Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate from the requirement of a tolerance when used on or applied to food contact surfaces in public eating places, dairy processing equipment, and

food processing equipment and utensils. This rulemaking is proposed on the Agency's own initiative under the Federal Food, Drug, and Cosmetic Act (FFDCA), in order to implement the tolerance actions EPA identified during its review of these chemicals as part of the Agency's registration review program under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

DATES: Comments must be received on or before July 5, 2023.

ADDRESSES: Submit your comments, identified by docket identification (ID) number EPA–HQ–OPP–2011–0423, by one of the following methods:

- **Federal eRulemaking Portal:** <https://www.regulations.gov>. Follow the online instructions for submitting comments. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

- **Mail:** OPP Docket, Environmental Protection Agency Docket Center (EPA/DC), (28221T), 1200 Pennsylvania Ave. NW, Washington, DC 20460–0001.

- **Hand Delivery:** To make special arrangements for hand delivery or delivery of boxed information, please follow the instructions at <https://www.epa.gov/dockets/where-send-comments-epa-dockets>.

Additional instructions on commenting or visiting the docket, along with more information about dockets generally, is available at <https://www.epa.gov/dockets>.

FOR FURTHER INFORMATION CONTACT:

Anita Pease, Antimicrobials Division (7510M), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460–0001; telephone number: (202) 566–0736; email address: pease.anita@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

You may be potentially affected by this action if you are a pesticide manufacturer. The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather provides a guide to help readers determine whether this document applies to them. Potentially affected entities may include:

- Crop production (NAICS code 111).
- Animal production (NAICS code 112).
- Food manufacturing (NAICS code 311).

- Pesticide manufacturing (NAICS code 32532).

B. What should I consider as I prepare my comments for EPA?

1. **Submitting CBI.** Do not submit this information to EPA through <https://www.regulations.gov> or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD–ROM that you mail to EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. **Tips for preparing your comments.** When preparing and submitting your comments, see the commenting tips at <https://www.epa.gov/dockets/commenting-epa-dockets>.

II. Background

A. What action is the Agency taking?

EPA is proposing to establish exemptions from the requirement of a tolerance for residues of the antimicrobial pesticides Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate on food-contact surfaces in public eating places, dairy-processing equipment, and food-processing equipment and utensils. EPA is proposing these exemptions to cover residues of Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate that may be found in food as a result of the use of these antimicrobials on food-contact surfaces. This tolerance exemption will supersede the current exemption for Ortho-benzyl-para-chlorophenol under 40 CFR 180.940(c), which is listed as Phenol, 4-chloro-2-(phenylmethyl)-, an alternative name for Ortho-benzyl-para-chlorophenol. The current exemption limits the end-use concentration of this substance to 320 ppm in end-use antimicrobial solutions. Upon establishment of the new exemption, EPA intends to remove the existing exemption as it would be unnecessary and redundant.

EPA is proposing these tolerance actions to implement the tolerance changes identified as necessary during the registration review processes to

cover these pesticide chemical residues when used in antimicrobial formulations consistent with current label use directions. Registration review documents, such as the draft risk assessment, typically identify certain tolerance actions, including modifications to reflect current use patterns, meet safety findings, and change commodity names and groupings, that may be necessary or appropriate to cover pesticide chemical residues or reflect current EPA policy.

For the pesticide chemicals at issue in this rulemaking, EPA issued the “O-Benzyl-p-Chlorophenol (OBPCP) Interim Registration Review Decision” (OBPCP ID) in November 2019. Electronic copies of the OBPCP ID and other documents are available in EPA docket number EPA–HQ–OPP–2011–0423, which can be found at <https://www.regulations.gov>. EPA’s risk assessment for OBPCP contains the Agency’s assessment of the potential risk associated with current product uses, and based on the findings of that risk assessment, the OBPCP ID identified the need to establish exemptions from the requirement of a tolerance for Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate on food-contact surfaces in public eating places, dairy-processing equipment, and food-processing equipment and utensils.

B. What is the Agency’s authority for taking this action?

Section 408(e) of the FFDCA authorizes EPA to establish exemptions from the requirement of a tolerance. 21 U.S.C. 346a(e)(1)(B). Before issuing the final exemption, EPA is required to issue a proposed rulemaking and provide a comment period. *Id.* at 346a(e)(2).

A “tolerance” represents the maximum level for residues of pesticide chemicals legally allowed in or on raw agricultural commodities and processed foods. Section 408 of FFDCA, 21 U.S.C. 346a, authorizes the establishment, modification, and revocation of tolerances and exemptions from the requirement of a tolerance for residues of pesticide chemicals in or on raw agricultural commodities and processed foods. Residues of pesticides in or on food that are not covered by a tolerance or exemption are deemed unsafe, 21 U.S.C. 408(a), and any food containing unsafe residues is considered adulterated under FFDCA section 402(a), 21 U.S.C. 342(a). Such food may not be distributed in interstate commerce, 21 U.S.C. 331(a). For a food-use pesticide to be sold and distributed,

the pesticide must not only have appropriate tolerances under the FFDCA but also must be registered under FIFRA, 7 U.S.C. 136 *et seq.* Moreover, residues of food-use pesticides not registered in the United States must also be covered by a U.S. tolerance or exemption in order for commodities treated with those pesticides to be imported into the United States.

Section 408(c)(2)(A)(i) of the FFDCA allows EPA to establish an exemption from the requirement of a tolerance (the legal limit for a pesticide chemical residue in or on a food) only if EPA determines that the tolerance is “safe.” Section 408(c)(2)(A)(ii) of the FFDCA defines “safe” to mean that “there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information.” 21 U.S.C. 346a(c)(2)(A)(ii). This includes exposure through drinking water and in residential settings but does not include occupational exposure. Section 408(c)(2)(B) of the FFDCA requires EPA, when making a safety determination concerning an exemption, to take into account, among other relevant considerations, the considerations listed in section 408(b)(2)(C) and (D) of the FFDCA. Section 408(b)(2)(C) of the FFDCA requires EPA to give special consideration to exposure of infants and children to the pesticide chemical residue in establishing a tolerance and to “ensure that there is a reasonable certainty that no harm will result to infants and children from aggregate exposure to the pesticide chemical residue. . . .” Section 408(b)(2)(D) identifies various factors, including available information on aggregate and cumulative exposure, for EPA consideration in making a safety determination.

C. When do these actions become effective?

EPA is proposing that these tolerance actions become effective on the date of publication of the final rule in the **Federal Register**.

III. Proposed Rule

EPA is proposing this rule to implement the tolerance actions identified in the OBPCP ID. As noted in the November 2019 OBPCP ID, there is an exemption from the requirement of a tolerance under 40 CFR 180.940(c) for residues of Ortho-benzyl-para-chlorophenol resulting from applications to food-processing equipment and utensils, with the limitation that the end-use

concentration of Ortho-benzyl-para-chlorophenol does not exceed 320 ppm. During registration review, EPA determined that Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate were also registered for use in public eating areas and on dairy-processing equipment, as well as at a higher rate on food-processing equipment and utensils; therefore, there is a need to establish additional exemptions for residues resulting from these registered uses. EPA, on its own initiative, is proposing to establish the necessary exemptions under 40 CFR 180.940(a), which would cover all food-contact uses of Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate pesticide products, when used in antimicrobial formulations not to exceed a concentration of 2,080 ppm in the end-use formulation. When established, the 180.940(a) exemption will supersede the current exemption in 40 CFR 180.940(c) for registrations containing Ortho-benzyl-para-chlorophenol up to 320 ppm used on food processing equipment and utensils.

In order to establish tolerances or exemptions from the requirement of a tolerance, EPA is required to determine that each tolerance or exemption meets the safety standard of FFDCA. In its risk assessment supporting the OBPCP ID, EPA considered the potential risks from exposure to Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate from registered uses and concluded that those uses did not present risks of concern. *See* U.S. EPA, Registration Review Draft Risk Assessment for: O-Benzyl-P-Chlorophenol (OBPCP) and Salts (OBPCP DRA), available at <https://www.regulations.gov> in docket ID number EPA–HQ–OPP–2011–0423.

A. Aggregate Risk Assessment and Determination of Safety

Consistent with FFDCA section 408(b)(2)(D), EPA has reviewed the available scientific data and other relevant information in support of this action. EPA has sufficient data to assess the hazards of and to make a determination on aggregate exposure to support the establishment of exemptions from the requirement of a tolerance for residues of Ortho-benzyl-para-chlorophenol, Sodium 2-benzyl-4-chlorophenolate, and Potassium 2-benzyl-4-chlorophenolate.

EPA has evaluated the available toxicity data and considered its validity, completeness, and reliability as well as the relationship of the results of the

studies to human risk. EPA has also considered available information concerning the variability of the sensitivities of major identifiable subgroups of consumers, including infants and children.

Once a pesticide's toxicological profile is determined, EPA identifies toxicological points of departure (POD) and levels of concern to use in evaluating the risk posed by human exposure to the pesticide. For hazards that have a threshold below which there is no appreciable risk, the toxicological POD is used as the basis for derivation of reference values for risk assessment. PODs are developed based on a careful analysis of the doses in each toxicological study to determine the dose at which no adverse effects are observed (the NOAEL) and the lowest dose at which adverse effects of concern are identified (the LOAEL). Uncertainty/safety factors are used in conjunction with the POD to calculate a safe exposure level—generally referred to as a population-adjusted dose (PAD) or a reference dose (RfD)—and a safe margin of exposure (MOE). For non-threshold risks, the Agency assumes that any amount of exposure will lead to some degree of risk. Thus, the Agency estimates risk in terms of the probability of an occurrence of the adverse effect expected in a lifetime.

EPA's risk assessment Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate can be found in full at <https://www.regulations.gov> in docket ID number EPA-HQ-OPP-2011-0423. That document explains EPA's analysis of the toxicity of the pesticide chemicals as well as the selection of toxicological points of departure and levels of concern for use in evaluating the risk posed by human exposure to the pesticide. In addition, that document is based on the maximum label rate for commercial use.

The Agency did not identify any dietary or aggregate risks of concern for Ortho-benzyl-para-chlorophenol, Sodium 2-benzyl-4-chlorophenolate, and Potassium 2-benzyl-4-chlorophenolate during the risk assessment.

Based on the lack of any aggregate risks of concern, EPA concludes that these exemptions from the requirement of a tolerance for residues of Ortho-benzyl-para-chlorophenol, Sodium 2-benzyl-4-chlorophenolate, and Potassium 2-benzyl-4-chlorophenolate, including the limitation for the end-use formulation concentration of each of these pesticides does not exceed 2,080 ppm, are safe, *i.e.*, there is a reasonable certainty that no harm will result from aggregate exposures to Ortho-benzyl-para-

chlorophenol, Sodium 2-benzyl-4-chlorophenolate, or Potassium 2-benzyl-4-chlorophenolate, when used in accordance with the terms of the respective exemptions. In addition, EPA has determined that there is a reasonable certainty that no harm will result to infants and children from aggregate exposure to the pesticide chemical residues, in accordance with FFDCA section 408(b)(2)(C).

B. Conclusion

Therefore, EPA is proposing to establish exemptions in 40 CFR 180.940(a) for residues of the antimicrobial pesticide ingredients Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate from the requirement of a tolerance when used on or applied to food contact surfaces in public eating places, dairy processing equipment, and food processing equipment and utensils, with a limitation in concentration of 2,080 ppm in end-use formulations. In addition, EPA is proposing to remove the existing exemption in 40 CFR 180.940(c) the exemption for Phenol, 4-chloro-2-(phenylmethyl)-, as it will be superseded by these new exemptions.

IV. Statutory and Executive Order Reviews

In this proposed rule, EPA is proposing to exempt residues of the antimicrobial pesticide ingredients Ortho-benzyl-para-chlorophenol, Potassium 2-benzyl-4-chlorophenolate, and Sodium 2-benzyl-4-chlorophenolate from the requirement of a tolerance when used on or applied to food contact surfaces in public eating places, dairy processing equipment, and food processing equipment and utensils. This document is proposing to establish exemptions from the requirement of a tolerance under FFDCA section 408(e), and also remove a specific exemption as no longer necessary. The Office of Management and Budget (OMB) has exempted these types of actions (*e.g.*, establishment and modification of a tolerance and tolerance revocation for which extraordinary circumstances do not exist) from review under Executive Order 12866, entitled "Regulatory Planning and Review" (58 FR 51735, October 4, 1993). Because this proposed rule has been exempted from review under Executive Order 12866 due to its lack of significance, this proposed rule is not subject to Executive Order 13211, entitled "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This proposed rule does not contain any information

collections subject to OMB approval under the Paperwork Reduction Act (PRA) (44 U.S.C. 3501 *et seq.*) or impose any enforceable duty or contain any unfunded mandate as described under Title II of the Unfunded Mandates Reform Act (UMRA) (2 U.S.C. 1501 *et seq.*). Nor does it require any special considerations as required by Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (59 FR 7629, February 16, 1994); or OMB review or any other Agency action under Executive Order 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997). This proposed rule does not involve any technical standards that would require Agency consideration of voluntary consensus standards pursuant to section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) (15 U.S.C. 272 note). Pursuant to the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*), the Agency previously assessed whether establishment of tolerances, exemptions from tolerances, raising of tolerance levels, expansion of exemptions, or revocations might significantly impact a substantial number of small entities and concluded that, as a general matter, these actions do not impose a significant economic impact on a substantial number of small entities. These analyses for tolerance establishments and modifications, and for tolerance revocations were published in the **Federal Register** of May 4, 1981 (46 FR 24950) and December 17, 1997 (62 FR 66020) (FRL-5753-1), respectively, and were provided to the Chief Counsel for Advocacy of the Small Business Administration. Taking into account this analysis, and available information concerning the pesticides listed in this proposed rule, the Agency hereby certifies that this proposed rule will not have a significant negative economic impact on a substantial number of small entities. Furthermore, for the pesticide named in this proposed rule, the Agency knows of no extraordinary circumstances that exist as to the present proposed rule that would change EPA's previous analysis. Any comments about the Agency's determination should be submitted to the EPA along with comments on the proposed rule and will be addressed prior to issuing a final rule. In addition, the Agency has determined that this proposed rule will not have a substantial direct effect on States, on the relationship between the National Government and the States, or on the

distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132, entitled “Federalism” (64 FR 43255, August 10, 1999). Executive Order 13132, requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive order to include regulations that have “substantial direct effects on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government.” This proposed rule directly regulates growers, food processors, food handlers, and food retailers, not States. This proposed rule does not alter the relationships or distribution of power and responsibilities established by Congress in the preemption provisions of FFDCA section 408(n)(4). For these same reasons, the Agency has determined that this proposed rule does not have any “tribal implications” as described in Executive Order 13175, entitled “Consultation and Coordination with

Indian Tribal Governments” (65 FR 67249, November 9, 2000). Executive Order 13175, requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” “Policies that have tribal implications” is defined in the Executive order to include regulations that have “substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and the Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.” This proposed rule will not have substantial direct effects on tribal governments, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this proposed rule.

List of Subjects in 40 CFR Part 180

Environmental protection,
Administrative practice and procedure,
Agricultural commodities, Pesticides

and pests, Reporting and recordkeeping requirements.

Dated: May 1, 2023.

Edward Messina,
Director, Office of Pesticide Programs.

Therefore, it is proposed that 40 CFR chapter I be amended as follows:

PART 180—TOLERANCES AND EXEMPTIONS FOR PESTICIDE CHEMICAL RESIDUES IN FOOD

■ 1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 321(q), 346a and 371.

■ 2. In § 180.940:

■ a. Amend paragraph (a) the table by, adding in alphabetical order, the entries “Ortho-benzyl-para-chlorophenol”; “Potassium 2-benzyl-4-chlorophenate” and “Sodium 2-benzyl-4-chlorophenate”.

■ b. Amend paragraph (c) the table by removing the entry for “Phenol, 4-chloro-2-(phenylmethyl)”.

The additions read as follows:

§ 180.940 Tolerance exemptions for active and inert ingredients for use in antimicrobial formulations (Food-contact surface sanitizing solutions).

* * * * *

Pesticide chemical	CAS reg. No.	Limits
Ortho-benzyl-para-chlorophenol	120–32–1	When ready for use, the end-use concentration is not to exceed 2080 ppm.
Potassium 2-benzyl-4-chlorophenate	35471–49–9	When ready for use, the end-use concentration is not to exceed 2080 ppm.
Sodium 2-benzyl-4-chlorophenate	3184–65–4	When ready for use, the end-use concentration is not to exceed 2080 ppm.

* * * * *
[FR Doc. 2023–09640 Filed 5–4–23; 8:45 am]
BILLING CODE 6560–50–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

46 CFR Parts 10, 11, 12, 13, 15, 16, 30, 35 and 39

[Docket No. USCG–2021–0097]

RIN 1625–AC75

Electronic Submission of Mariner Course Completion Data

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to require Coast Guard-approved training providers to electronically submit student course completion data to the Coast Guard within 5 business days of completing a Coast Guard-approved course. The National Maritime Center would use this information to validate mariner course completion as part of an application for a Merchant Mariner Credential. In addition, the Coast Guard proposes to replace gendered titles for certain officer and rating endorsements in keeping with Coast Guard policy of using gender-neutral language. We expect these proposed changes to lessen the probability of credentials being issued to mariners who have not met the professional requirements for their

endorsements and to appropriately conform terms that should be gender-neutral.

DATES: Comments and related material must be received by the Coast Guard on or before July 5, 2023.

ADDRESSES: You may submit comments identified by docket number USCG–2021–0097 using the Federal eRulemaking Portal at <https://www.regulations.gov>. See the “Public Participation and Request for Comments” portion of the **SUPPLEMENTARY INFORMATION** section for further instructions on submitting comments.

Collection of information. Submit comments on the collection of information discussed in section VI.D. of this preamble both to the Coast

Guard's online docket and to the Office of Information and Regulatory Affairs (OIRA) in the White House Office of Management and Budget (OMB) using their website www.reginfo.gov/public/do/PRAMain. Comments sent to OIRA on the collection of information must reach OMB on or before the comment due date listed on their website.

FOR FURTHER INFORMATION CONTACT: For information about this document call or email Mr. Brian T. Eichelberger, Office of Merchant Mariner Credentialing, Coast Guard; telephone 202–372–1450, email Brian.T.Eichelberger@uscg.mil.

SUPPLEMENTARY INFORMATION:

Table of Contents for Preamble

- I. Public Participation and Request for Comments
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I. Public Participation and Request for Comments

The Coast Guard views public participation as essential to effective rulemaking, and will consider all comments and material received during the comment period. Your comment can help shape the outcome of this rulemaking. If you submit a comment, please include the docket number for this rulemaking, indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation.

Submitting comments. We encourage you to submit comments through the Federal eRulemaking Portal at <https://www.regulations.gov>. To do so, go to <https://www.regulations.gov>, type USCG–2021–0097 in the search box, and click “Search.” Next, look for this document in the Search Results column, and click on it. Then click on the Comment option. If you cannot submit your material by using <https://www.regulations.gov>, call or email the person in the **FOR FURTHER INFORMATION CONTACT** section of this proposed rule for alternate instructions.

Viewing material in docket. To view documents mentioned in this proposed

rule as being available in the docket, find the docket as described in the previous paragraph, and then select “Supporting & Related Material” in the Document Type column. Public comments will also be placed in our online docket and can be viewed by following instructions on the <https://www.regulations.gov> Frequently Asked Questions (FAQ) web page. That FAQ page also explains how to subscribe for email alerts that will notify you when comments are posted or if a final rule is published. We review all comments received, but we will only post comments that address the topic of the proposed rule. We may choose not to post off-topic, inappropriate, or duplicate comments that we receive.

Personal information. We accept anonymous comments. Comments we post to <https://www.regulations.gov> will include any personal information you have provided. For more about privacy and submissions in response to this document, see the Department of Homeland Security's eRulemaking System of Records notice (85 FR 14226, March 11, 2020).

Public meeting. We do not plan to hold a public meeting, but we will consider doing so if we determine from public comments that a meeting would be helpful. We would issue a separate **Federal Register** notice to announce the date, time, and location of such a meeting.

II. Abbreviations

DHS Department of Homeland Security
 FR Federal Register
 ICR Information collection request
 MRN Mariner reference number
 MMC Merchant Mariner Credential
 MMLD Merchant Mariner Licensing and Documentation
 MTAD Marine Training and Assessment Data
 NMC National Maritime Center
 NPRM Notice of proposed rulemaking
 OMB Office of Management and Budget
 QSS Quality Standard System
 RA Regulatory analysis
 STCW International Convention on Standards of Training, Certification, and Watchkeeping, 1978, as amended
 § Section
 U.S.C. United States Code

III. Basis and Purpose

The legal basis of this rulemaking is Title 46 of the United States Code (U.S.C.), Sections 7101(b) and 7301(b), which authorize the Secretary of the department in which the Coast Guard is operating to prescribe regulations relating to issuing Merchant Mariner Credentials (MMCs) for officer and rating endorsements. The Secretary of the Department of Homeland Security (DHS) has delegated the rulemaking

authority under 46 U.S.C. 7101(b) and 7301(b) to the Coast Guard through 46 U.S.C. 2104 and DHS Delegation No. 00170.1, Revision No. 01.3, paragraph (II)(92)(e). Additionally, 14 U.S.C. 102(3) grants the Coast Guard broad authority to issue and enforce regulations to promote safety of life and property on waters subject to the jurisdiction of the United States, which includes establishing the experience, professional qualifications, and processes required for issuing credentials.

This proposed rule would require Coast Guard-approved training providers to submit students' course completion data electronically to the Coast Guard within 5 business days of the course ending. This action would lessen the probability of issuing MMCs to mariners who have not met the professional requirements for their endorsements and improve the efficiency of the credentialing process. In addition, the proposed rule would replace gendered titles for certain officer and rating endorsements to align with the Coast Guard's policy of using gender-neutral language.

IV. Background

The Coast Guard issues MMCs to mariners who have met the regulatory requirements for individual endorsement(s), as described in title 46 of the Code of Federal Regulations (CFR), parts 10, 11, 12, and 13. Professional requirements for an MMC endorsement generally include sea service, completion of Coast Guard-approved training, and having a met a standard of competence through practical demonstration and completion of a written examination.

Title 46 CFR 10.209(a) states that for any application for an MMC, whether for an original, renewal, duplicate, raise of grade, or new endorsement on a previously issued MMC, the applicant must establish that they satisfy all the requirements for the MMC and endorsement(s) sought before the Coast Guard will issue the MMC. When an individual submits a Form CG–719B Application for an MMC to the Coast Guard, supporting documentation must be included to establish that they have met the requirements for individual MMC endorsement(s). Supporting documentation for an MMC application may include evidence of sea service, course or program completion certificates, and documentation of having met a required standard of competence as appropriate for the endorsement requested.

The National Maritime Center (NMC), in accordance with the requirements of

46 CFR part 10, subpart D, approves training required for MMC endorsements. As described in 46 CFR 10.402, the Coast Guard may approve training designed to fulfill or substitute for MMC requirements, including a portion of required sea service, an examination required by the Coast Guard, professional competency requirements, or other regulatory requirements.

The general standards for Coast Guard-approved courses and programs are found in 46 CFR 10.403. Coast Guard-approved training providers are required to maintain physical or electronic records of all students who took a course for at least 5 years after the completion of the course. Although Coast Guard-approved training providers are required to maintain these student records, there is no requirement for them to submit a student's course completion data to the Coast Guard. The NMC receives approximately 55,000 MMC applications annually. Coast Guard evaluators at the NMC review applications for MMCs to determine whether the mariner has met the regulatory requirements for the endorsement(s) that they are seeking. The NMC uses the Merchant Mariner Licensing and Documentation (MMLD) database to maintain records of U.S. merchant mariners and issue MMCs to qualified mariners.

Validation of data has been a longstanding challenge for the mariner credentialing program. In 2011, Transport Canada conducted an independent evaluation of how the United States implemented the International Convention on Standards of Training, Certification, and Watchkeeping, 1978 as amended (STCW). The evaluation noted that the Coast Guard could not provide evidence of having established sufficient procedures and controls to ensure the authenticity and validity of documents submitted as part of an MMC application package. In 2016, Transport Canada conducted another independent evaluation of how the United States implemented STCW and restated the lack of verification controls to ensure the validity and authenticity of documents submitted as part of an MMC application package.

In 2019, as part of an ongoing investigation surrounding mariner examinations, the Coast Guard discovered that over an extended period, numerous mariners had submitted fraudulent course completion certificates to the NMC as part of their MMC application. As of June 2021, the Coast Guard identified 428 mariners involved in course certificate fraud

since 2016.¹ In the absence of available procedures and resources to validate the authenticity of course completion certificates, the NMC accepted fraudulent certificates submitted by mariners as part of an MMC application package as evidence of completing required training for an MMC endorsement. As a result, the Coast Guard-issued these mariners endorsements that they were not professionally qualified to hold.

While training providers are required to retain course completion data, they are not required to submit the data to the Coast Guard. The Coast Guard typically reviews those records only as part of an audit of Quality Standard Systems (QSS) of Coast Guard-approved training providers under 46 CFR 10.410(g), as well as Coast Guard administrative visits and inspections under 46 CFR 10.403(a)(9). The Coast Guard is proposing to require Coast Guard-approved training providers to submit course completion data electronically to the Coast Guard within 5 business days of the course's completion. This data would be used to verify that mariners have met the regulatory training requirements for the MMC endorsements requested, and reduce opportunities for fraudulent information being accepted as part of an MMC application package.

The titles of MMC endorsements are prescribed in 46 CFR 10.109. This proposed rule would make non-substantive changes to 46 CFR parts 10, 11, 12, 13, 15, 16, 30, 35, and 39 to ensure the titles of certain officer and rating endorsements are gender-neutral to align with the Coast Guard's policy of removing gendered language from its rules and regulations. This policy is demonstrated by final rules published in 2002 and 2012 that made technical amendments to the CFR in order to remove gendered language.²

V. Discussion of Proposed Rule

This proposed rule would amend 46 CFR 10.403 to require Coast Guard-approved training providers to submit data on Coast Guard-approved courses conducted and mariners completing the courses to the NMC.

The information would be submitted electronically, in a manner specified by the Coast Guard, within 5 business days

of completing a Coast Guard-approved course. Mariners submitting course completion data to the Coast Guard as part of their MMC application and Coast Guard-approved training providers submitting course completion data electronically to the Coast Guard would attest, under criminal penalty, that the records are accurate to the best of their knowledge and that no false entries or statements were made. *See* 18 U.S.C. 1001. The NMC would use this information to validate that mariners have completed the training required for the MMC endorsement requested. This action would lessen the probability of the Coast Guard accepting a fraudulent course completion certificate as part of an application for an MMC and improve the efficiency of the credentialing process.

The proposed 5-business day window to submit course completion data would ensure that a mariner's application would not be delayed because the NMC is waiting for training providers to submit the course completion data. Delaying the evaluation of an application and issuance of an MMC may result in loss of employment for a mariner, which is in conflict with NMC's mission to issue credentials to fully qualified mariners in the most effective and efficient manner possible.

Although the Coast Guard would electronically receive course completion data, Coast Guard-approved training providers should continue to issue course completion certificates to their students. Mariners would still be responsible for including their course completion certificates as supporting documentation with their MMC application package. This would allow Coast Guard evaluators to validate the information submitted by the mariner with their MMC application against the information submitted electronically by the training provider.

Under this proposed rule, training providers would be required to submit the name of the training provider, the training provider's Coast Guard-issued provider code, the title of the Coast Guard-approved course or program, the Coast Guard-issued course code, the dates the training provider held the course, and the name of the approved instructor. This information would allow the Coast Guard to validate that a course was approved by the Coast Guard, conducted by an approved instructor, and the dates the course was conducted. The proposed electronic submission would also require the student's full name as it appears on their MMC or other valid Government-issued identification, and their Coast Guard-issued mariner reference number

¹ Email communication with Mariner Credentialing Fraud Task Force from July 20, 2021.

² The rule published on September 30, 2002 (67 FR 61276) made changes to 46 CFR part 401 to change any use of the word "he" to "the individual." The rule published on October 1, 2012 (77 FR 59768) changed the definition of "Secretary of Homeland Security" in 46 CFR part 401, to include "he or she" and "his or her" rendering it gender-neutral.

(MRN), or their date of birth and place of birth if they do not currently have an MRN.³ This information is critical should the Coast Guard need to verify whether a student attended a certain course or program.

The Coast Guard seeks comments regarding how course completion data from Coast Guard-approved courses can be submitted electronically to the Coast Guard. Submitting copies of course completion certificates by email, sending data files or spreadsheets listing required information, or adding data through a direct system entry or forms have been used or suggested as methods. The Coast Guard seeks specific information (example: data file type) and recommendations of how Coast Guard-approved training providers would submit this data. Information received through public comments will be used to determine the most effective method for training providers to submit course completion data to the Coast Guard. If a final rule is published, the Coast Guard will provide guidance to specify the submission process.

The Coast Guard has a voluntary program for submitting course completion data electronically through Homeport.⁴ Currently, approximately 30 Coast Guard approved training providers voluntarily submit information to the Coast Guard using Homeport. This process is more fully discussed in the regulatory analysis of this proposal.

The Coast Guard recognizes that Homeport may be limited in the volume of submissions it can support as we move from voluntary to mandatory electronic submission of course completion data. The Coast Guard is currently in the process of replacing MMLD with a more secure, agile, and user-friendly system that provides better service to the maritime industry. This new system has yet to be developed, and the best way for training providers to comply with the proposed requirements to electronically submit course completion data continues to be through Homeport. When the new system is developed and fully operational, the Coast Guard will

publish a document announcing that in the **Federal Register** and detailing the new system and best practice for compliance. The new system is not being created specifically for the electronic submission of mariner course completion data, so the cost of the new IT system will not be included in this proposed rule's cost analysis.

The Coast Guard understands that instant compliance upon publication of the final rule finalizing the new system may not be feasible for many training providers submitting mariner course completion data. For that reason, in this rulemaking the Coast Guard seeks public input regarding what a reasonable length of time would be needed to allow course providers to modify their procedures following publication of a final rule, as well as what kind of adjustments training providers would be required to make in order to pivot from current practices to compliant practices. The Coast Guard is taking comment on whether or not a "phased-in" applicability or multiple phased in applicability period(s) is necessary for training providers to modify their procedures to meet the proposed requirements set forth in this NPRM. If a final rule is published before the implementation of a system to replace MMLD, the Coast Guard will work with course providers to ensure they can submit course completion data using the existing Homeport process. The Coast Guard also seeks comments from training providers explaining what alternative approaches they might use in the event of IT issues. Public comments may include new information about any aspect of the proposed rule that would require a revision of the cost analysis. If that occurs, the Coast Guard will update it and publish a Supplemental Notice of Proposed Rulemaking (SNPRM) with the revised cost analysis, so that the public can ascertain the new cost of the proposed rule. An SNPRM will also begin a new period of public comments, so the Coast Guard can receive additional comments, including feedback on the revised cost analysis of the proposed rule. As any potentially impactful information from public comments are not known at this time, it is impossible to incorporate that information into the current cost analysis.

This NPRM also proposes to amend 46 CFR parts 10, 11, 12, 13, 15, 16, 30, 35, and 39 to ensure the names of certain officer and rating endorsements are gender-neutral. If a final rule is published, the Coast Guard will update any other regulations using the historical endorsement titles through future rulemakings. In this initiative, the

Coast Guard specifically proposes to change the following endorsement titles as described in table 1:

TABLE 1—PROPOSED NOMENCLATURE CHANGES TO 46 CFR PARTS 10, 11, 12, 13, 15, 16, 30, AND 35

Current CFR	Nomenclature change
Apprentice mate (steersman).	Apprentice mate towing.
Crewman	Crew.
Fireman	Boiler technician.
Hospital corpsman	Medical technician.
Lifeboatman	Lifeboat operator.
Pumpman	Pump technician.
Seaman	Seafarer.
Tankerman	Tank vessel.

If a final rule is issued, the Coast Guard would no longer issue endorsements using the current endorsement titles. Mariners would not have to submit an application to have the endorsements titles changed on their MMC. The endorsement titles would be updated at the next credential transaction when an application is submitted to the Coast Guard.

The Coast Guard is proposing to change the name of the Able Seaman endorsement to Able Seafarer. To differentiate in 46 CFR 10.231(c)(6)(ii) between the already established STCW endorsements of Able Seafarer-Deck and Able Seafarer-Engine and the proposed Able Seafarer endorsements, the endorsements would be referred as national Able Seafarer.

In addition, in some provisions of 46 CFR part 12, the legacy names of endorsements would not be changed to the proposed names. Specifically, §§ 12.501(b)(2) 12.607(b), 12.613(c), and 12.615(c) reference endorsements that would have been held before 2017 and would have been held with the legacy name.

Finally, the Coast Guard is proposing to remove the expired grandfathering provisions in 46 CFR 13.603(e), 13.605(e), 13.607(e), 13.609(b), and 13.611(b). These provisions provided a method for mariners who held valid national tankerman endorsements issued before March 24, 2014 to qualify for original STCW tanker cargo operations endorsements. Any national tankerman endorsements issued before March 24, 2014 would have expired as of March 23, 2019; therefore, the grandfathering provisions have expired and mariners who wish to obtain original STCW tanker cargo endorsements must meet the requirements of the applicable section.

VI. Regulatory Analyses

We developed this proposed rule after considering numerous statutes and

³ The Coast Guard handles personally identifiable information (PII) according to the DHS Handbook for Safeguarding Sensitive PII. A privacy impact assessment for the Merchant Mariner Licensing and Documentation System can be found online at <https://www.dhs.gov/publication/dhsuscgpia-015-merchant-mariner-licensing-and-documentation-system>. The applicable System of Records Notice (SORN) is DHS/USCG-030 Merchant Seamen's Records, 74 FR 30308 (June 25, 2009).

⁴ Homeport is the Coast Guard's enterprise internet portal for the maritime community and can be accessed at <https://homeport.uscg.mil/>.

Executive orders related to rulemaking. A summary of our analyses based on these statutes or Executive orders follows.

A. Regulatory Planning and Review

Executive Orders 12866 (Regulatory Planning and Review) and 13563 (Improving Regulation and Regulatory Review) direct agencies to assess the

costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying costs and benefits, reducing

costs, harmonizing rules, and promoting flexibility.

The Office of Management and Budget (OMB) has not designated this proposed rule a significant regulatory action under section 3(f) of Executive Order 12866. OMB has not reviewed this rule. Table 2 shows the summary of the estimated impacts of this proposed rule. A regulatory analysis (RA) follows.

TABLE 2—SUMMARY OF THE IMPACTS OF THE PROPOSED RULE

Category	Summary
Affected Population	Approximately 236 Coast Guard-approved training providers out of a total population of 326 providers.
Cost to Industry over 10 Years (2021 dollars, 7% discount rate).	Between \$242,490 and \$1,327,767.
Cost to Government over 10 Years (2021 dollars, 7% discount rate).	\$371,894.
Unquantified Benefits	The proposed rule would reduce the probability of mariners obtaining an MMC without meeting the regulatory training requirements, which in turn would reduce fraud and improve safety onboard vessels. The rule serves the Coast Guard mission of Maritime Prevention, which requires the Coast Guard to prevent marine casualties and property loss.

Affected Population

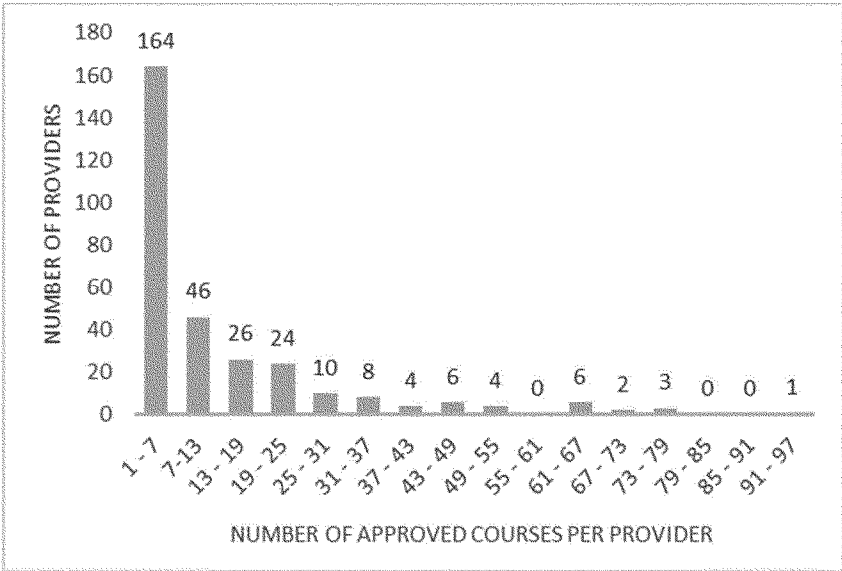
The affected population for this proposed rule includes training providers approved by the NMC who offer training to meet the regulatory requirements for MMC endorsements. From 2010 to 2019, NMC reports that the number of Coast Guard-approved training providers ranged from a low of 299 training providers in 2010 to a high of 340 training providers in 2016, with an average of 326 training providers. The number of courses approved by the Coast Guard ranged from a low of 2,835 courses in 2010 to a high of 3,252

courses in 2017, for an average of 3,115 courses that were approved by the Coast Guard in a given year. The number of Coast Guard-approved courses offered by each training provider varies greatly depending on demand for the course, instructor availability, etc. Many providers may offer a single course, while some providers offer as many as 107 courses. The average number of courses per training provider is 6 courses, and there is a mode of 1 course offered per training provider.

Figure 1 shows the distribution of how many Coast Guard-approved

courses each training provider has in a given year. The first bar shows that 164 training providers have between 1 and 7 approved courses. The NMC does not track how many times a training provider offers each of their approved courses; it is possible that a training provider with only one Coast Guard approved course offers that course multiple times in a year. The analysis for this proposed rule focuses on the number of student records submitted rather than the number of courses offered, in order to best account for the unknown frequency in course offerings.

Figure 1: Distribution of Approved Courses Offered by Training Providers, 2020



All course approvals are valid for 5 years per 46 CFR 10.407(e) and are not contingent on the frequency a Coast Guard-approved training provider may offer a course. The NMC receives mariner course completion data in two ways: as part of a mariner’s MMC application, or through a training provider’s electronic submission to the Coast Guard through Homeport. Applicants submit course completion certificates as evidence that they have met the regulatory training requirement for the MMC endorsement(s) they are requesting. As part of the evaluation of an MMC application, Coast Guard evaluators verify that a course completion certificate from a Coast Guard-approved training provider is submitted for each course required to obtain the requested endorsement, and NMC adds the course completion data to the mariner’s record within MMLD manually.

In 2010, a secondary method to receive course completion data was

established. Coast Guard approved training providers could now voluntarily submit course completion data electronically to the Coast Guard through Homeport, the Coast Guard’s enterprise internet portal for the maritime community. Homeport’s secure, role-based environment brings together Coast Guard personnel, members of the maritime community, and other designated individuals allowing them to share information quickly. The course completion data provided through Homeport is added to a database known as MTAD (Mariner Training and Assessment Data) and is then uploaded to individual mariner records in MMLD.

From 2010 to 2020, an average of 68,783 course completion records were submitted to the Coast Guard annually, of which an average of 12,498 course completion records were submitted by training providers electronically through Homeport. All other records were submitted by mariners as part of

their application for an MMC. If a final rule is published, training providers will be submitting all the data electronically through Homeport. This proposed rule would require training providers to electronically submit course completion data directly to NMC. To validate the course completion data provided with a mariner’s MMC application package, Coast Guard evaluators would match information submitted electronically by the training provider to the documentation provided by the mariner with their MMC application.

The Homeport Submissions column shows the number of student records that training providers submitted electronically through Homeport over a 10-year period, and can be considered the pilot program for the rulemaking. The cost estimate of the proposed rule includes the annual cost of submitting course completion data through Homeport over a 10-year period.

TABLE 3—NUMBER OF STUDENT RECORDS SUBMITTED ELECTRONICALLY ANNUALLY

Year	Homeport submissions	Total (homeport submissions & MMC applications)
2010	1,555	47,320
2011	3,011	55,250
2012	7,018	61,853
2013	12,348	70,770
2014	14,151	79,391
2015	17,640	81,202
2016	21,903	86,891
2017	19,090	70,723
2018	20,499	76,014
2019	12,596	70,710

TABLE 3—NUMBER OF STUDENT RECORDS SUBMITTED ELECTRONICALLY ANNUALLY—Continued

Year	Homeport submissions	Total (homeport submissions & MMC applications)
2020	7,664	56,486
Average	12,498	68,783

Cost to Industry

The cost of submitting course completion data through Homeport from 2010 to 2020 was \$269,946, for an average of \$24,541 per year. This has an

annualized cost of \$22,787 at the 7% discount rate. This cost may be considered the pilot program of the proposed rule and is not included in the cost analysis, as those training providers

who already submit course completion data through Homeport have been included in the industry cost below. The cost of the pilot program is detailed in Table 4.

TABLE 4—COST OF SUBMISSIONS THROUGH HOMEPORT, 2010–2020

Year	MTAD	Time to submit (hours)	Wage of submitter (hourly)	Yearly cost	3%	7%
2010	1,555	0.04	\$49.09	\$3,053	\$4,226	\$6,426
2011	3,011	0.04	49.09	5,912	7,945	11,630
2012	7,018	0.04	49.09	13,781	17,981	25,336
2013	12,348	0.04	49.09	24,247	30,715	41,661
2014	14,151	0.04	49.09	27,787	34,175	44,620
2015	17,640	0.04	49.09	34,638	41,360	51,982
2016	21,903	0.04	49.09	43,009	49,859	60,322
2017	19,090	0.04	49.09	37,485	42,190	49,135
2018	20,499	0.04	49.09	40,252	43,984	49,310
2019	12,596	0.04	49.09	24,734	26,240	28,318
2020	7,664	0.04	49.09	15,049	15,500	16,102
Average	12,498	.....	Total	269,946	314,176	384,843
			Annualized .....	.....	23,816	22,787

Note: Figures may not sum due to rounding.

The main industry cost of the proposed rule for training providers is the additional time they would spend submitting course completion data to NMC: there are approximately 326 providers, who would submit an annual average of 68,783 records. Additionally, training providers would have to register for an account to use Homeport.

Cost to the government is detailed in the “Cost to the Federal Government” section. The initial cost to training providers would be the cost of time spent to register for a Homeport account so that they can submit course completion data. According to an NMC Subject Matter Expert (SME) familiar with Homeport, they estimate it would

take a training provider 20 minutes to establish a Homeport account. All 326 providers would need to establish an account and given the wages for the personnel who would register the account, we find that the cost to industry would be a one-time total of \$5,334.

TABLE 5—THE COST TO TRAINING PROVIDERS TO ESTABLISH A HOMEPORT ACCOUNT

Number of training providers	Time to complete	Wages	Total cost
A	B	C	A*B*C
326	.33 hours (20 minutes)	\$49.09/hour	\$5,334

To estimate the time cost for submitting records electronically, we surveyed training providers that currently use Homeport. Under the limits of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520), we contacted eight providers and received four complete responses back, three of which quantified the time required to submit data through Homeport. If you

have comments or questions concerning the sample, data, or assumption, please submit them identified by docket number USCG–2021–0097 using the Federal eRulemaking Portal at <https://www.regulations.gov>.

It is assumed that if the Coast Guard implements a new IT system, training providers would spend the same amount of time submitting course

completion data through the new IT system as they do submitting through Homeport.

The key questions asked as part of the survey were:

- “Excluding time already spent on issuance of conventional paper course completion certificates, what is the minimum additional amount of time you estimate it takes to enter data into Homeport for each course?”

- “What is the maximum additional amount of time you estimate it takes to enter data into Homeport for each course?”

Using an average of the three survey responses, we estimate the time to submit each student record to be approximately 0.0114 hours (0.68 minutes) on the lower end and 0.0688 hours (4.13 minutes) on the higher end. Assuming that each course has an average of 20 students, the total hours of submission per course would be a range of .228 hours and 1.376 hours. The loaded mean hourly wage rate of

submitters is approximately \$49.09 for 2021, derived from an unloaded mean hourly wage rate of \$32.51 for Training and Development Specialists⁵ and a load factor of 1.51.⁶ Applying the

⁵ The 2021 mean hourly wage rate of \$32.51 is for Training and Development Specialists. <https://www.bls.gov/oes/2021/may/oes131151.htm>.

⁶ We calculated the load factor by dividing total compensation by wages and salaries, (56.56/37.42) = a load factor of 1.51. *Bureau of Labor Statistics' National Compensation Survey*, September 2021. “Table 4. Civilian workers, by industry group: employer costs per hour worked for employee compensation and costs as a percentage of total compensation—Educational Services,” epage 112. <https://www.bls.gov/web/ecec/ececqrtn.pdf>.

loaded hourly wage rate to the burden range, we estimate a total cost range of approximately \$0.56 to \$3.38 per student record. We estimate that training providers would submit 68,783 student records electronically annually, equal to the 10-year average number of student records manually entered to MMLD. Table 6 shows the calculation of the total cost to training providers of this proposed rule when we multiply the hourly burden per student record by the number of new records submitted electronically. We then multiply this amount by the wage of submitters.

Table 6: Total Undiscounted Cost of Electronic Submission (2021 Dollars)

Implementation Year	Time to Submit: Hours per Course (Low Estimate)	Time to Submit: Hours per Course (High Estimate)	Time to Submit: Hours per Student (Low Estimate)	Time to Submit: Hours per Student (High Estimate)	Time to Submit (Mean)	Average # Courses Annually	Student Records Submitted Annually through Homeport	Wage of Submitter	Total Cost (Low Estimate)	Total Cost (High Estimate)	Total Cost (Mean)
			A	B	MEAN = (A + B)/2		C	D	A*C*D	B*C*D	MEAN = [(A*C*D) + (B*C*D)]/2
Year 1	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 2	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 3	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 4	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 5	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 6	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 7	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 8	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 9	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
Year 10	0.23	1.38	0.01	0.07	0.04	3,115	68,783	\$49.09	\$33,766	\$188,285	\$111,025
								Total	\$337,656	\$1,882,848	\$1,110,252

Note: Figures may not sum due to rounding.

We estimate the total discounted cost of the proposed rule on the lower end, as shown in Table 7. The total 10-year

discounted cost would be approximately \$237,156 at the 7% discount rate, and the annualized costs

to be approximately \$33,766 at the 7% discount rate.

TABLE 7—ESTIMATED COST TO TRAINING PROVIDERS OF THE PROPOSED RULE: LOW ESTIMATE, 10 YEARS
[2021 Dollars]

Year	Total cost	3%	7%
1	\$33,766	\$32,782	\$31,557
2	33,766	31,827	29,492
3	33,766	30,900	27,563
4	33,766	30,000	25,760
5	33,766	29,127	24,074
6	33,766	28,278	22,499
7	33,766	27,455	21,028
8	33,766	26,655	19,652
9	33,766	25,879	18,366
10	33,766	25,125	17,165
Total	337,656	288,028	237,156
Annualized .....	.....	33,766	33,766

Note: Figures may not sum due to rounding.

We also estimated the total discounted cost of the proposed rule on the higher end, as shown in Table 8.

The total 10-year discounted cost would be approximately \$1,322,433 at the 7% discount rate. We estimate the

annualized costs to be about \$188,285 at the 7% discount rate.

TABLE 8—ESTIMATED COSTS TO TRAINING PROVIDERS OF THE PROPOSED RULE: HIGH ESTIMATE, 10 YEARS
[2021 Dollars]

Year	Total cost	3%	7%
1	\$188,285	\$182,801	\$175,967
2	188,285	177,476	164,455
3	188,285	172,307	153,696
4	188,285	167,289	143,642
5	188,285	162,416	134,244
6	188,285	157,686	125,462
7	188,285	153,093	117,254
8	188,285	148,634	109,583
9	188,285	144,305	102,414
10	188,285	140,102	95,714
Total	1,882,848	1,606,107	1,322,433
Annualized .....	.....	188,285	188,285

Note: Figures may not sum due to rounding.

The total cost to training providers of the proposed rule over a 10-year period includes both the one-time cost of establishing a Homeport account (\$5,334) and the cost of electronically submitting course data over 10 years, including a low estimate (\$337,656) and a high estimate (\$1,882,848). The 7% discount cost of the rule over 10 years is between \$237,156 and \$1,322,433.

Therefore, the total cost of the rule to training providers is between \$342,990 and \$1,888,182, with a mean of \$1,115,586. The total discounted cost over 10 years, is between \$242,490 and \$1,327,767, with a mean of \$785,129.

Cost to the Federal Government

The cost to government includes the cost of Coast Guard personnel to verify training provider accounts on Homeport, and the wages of personnel who would verify course completion data in MMLD for the amount of time they would perform that work.

In order for a training provider to be able to electronically submit course completion data through Homeport, they must first establish a user account by registering on the site. User accounts must be verified by Coast Guard personnel at the NMC before they can be ready for use. According to a NMC SME familiar with Homeport, it would take a GS-07 approximately 20 minutes to

verify a Homeport user account. NMC personnel would need to verify the Homeport user accounts for all 326 training providers.

Wages for civilian federal employees are calculated by taking the wages for a federal employee in their locality, with their grade, at a step of 5 (which is considered an average). For a GS-07 employee in the national capital region, this is \$26.69 per hour as of January 2021. To account for the total cost of the position, wages must be multiplied by a load factor, which found by taking the total compensation for federal employees and dividing by average wages for federal employees.⁷ The calculation creates a load factor of 1.69, and when multiplied by the hourly

⁷ Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees, 2011 to 2015* (April 2017), www.cbo.gov/publication/52637.

"Federal and Private-Sector Total Compensation, by Workers' Educational Attainment": Federal Government, All Levels of Education. Page 16.

"Federal and Private-Sector Wages, by Workers' Educational Attainment": Federal Government, All Levels of Education. Page 11.

wage, the total wages for a GS-07 employee becomes \$45.11 per hour.

The total cost of verification would be a one-time cost of \$4,902, as detailed in Table 9.

TABLE 9—COST TO GOVERNMENT OF VERIFYING HOMEPORTR USER ACCOUNTS

Number of training providers A	Time to verify a new homeport user account B	GS-07 wages C	Total cost A*B*C
326	20 minutes (.33 hours)	\$45.11/hour	\$4,902

The course completion data that the training provider submits through Homeport is added to the MTAD database and is automatically matched to the mariner's profile in the MMLD using the individual's MRN. If a mariner does not have an MRN, such as when they are completing courses in anticipation of applying for their first MMC, the course data appears in MMLD as an unmatched entry because it does not match to an existing MRN. This situation prompts manual review by personnel at NMC.

The mariner provides their Social Security number as required on Form CG-719B, and they are issued an MRN after they apply for their first MMC. The MRN is used by the Coast Guard to identify them in all future credentialing transactions, and all records are matched to the MRN rather than the Social Security number. Students may voluntarily submit their Social Security number to a training provider as a

means of identifying them with their records.

However, records may not match due to a misspelling or other error in data entry. If neither a Social Security number nor an MRN are provided, the certificate would remain unmatched to a mariner's record in MMLD until it can be matched manually. The need for manual review to match records in MMLD represents a cost to the Coast Guard.

The Coast Guard estimates that manually matching records in MMLD would require 3 hours per week at the GS-7 level and 0.5 hours per week at the GS-13 level for the current 18 percent of course completion records entered into the MMLD. This number would need to be projected at an additional 82 percent when all Coast Guard-approved training providers submit course completion data to the NMC. The projected total cost to the Coast Guard would be an additional 17 hours per week at the GS-7 level, and

2.5 hours per week at the GS-13 level. There would be a total annual burden of 1,014 hours—884 hours for a GS-7 and 130 hours for a GS-13.

Total wages for GS-07 employees are \$45.11 per hour, and total wages for GS-13 are \$95.16 per hour.⁸

To find the cost of the proposed rule to the federal government over a 10 year period, we must first multiply the wages of personnel by the hours they would work verifying course completion data in a given year. For GS-07 personnel, they would work for 884 hours at the rate of \$45.11 per hour, totaling to \$39,877. For GS-13 personnel, they would work for 130 hours at the rate of \$95.16 per hour, totaling to \$12,371. Combining these figures, the proposed rule would cost the federal government \$52,248 over 10 years. If we divided this amount by the total hours of verification, we find the weighted average wage of \$51.53. The details of this cost, and the discounted cost at 3% and 7%, are provided in Table 10.

TABLE 10—ESTIMATED COSTS OF THE PROPOSED RULE TO THE FEDERAL GOVERNMENT: 2022 DOLLARS

Year	Total time (hours) A	Weighted average wage B	Total annual A*B	3% Discount	7% Discount
1	1,014	\$51.53	\$52,251	\$50,730	\$48,833
2	1,014	51.53	52,251	49,252	45,638
3	1,014	51.53	52,251	47,817	42,653
4	1,014	51.53	52,251	46,425	39,862
5	1,014	51.53	52,251	45,073	37,255
6	1,014	51.53	52,251	43,760	34,817
7	1,014	51.53	52,251	42,485	32,540
8	1,014	51.53	52,251	41,248	30,411
9	1,014	51.53	52,251	40,046	28,421
10	1,014	51.53	52,251	38,880	26,562
Total .....	.....	.....	522,514	445,715	366,992
Annualized .....	.....	.....	.....	52,251	52,251

Note: Figures may not sum due to rounding.

Currently, when a mariner submits a course completion certificate as part of an application, evaluators at NMC enter

that data into the mariner's profile in MMLD. Under the proposed rule, rather than spending time entering course

completion data, evaluators would verify that the information submitted by the mariner matches the data submitted

⁸ GS-07 Step 5: $26.69 \times 1.69 = 45.11$ per hour,
GS-13 Step 5: $56.31 \times 1.69 = 95.16$ per hour.

by the training provider. We do not anticipate there would be a difference in time between entering course completion data and verifying a course completion certificate. Therefore, we do not estimate a cost for verification.

The Coast Guard would not realize cost savings from reduced fraud investigations because it must still investigate accusations of fraud. The additional records generated by this

proposed rule would aid in completing investigations accurately and in a timely manner, but would not reduce the number of investigations the Coast Guard must conduct annually.

The total cost to the government is the one-time cost of verification at \$4,902 and the 10-year operating cost of \$522,514, for a total cost of \$527,416. The total cost at a 7% discount over 10 years (including the one-time cost of

account verification) would be \$371,570.

Net Total Cost of the Proposed Rule

Table 11 shows the net cost of the proposed rule using the lower estimated cost, and Table 12 shows the net cost of the proposed rule using the higher estimated cost.

TABLE 11—NET COSTS OF THE PROPOSED RULE: LOW ESTIMATE, 2022 DOLLARS

Year	Cost to training providers (low) A	Cost to govt. B	Total net cost (low) A + B	3% Discount	7% Discount
1	\$33,766	\$52,251	\$86,017	\$83,512	\$80,390
2	33,766	52,251	86,017	81,079	75,131
3	33,766	52,251	86,017	78,718	70,215
4	33,766	52,251	86,017	76,425	65,622
5	33,766	52,251	86,017	74,199	61,329
6	33,766	52,251	86,017	72,038	57,317
7	33,766	52,251	86,017	69,940	53,567
8	33,766	52,251	86,017	67,903	50,063
9	33,766	52,251	86,017	65,925	46,788
10	33,766	52,251	86,017	64,005	43,727
Total .....	.....	.....	860,170	733,742	604,147
Annualized .....	.....	.....	.....	86,017	86,017

Note: Figures may not sum due to rounding.

TABLE 12—NET COSTS OF THE PROPOSED RULE: HIGH ESTIMATE, 2022

Year	Cost to training providers (low) A	Cost to govt. B	Total net cost (low) A + B	3% Discount	7% Discount
1	\$188,285	\$52,251	\$240,536	\$233,530	\$224,800
2	188,285	52,251	240,536	226,728	210,093
3	188,285	52,251	240,536	220,124	196,349
4	188,285	52,251	240,536	213,713	183,504
5	188,285	52,251	240,536	207,488	171,499
6	188,285	52,251	240,536	201,445	160,279
7	188,285	52,251	240,536	195,578	149,794
8	188,285	52,251	240,536	189,881	139,994
9	188,285	52,251	240,536	184,351	130,836
10	188,285	52,251	240,536	178,981	122,276
Total .....	.....	.....	2,405,358	2,051,819	1,689,423
Annualized .....	.....	.....	.....	240,536	240,536

Note: Figures may not sum due to rounding.

The annualized cost of the rule, discounted at 7% over a 10-year period of time, would be between a low estimate of \$604,147 and a high estimate of \$1,689,423. Adding in the one-time cost for creating a Homeport account for training course providers (\$5,334) and the one-time cost for verifying a Homeport account by the government (\$4,902) for both the high and low

estimates, we find that the total net cost of the rule is between a low estimate of \$614,383 and a high estimate of \$1,699,659.

Benefits

The Coast Guard has identified that approximately .12% of student course completion data submissions had been fraudulent from 2016 to June 2021. The

primary benefit of this proposed rule is prevention of fraud and a reduction of the potential for a mariner to be issued an MMC endorsement they are not qualified to hold. Ensuring mariners have met the requirements for their MMC endorsements would decrease shipboard operational risk. This would improve safety onboard vessels. The proposed rule also serves the Coast

Guard mission of Maritime Prevention, which requires the Coast Guard to prevent marine casualties and property loss.

Currently, a mariner course completion data can be verified by having Coast Guard personnel call the training provider to confirm the mariner's reported course completion information matches the records of the provider, and then evaluate any discrepancies. This has been done sporadically when evaluating mariners MMC applications, and instances in which verification was not completed have allowed for a degree of fraud for mariners submitting false or inaccurate documentation supporting their MMC application. Under the proposed rule, both the mariner and the training provider would submit their course completion data to the Coast Guard. The mariner would submit course completion data with their application for an MMC and the training provider would submit course completion data through Homeport. NMC evaluators would verify that data submitted by the mariner matches data submitted by the training providers. If any discrepancies are found, an investigation may then be initiated, to determine the nature of the discrepancy, if any fraudulent data was submitted and whether or not the mariner should be issued the credential.

Alternatives Considered

1. *No action.* We rejected this alternative because potentially issuing credentials to unqualified mariners not only puts the Coast Guard at risk, but also poses a risk to the marine transportation system, other mariners, and the marine environment through increased likelihood of marine casualties and related damages associated with unqualified personnel.

2. *Coast Guard-provided serial numbers for training certificates.* Under this alternative, the Coast Guard would provide training providers with a list of serial numbers to use on the course completion certificates they issue to students. We rejected this alternative because to implement this alternative, the Coast Guard would need to develop

an electronic system to track certificate serial numbers. Prior attempts at adding new capabilities to the MMLD have been unsuccessful. Implementing this alternative would require additional human resources to develop and manage a secondary system to track certificate numbers and increase application evaluation times due to the need to access multiple databases to verify data. None of these requirements are feasible in the immediate near-term.

This alternative also does not align with current Coast Guard initiatives to replace MMLD and transition to an electronic system for the application and issuance of MMCs. Due to the safety concerns associated with the results of investigations of mariner fraud, the Coast Guard is pursuing this proposed rule to mitigate opportunities for the NMC to accept fraudulent certificates as part of an MMC application.

3. *Training providers submit course completion data to the NMC (preferred alternative).* This is the selected alternative because it achieves the Coast Guard's desired benefit of providing the ability for the NMC evaluators to verify the course completion data submitted by an MMC applicant while also taking advantage of existing programs to have training providers submit records electronically. This NPRM limits the cost of the proposed rule because it would not require adding new functionality to the MMLD. We analyzed the costs and benefits of this alternative in the regulatory analysis of this proposed rule.

B. Small Entities

Under the Regulatory Flexibility Act, 5 U.S.C. 601–612, we have considered whether this proposed rule would have a significant economic impact on a substantial number of small entities. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

The impact of this proposed rule on each training provider would vary by

how many Coast Guard-approved courses a training provider offers in any given year, and how many student records a training provider submits to the Coast Guard. Larger training providers that offer many courses, and thus manage more student records, would have a larger burden from the proposed rule, but they also have larger revenues. Conversely, smaller training providers that manage fewer student records would have a smaller burden under this proposed rule, but may have less revenue to mitigate the burden. To assess the potential burden on small entities, we took a random sample of the total population of Coast Guard-approved training providers and multiplied the cost per course by the number of courses each training provider offered in a year.

Of the 236 training providers that this proposed rule would affect, we took a random sample of 173 companies to achieve a 95 percent confidence interval. We found 147 of the companies in the random sample that had known revenues or employee information; 100 had both measures while 47 had only known employee information. The sample represented 59 different North American Industry Classification System codes, including schools, professional training centers, and specific trades reflecting the range of courses required to obtain mariner credentials and associated endorsements.

Out of a sample of 173 companies (training providers), we found 166 small entities overall that could potentially be affected by this proposed rule.⁹ Among the sample of 173 companies, we found 74 are small entities based on a revenue size standard, and 11 are small entities based on an employee size standard. There was insufficient information to determine the size of 81 companies, so the Coast Guard assumed that they are small entities. Overall, we found 166 small entities that could potentially be affected by this proposed rule. Table 13 presents the number of small entities based on employee size standard, revenue size standard, or other information.

TABLE 13—NUMBER OF SMALL ENTITIES

Category	Number
Small entities by revenue standard	74
Small entities by employee standard	11
Entities assumed to be small with insufficient information	81

⁹ The definitions for small entities was based on the July 2022 SBA Small Business Size Standards,

[https://www.sba.gov/sites/default/files/2022-07/](https://www.sba.gov/sites/default/files/2022-07/Table%20of%20Size%20Standards_Effective%20)
[Table%20of%20Size%20Standards_Effective%20](https://www.sba.gov/sites/default/files/2022-07/Table%20of%20Size%20Standards_Effective%20)

[July%2014%202022_Final-508.pdf](https://www.sba.gov/sites/default/files/2022-07/July%2014%202022_Final-508.pdf), accessed Dec. 3rd, 2022.

TABLE 13—NUMBER OF SMALL ENTITIES—Continued

Category	Number
Total small entities	166
Number of entities in sample	173

The annual impact of this proposed rule on each entity would be proportional to the number of courses offered. Here, we use the number of courses rather than the number of students because the number of Coast Guard-approved courses was known, but the number of students per training provider was not. To estimate the impact, we multiply the number of

Coast Guard-approved courses offered by the estimated time burden per course in hours (see Table 6), and then multiply by the loaded hourly wage rate of the submitters. For example, if a training provider offered 2 Coast Guard-approved courses, their burden would be approximately \$22.39 on the lower end (2 courses $\times$ 0.228 hours $\times$ \$49.09) and approximately \$135.00 on the

higher end (2 courses $\times$ 1.375 hours $\times$ \$49.09). For the lower cost to represent more than 1% of revenues, an entity would need to have annual revenues less than or equal to \$2,244, or \$13,530 on the higher end.

The mode of courses offered by small entities is 1: most small entities only offer 1 course. The mean of courses offered by small entities is 9.22.

TABLE 14—NUMBER OF COURSES AND COST OF RULE BY SMALL ENTITIES

Number of courses	Number of small entities	Percentage of small entities	Cost of rule, low estimate	Cost of rule, high estimate
1	49	29	\$11.19	\$67.50
2	17	10	22.39	135.00
3	13	8	33.58	202.50
4	16	10	44.77	270.00
5	11	7	55.96	337.49
6	3	2	67.16	404.99
7	6	4	78.35	472.49
8	4	2	89.54	539.99
9	9	5	100.73	607.49
10	6	4	111.93	674.99
11	2	1	123.12	742.49
12	5	3	134.31	809.99
13	1	1	145.50	877.48
14	2	1	156.70	944.98
16	1	1	179.08	1,079.98
18	2	1	201.47	1,214.98
19	1	1	212.66	1,282.48
20	3	2	223.85	1,349.98
>20 *	16	10	358.16	2,159.96

Note: Percentages may not sum to 100% due to rounding.

* Estimates for the "over 20 courses" category uses a mean of 32 courses as a representative sample.

Of the small entities for whom we found revenue data, over the 10-year period of analysis, one small entity would experience an impact of greater than 1 percent of its total annual revenues on the lower end, and 6 small entities would experience an impact of

greater than 1 percent of its total annual revenues on the higher end. Table 15 shows the number of small entities with a greater than 1 percent impact on their annual revenues as the percentage of the total population of small entities that we found through our analysis. While this

impact is 0.60 percent at the low end and 3.01 percent at the high end of the population of small entities, this is not a substantial number of small entities out of the entire population of 303 training providers that offer at least one course.

TABLE 15—ESTIMATED INITIAL AND ANNUAL IMPACT OF THE PROPOSED RULE ON SMALL ENTITIES

Category	Lower estimate	Higher estimate
Number of small entities where impact is greater than 1% of revenues	1	6
Percentage of small entities where impact is greater than 1% of revenues	0.60%	3.01%

Table 16 shows the number of small entities that would be affected by the

proposed rule as a percentage of the small entities' total annual revenues.

TABLE 16—ESTIMATED INITIAL AND ANNUAL PERCENTAGE REVENUE IMPACT OF THE PROPOSED RULE ON SMALL ENTITIES

Category	Lower estimate	Higher estimate
Impact <1% of revenues	91	87
Impact 1 to 2% of revenues	0	2
Impact 2 to 3% of revenues	1	1
Impact 3 to 4% of revenues	0	1
Impact greater than 4% of revenues	0	1

Hence, we found that 99 percent of the small entities would fall into the 0 to 1 percent category using the lower estimate, and 96 percent of them would fall into the 0 to 1 percent category using the higher estimate. Therefore, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposed rule would not have a significant economic impact on a substantial number of small entities.

If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this proposed rule would have a significant economic impact on it, please submit a comment to the docket at the address listed in the **ADDRESSES** section of this preamble. In your comment, explain why you think it qualifies and how and to what degree this proposed rule would economically affect it.

C. Assistance for Small Entities

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996, Public Law 104–121, we want to assist small entities in understanding this proposed rule so that they can better evaluate its effects on them and participate in the rulemaking. If the proposed rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please call or email the person in the **FOR FURTHER INFORMATION CONTACT** section of this proposed rule. The Coast Guard will not retaliate against small entities that question or complain about this proposed rule or any policy or action of the Coast Guard.

Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1–888–REG–FAIR (1–888–734–3247).

D. Collection of Information

This proposed rule would call for a collection of information under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501–3520. As defined in 5 CFR 1320.3(c), “collection of information” comprises reporting, recordkeeping, monitoring, posting, labeling, and other similar actions. The title and description of the information collections, a description of those who must collect the information, and an estimate of the total annual hour burden follow. The estimate covers the time for reviewing instructions, searching existing sources of data, gathering and maintaining the data needed, and completing and reviewing the collection.

The Paperwork Reduction Act of 1995 requires the Coast Guard to consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act, an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement, unless it displays a currently valid OMB control number.

This action contains proposed amendments to the existing information collection requirements previously approved under OMB Control Number 1625–0028. This ICR governs all of the information collected for training provider approvals, including information required to evaluate and approve the initial course, review of these materials by the NMC, and ongoing recordkeeping requirements for each student taking a course. The proposed rule increases the hour burden of recordkeeping for each Coast Guard-approved course but does not increase the number of responses (number of Coast Guard-approved courses).

The hour burden of the ICR represents the total annual burden per Coast Guard-approved course, assuming that each Coast Guard-approved course is offered 12 times with 20 students in each class. The current hour burden is 40 hours for each Coast Guard-approved course, or 0.1667 hours for each student record. Since the regulatory analysis for

the proposed rule used a range for the estimated burden, we use the higher end of the range to provide a conservative estimate of the increase in recordkeeping burden. This proposed rule would increase the hour burden per student record by 0.0688 from 0.1667 to 0.2355 hours. This creates a total increase of about 16.32 hours in the hour burden per response, from 40 hours per course (0.1667×20 students $\times 12$ courses) to about 56.33 hours for each course (0.2347×20 students $\times 12$ courses).

The title and description of the information collection, a description of those who must collect the information, and an estimate of the total annual burden follow. The estimates cover the time for reviewing instructions, searching existing sources of data, gathering and maintaining the data needed, and completing and reviewing the collection. The current OMB-approved number of responses is 2,757.

Title: Course Approval and Records for Merchant Mariner Training Schools.

OMB Control Number: 1625–0028.

Summary of the Collection of Information: This ICR governs all of the information collected for training provider approvals (including information required to evaluate and approve the course and any information regarding the STCW QSS manual) review of these materials by the NMC, and ongoing recordkeeping requirements for each student taking a course.

Need for Information: Title 46 of the CFR, 10.402 specifies the information that must be submitted for the Coast Guard to evaluate and approve each course. Title 46 of the CFR, section 10.403 specifies recordkeeping requirements that a Coast Guard-approved training provider offering courses must meet for each student taking each course. The Coast Guard is obligated under the STCW Convention to validate the training completed by mariners and to ensure that the approved training is monitored under a QSS.

Proposed Use of Information: NMC personnel review submitted information to ensure training courses and programs

meet minimum standards for Coast Guard approval. Members of the public, including U.S. merchant mariners, attend Coast Guard-approved courses to meet regulatory requirements or to enhance their ability to perform their jobs. The agency uses the information to enforce regulations, and to compare existing courses with new international standards for specific training. The recordkeeping requirements help the Coast Guard monitor the performance of schools with Coast Guard-approved courses.

Description of the Respondents:

Training providers approved to provide maritime courses or programs.

Number of Respondents: The OMB-approved number of respondents for this collection of information remains 329, who offer 3,183 courses annually. However, this proposed rule would affect 236 training providers who offer 2,255 courses annually with an estimated 55,789 student records submitted.

Frequency of Response: When a training provider requires course approval from the Coast Guard and after concluding an approved course. Training providers submit student records yearly based on the courses offered and the number of students completing those courses.

Burden of Response: The total burden per response is 56.33 hours per course, which would increase from the previously approved number of 40 hours per course.

Estimate of Annual Hour Burden: The proposed rule would increase the estimated annual burden by 36,824 hours (16.33 hours/course times 2,255 affected courses).

As required by 44 U.S.C. 3507(d), we will submit a copy of this proposed rule to OMB for its review of the collection of information.

We ask for public comment on the proposed collection of information to help us determine, among other things—

- How useful the information is;
- Whether the information can help us perform our functions better;
- How we can improve the quality, usefulness, and clarity of the information;
- Whether the information is readily available elsewhere;
- How accurate our estimate is of the burden of collection;
- How valid our methods are for determining the burden of collection; and
- How we can minimize the burden of collection.

If you submit comments on the collection of information, submit them

to both the OMB and to the docket where indicated under **ADDRESSES**.

You need not respond to a collection of information unless it displays a currently valid control number from OMB. Before the Coast Guard could enforce the collection of information requirements in this proposed rule, OMB would need to approve the Coast Guard's request to collect this information.

E. Federalism

A rule has implications for federalism under Executive Order 13132 (Federalism) if it has a substantial direct effect on States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this proposed rule under Executive Order 13132 and have determined that it is consistent with the fundamental federalism principles and preemption requirements described in Executive Order 13132. Our analysis follows.

It is well settled that States may not regulate in categories reserved for regulation by the Coast Guard. It is also well settled that all of the categories covered in 46 U.S.C. 7101 and 7301 (personnel qualifications of officers and ratings serving on board merchant vessels) and any other category in which Congress intended the Coast Guard to be the sole source of a vessel's obligations, are within the field foreclosed from regulation by the States. See the Supreme Court's decision in *United States v. Locke*, 529 U.S. 89, 120 S.Ct. 1135 (2000), which found that the states are foreclosed from regulating tanker vessels). See also *Ray v. Atlantic Richfield Co.*, 435 U.S. 151, 157, 98 S.Ct., 988 (1978), which found that state regulation is preempted where "the scheme of federal regulation may be so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it [or where] the Act of Congress may touch a field in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject." (Citations omitted). Because this proposed rule involves the credentialing of merchant mariner officers and ratings under 46 U.S.C. 7101 and 7301 respectively, it relates to personnel qualifications for vessels subject to a pervasive scheme of Federal regulation and is therefore foreclosed from regulation by the States. Because the States may not regulate within these categories, this proposed rule is consistent with the fundamental

federalism principles and preemption requirements in Executive Order 13132.

While it is well settled that States may not regulate in categories in which Congress intended the Coast Guard to be the sole source of a vessel's obligations, the Coast Guard recognizes the key role that State and local governments may have in making regulatory determinations. Additionally, for rules with federalism implications and preemptive effect, Executive Order 13132 specifically directs agencies to consult with State and local governments during the rulemaking process. If you believe this proposed rule would have implications for federalism under Executive Order 13132, please call or email the person listed in the **FOR FURTHER INFORMATION CONTACT** section of this preamble.

F. Unfunded Mandates

The Unfunded Mandates Reform Act of 1995, 2 U.S.C. 1531–1538, requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100 million (adjusted for inflation) or more in any one year. Although this proposed rule would not result in such an expenditure, we do discuss the effects of this proposed rule elsewhere in this preamble.

G. Taking of Private Property

This proposed rule would not cause a taking of private property or otherwise have taking implications under Executive Order 12630 (Governmental Actions and Interference with Constitutionally Protected Property Rights).

H. Civil Justice Reform

This proposed rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, (Civil Justice Reform), to minimize litigation, eliminate ambiguity, and reduce burden.

I. Protection of Children

We have analyzed this proposed rule under Executive Order 13045 (Protection of Children from Environmental Health Risks and Safety Risks). This proposed rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

J. Indian Tribal Governments

This proposed rule does not have tribal implications under Executive

Order 13175 (Consultation and Coordination with Indian Tribal Governments), because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

K. Energy Effects

We have analyzed this proposed rule under Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use). We have determined that it is not a “significant energy action” under that order because it is not a “significant regulatory action” under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

L. Technical Standards

The National Technology Transfer and Advancement Act, codified as a note to 15 U.S.C. 272, directs agencies to use voluntary consensus standards in their regulatory activities unless the agency provides Congress, through OMB, with an explanation of why using these standards would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, specifications of materials, performance, design, or operation; test methods; sampling procedures; and related management systems practices) that are developed or adopted by voluntary consensus standards bodies.

This proposed rule does not use technical standards. Therefore, we did not consider the use of voluntary consensus standards.

M. Environment

We have analyzed this proposed rule under DHS Management Directive 023–01, Rev. 1, associated implementing instructions, and Environmental Planning COMDTINST 5090.1 (series), which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), and have made a preliminary determination that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. A preliminary Record of Environmental Consideration supporting this determination is available in the docket. For instructions on locating the docket, see the **ADDRESSES** section of this preamble. This proposed rule would be categorically excluded under paragraphs

L54 and L56 of Appendix A, Table 1 of DHS Instruction Manual 023–01–001–01, Rev. 1. Paragraph L54 pertains to regulations that are editorial or procedural. Paragraph L56 pertains to regulations concerning training, qualifying, licensing, and disciplining maritime personnel.

This proposed rule involves establishing a new procedure for issuing MMCs to mariners who have met the regulatory requirements for the individual endorsements as described in 46 CFR parts 11 and 12. Under this new procedure, Coast Guard-approved training providers would be required to electronically submit student course completion data to the Coast Guard within 5 business days of a course ending. The NMC would use this information to validate mariner course completion certificates submitted as part of an application for an MMC. We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

List of Subjects

46 CFR Part 10

Penalties, Personally identifiable information, Reporting and recordkeeping requirements, Seamen.

46 CFR Part 11

Penalties, Reporting and recordkeeping requirements, Schools, Seamen.

46 CFR Part 12

Penalties, Reporting and recordkeeping requirements, Schools, Seamen.

46 CFR Part 13

Cargo vessels, Reporting and recordkeeping requirements, Seamen.

46 CFR Part 15

Reporting and recordkeeping requirements, Seamen, Vessels.

46 CFR Part 16

Drug testing, Marine safety, Reporting and recordkeeping requirements, Safety, Transportation.

46 CFR Part 30

Cargo Vessels, Foreign relations, Hazardous materials transportation, Penalties, Reporting and recordkeeping requirements, Seamen.

46 CFR Part 35

Cargo vessels, Marine safety, Navigation (water), Occupational safety and health, Reporting and recordkeeping requirements, Seamen.

46 CFR Part 39

Cargo vessels, Fire prevention, Hazardous materials transportation, Marine safety, Occupational safety and health, Reporting and recordkeeping requirements.

For the reasons discussed in the preamble, the Coast Guard is proposing to amend 46 CFR parts 10, 11, 12, 13, 15, 16, 30, 35, and 39 as follows:

Title 46—Shipping

PART 10—MERCHANT MARINER CREDENTIAL

■ 1. The authority citation for part 10 is revised to read as follows:

Authority: 14 U.S.C. 503; 31 U.S.C. 9701; 46 U.S.C. 2101, 2103, 2104, 2110; 46 U.S.C. chapter 71; 46 U.S.C. chapter 73; 46 U.S.C. chapter 75; 46 U.S.C. 7701, 8903, 8904, and 70105; Executive Order 10173; DHS Delegation No. 00170.1, Revision No. 01.3.

PART 10—[Amended]

■ 2. Amend part 10 by, removing the following references wherever they appear and adding, in their place:

- a. “crewman” to read “crewmember”;
- b. “Fireman” to read “Boiler technician”;
- c. “fireman” to read “boiler technician”;
- d. “Hospital corpsman” to read “Medical technician”;
- e. “hospital corpsman” to read “medical technician”;
- f. “Lifeboatman” to read “Lifeboat operator”;
- g. “lifeboatman” to read “lifeboat operator”;
- h. “Pumpman” to read “Pump technician”;
- i. “seaman” to read “seafarer”; and
- j. “seamen” to read “seafarers”.

■ 3. Amend § 10.107 paragraph (b) by:

- a. Removing in the definition for “Apprentice mate (steersman) of towing vessels”, the word “(steersman)”;
- b. Removing in the definition for “Directly supervised/direct supervision (only when referring to issues related to tankermen)”, the word “tankermen” and adding, in its place, the words “tank vessel endorsements”;
- c. Removing in the definition for “Participation”, the word “tankerman” and adding, in its place, the words “tank vessel endorsements”;
- d. Removing in the definition for “Qualified rating” the words “tankerman” and adding, in its place, the words “tank vessel”;
- e. Removing the term “Restricted tankerman endorsement”;
- f. Adding in alphabetical order the term “Restricted tank vessel endorsement”;

- g. Removing in the definition for “*Simulated transfer*”, the word “tankerman” and adding, in its place, the words “tank vessel endorsements”;
- h. Adding in alphabetical order the terms for “*Tank Barge PIC*”, “*Tank vessel assistant*”, “*Tank vessel engineer*”, “*Tank vessel PIC*”; and
- i. Removing the term “*Tankerman assistant*”, “*Tankerman engineer*”, “*Tankerman PIC*” and “*Tankerman PIC (Barge)*”.

The additions read as follows:

§ 10.107 Definitions in subchapter B.

* * * * *

Restricted tank vessel endorsement means a valid tank vessel endorsement on a merchant mariner credential restricting its holder as the Coast Guard deems appropriate. For instance, the endorsement may restrict the holder to one or a combination of the following: A specific cargo or cargoes; a specific vessel or vessels; a specific facility or facilities; a specific employer or employers; a specific activity or activities (such as loading or unloading in a cargo transfer); or a particular area of water.;

* * * * *

Tank Barge PIC means a person holding a valid “Tank Barge PIC” endorsement on his or her MMC. See 46 CFR part 13, subpart C.

* * * * *

Tank vessel assistant means a person holding a valid “Tank vessel-Assistant” endorsement on his or her MMC. See 46 CFR, part 13, subpart D.;

* * * * *

Tank vessel engineer means a person holding a valid “Tank vessel-Engineer” endorsement on his or her MMC. See 46 CFR part 13, subpart E.

* * * * *

Tank vessel PIC means a person holding a valid “Tank vessel-PIC” endorsement on his or her MMC. See 46 CFR part 13, subpart B.

* * * * *

- 4. Revise § 10.109 paragraphs (a)(9) and (10) and (c)(1) through (6) to read as follows:

§ 10.109 Classification of endorsements.

(a) * * *

- (9) Apprentice mate towing
- (10) Apprentice mate towing

* * * * *

(c) * * *

- (1) Tank vessel—PIC.
- (2) Tank Barge—PIC.
- (3) Restricted Tank vessel—PIC.
- (4) Restricted Tank Barge—PIC.
- (5) Tank vessel assistant.
- (6) Tank vessel engineer.

* * * * *

§ 10.223 [Amended]

- 5. Amend § 10.223 paragraph (c)(3)(iii) by removing the words “tankerman rating” and adding, in their place, the words “tank vessel”.

§ 10.225 [Amended]

- 6. Amend § 10.225 paragraph (b)(3)(iii) by removing the words “tankerrating” and adding, in their place, the words “tank vessel”.

§ 10.227 [Amended]

- 7. Amend § 10.227 paragraphs (e)(7) and (i)(4) by removing the word “tankerman” and adding, in its place, the words “tank vessel”.

§ 10.231 [Amended]

- 8. Amend § 10.231 by:

- a. Removing in paragraph (c)(3)(iii) by the words “tankerman rating” and adding, in their place, the words “tank vessel”.

- b. Adding in paragraph (c)(6)(ii) the word “national” before the word “able” and removing the word “tankerman” and adding in its place the words “a tank vessel endorsement”.

§ 10.239 [Amended]

- 9. Amend § 10.239 the heading for Table 1 by removing the word “tankerman” and adding, in its place, the words “tank vessel”.

- 10. Amend Table 1 to § 10.302(a) by revising entry “(12) Tankerman” to read as follows:

§ 10.302 Medical and physical requirements.

* * * * *

TABLE 1 TO § 10.302(a)—MEDICAL AND PHYSICAL REQUIREMENTS FOR MARINER ENDORSEMENTS

1	2	3	4	5
Credential	Vision test	Hearing test	General medical exam	Demonstration of physical ability
(12) Tank vessel endorsement	§ 10.305(b)	§ 10.306	§ 10.304(a)	§ 10.304(c)

* * * * *

§§ 10.305 [Amended]

- 11. Amend § 10.305 paragraph (b) by removing the word “tankerman” and adding, in its place, the words “tank vessel endorsement”.

- 12. Amend § 10.403 by:

- a. Removing in paragraph (a)(6) the words, “Effective March 24, 2014, keep” and adding, in its place, the word “Keep”; and

- b. Removing in paragraph (a)(6)(iii), the word “attendance.” and adding, in its place, the words “attendance, which includes their full name, Coast Guard issued Mariner Reference Number or

date of birth and place of birth if they do not have a Mariner Reference Number.”.

- c. Redesignating paragraphs (a)(7), (8), and (9) as paragraphs (a)(8), (9), and (10), respectively; and

- d. Adding new paragraph (a)(7).

The addition reads as follows:

§ 10.403 General Standards.

(a) * * *

- (7) For each student who successfully completes an approved course or program, in a manner specified by the Coast Guard, the school must electronically submit to the Coast Guard, within 5 business days of

completion, the specified information. By submitting records electronically to the Coast Guard, the submitter attests that they are accurate to the best of their knowledge and no false entries or statements were made under penalty of 18 U.S.C. 1001.

- (i) The name of the school and Coast Guard-issued course provider code.

- (ii) The title of the approved course or program, the Coast Guard-issued course code, and the dates the course was held.

- (iii) The name of the Coast Guard approved instructor who conducted the course.

(iv) The name of the student as it appears on their MMC or valid Government-issued identification, along with their Coast Guard-issued Mariner Reference Number or date of birth and place of birth if they do not have a Mariner Reference Number.

* * * * *

PART 11—REQUIREMENTS FOR OFFICER ENDORSEMENTS

■ 13. The authority citation for part 11 is revised to read as follows:

Authority: 14 U.S.C. 503; 31 U.S.C. 9701; 46 U.S.C. 2101, 2103, and 2110; 46 U.S.C. chapter 71; 46 U.S.C. 7502, 7505, 7701, 8903, 8904, and 70105; Executive Order 10173; DHS Delegation No. 00170.1, Revision No. 01.3. Section 11.107 is also issued under the authority of 44 U.S.C. 3507.

PART 11—[Amended]

■ 14. Amend part 11 by, removing the following references wherever they appear, and adding in their place:

- a. “fireman” to read “boiler technician”;
- b. “Hospital corpsman” to read “Medical technician”;
- c. “seaman” to read “seafarer”;
- d. “Seaman’s” to read “Seafarer’s”;
- and
- e. “seaman’s” to read “seafarer’s”.

§ 11.201 [Amended]

■ 15. Amend § 11.201 by:

- a. Removing in paragraphs (e)(2)(vii) the word “(steersman)”;
- b. Removing in paragraph (h)(2)(ii) the words “(steersman) of the vessels” and

adding, in its place, the word “towing”; and

■ c. Removing in paragraphs (h)(3)(ii) the word “(steersman)”.

§ 11.463 [Amended]

■ 16. Amend § 11.463 by:

- a. Removing in the section heading the word “(steersman); and
- b. Removing in paragraphs (a)(4), (5), (e)(1)(ii), (e)(2)(ii), and (e)(3)(ii) the word “(steersman)” and replacing it with the word “towing”.

■ 17. In § 11.464 amend the Table 1 in paragraph (c) by revising the entry “Route endorsed” to read as follows:

§ 11.464 Requirements for national endorsements as master of towing vessels.

(c) * * *

TABLE 1 TO § 11.464(c)—REQUIREMENTS FOR NATIONAL ENDORSEMENT AS MASTER OF TOWING VESSELS
[Limited]

1	2	3	4	5
Route endorsed	Total service ¹	TOS ² on T/V as limited apprentice mate towing	TOAR or an approved course	TOS on particular route
*	*	*	*	*

¹ Service is in months.

² TOS is time of service.

* * * * *

■ 18. Amend § 11.465 by:

■ a. Removing in paragraph (a) the word “(steersman)”;

■ b. Revising in Table 1 to paragraph (a) the entry for “Route endorsed”; and

■ c. Revising paragraph (g).
The revisions read as follows:

§ 11.465 Requirements for national endorsements as mate (pilot) of towing vessels.

(a) * * *

TABLE 1 TO § 11.465(a)—REQUIREMENTS FOR NATIONAL ENDORSEMENT AS MATE (PILOT ¹) OF TOWING VESSELS

1	2	3	4	5	6	7
Route endorsed	Total service ²	TOS ³ on T/V as apprentice mate towing ⁴	TOS on particular route	TOAR ⁵ or an approved course	30 days of observation and training while holding master (limited) and pass an examination	Subordinate route authorized
*	*	*	*	*	*	*

¹ For all inland routes, as well as Western Rivers, the endorsement as pilot of towing vessels is equivalent to that as mate of towing vessels. All qualifications and equivalencies are the same.

² Service is in months unless otherwise indicated.

³ TOS is time of service.

⁴ Time of service requirements as an apprentice mate of towing vessels may be reduced by an amount equal to the time specified in the approval letter for a completed Coast Guard-approved training program.

⁵ TOAR is a Towing Officer Assessment Record.

* * * * *

(g) An approved training course for mate (pilot) of towing vessels must include formal instruction and practical demonstration of proficiency either onboard a towing vessel or at a shoreside training facility before a designated examiner, and must cover the material (dependent upon route) required by Table 2 to § 11.910 of this part for apprentice mate, towing vessels on ocean and near-coastal routes;

apprentice mate, towing vessels on Great Lakes and inland routes; or apprentice mate, towing vessels on Western Rivers routes.

* * * * *

■ 19. Amend § 11.466 by:

- a. Revising the section heading;
- b. Removing in paragraph (a) the word “(steersman)”;
- c. Revising the heading to Table 1 to paragraph (a) and the entries for “(1) APPRENTICE MATE (STEERSMAN)”

and “(2) APPRENTICE MATE (STEERSMAN) (LIMITED)”;

■ d. Revising the first sentence of paragraph (b).

The revisions read as follows:

§ 11.466 Requirements for national endorsements as apprentice mate of towing vessels.

(a) * * *

TABLE 1 TO § 11.466(a)—REQUIREMENTS FOR NATIONAL ENDORSEMENT AS APPRENTICE MATE OF TOWING VESSELS

1	2	3	4	5	6
Endorsement	Route endorsed	Total service ¹	TOS ² on T/V	TOS on particular route	Pass examination ³
(1) APPRENTICE MATE (TOWING)	OCEANS (O)	18	12	3	YES.
	NEAR-COASTAL (NC)	18	12	3	YES.
	GREAT LAKES	18	12	3	YES.
	INLAND (GL-I)	18	12	3	YES.
	WESTERN RIVERS (WR)	18	12	3	YES.
(2) APPRENTICE MATE TOWING (LIMITED).	NOT APPLICABLE	18	12	3	YES.

¹ Service is in months.² TOS is time of service.³ The examination for apprentice mate is specified in subpart I of this part.

* * * * *

(b) Those holding a license or endorsement as apprentice mate of towing vessels may obtain a restricted endorsement as apprentice mate towing (limited). * * *

§ 11.903 [Amended]

■ 20. Amend § 11.903 paragraphs (a)(19) and (20) by removing the word “(steersman)”.

■ 21. In Table 1 to § 11.910 revise entries 8 and 9 to read as follows:

§ 11.910 Subjects for deck officer endorsements.

* * * * *

TABLE 1 TO § 11.910—CODES FOR DECK OFFICER ENDORSEMENTS
DECK OFFICER ENDORSEMENTS

8. Apprentice mate, towing vessels, Great Lakes, and inland routes.
9. Apprentice mate, towing vessels, Western Rivers.

* * * * *

* * * * *

PART 12—REQUIREMENTS FOR RATING ENDORSEMENTS

■ 22. The authority citation for part 12 is revised to read as follows:

Authority: 31 U.S.C. 9701; 46 U.S.C. 2101, 2103, 2110, Chapter 73, 7503, 7505, 7701, and 70105; DHS Delegation No. 00170.1, Revision No. 01.3.

PART 12 [Amended]

■ 23. Amend part 12 by, removing the following references wherever they appear, and adding in their place:

- a. “Crewman” to read “Crewmember”;
- b. “crewman” to read “crewmember”;
- c. “Fireman” to read “Boiler technician”;
- d. “fireman” to read “boiler technician”;
- e. “lifeboatman” to read “lifeboat operator”;
- f. “Pumpman” to read “Pump technician”;
- g. “pumpman” to read “pump technician”;
- h. “seaman” to read “seafarer”;
- i. “seaman’s” to read “seafarer’s”;
- j. “seamen” to read “seafarers”; and

■ k. “tankerman” to read “tank vessel endorsement”;

§ 12.401 [Amended]

■ 24. Amend § 12.401 by:

- a. Removing in paragraph (a), the words “or merchant mariner document (MMD)”;
- b. Removing in paragraph (d)(2), the words “After March 24, 2014, any” and adding, in their place, the word “Any”.

PART 13—CERTIFICATION OF TANKERMAN

■ 25. The authority citation for part 13 is revised to read as follows:

Authority: 46 U.S.C. 3703, 7317, 8105, 8703, 9102; DHS Delegation No. 00170.1, Revision No. 01.3.

PART 13—[Amended]

■ 26. Revise the heading to part 13 to read as follows:

PART 13—CERTIFICATION OF TANK VESSEL PERSONNEL

■ 27. Amend part 13 by, removing the following references wherever they appear, and adding in their place:

- a. “Tankerman” to read “Tank Vessel”;
- b. “tankerman” to read “tank vessel”;

■ c. “Tankerman-PIC (Barge)” to read “Tank Barge-PIC”; and

■ d. “tankerman-PIC (barge)” to read “tank barge-PIC”.

§ 13.107 [Amended]

■ 28. Amend § 13.107 by removing the word “endorsement” from the section heading and adding, in its place, the word “endorsements”.

§ 13.111 [Amended]

■ 29. Amend § 13.111 by removing the word “endorsement” from the section heading and adding, in its place, the word “endorsements”.

■ 30. Revise § 13.117 to read as follows:

§ 13.117 Re-issuance of expired tank vessel endorsements.

Whenever an applicant applies for re-issuance of any tank vessel endorsement more than 12 months after expiration of the previous endorsement, the applicant must meet the requirements for an original endorsement.

■ 31. Revise § 13.119 to read as follows:

§ 13.119 Expiration of endorsement.

A tank vessel endorsement is valid for the duration of the merchant mariner credential on which the endorsement appears.

§ 13.123 [Amended]

■ 32. Amend § 13.123 by removing the word “endorsement” from the section heading and adding, in its place, the word “endorsements”.

§ 13.201 [Amended]

■ 33. Amend § 13.201 paragraph (c)(3) by removing the words “a license”.

§ 13.203 [Amended]

■ 34. Amend § 13.203 paragraph (c) introductory text by removing the words “MMD or”.

§ 13.303 [Amended]

■ 35. Amend § 13.303 paragraph (c) introductory word by removing the words “MMD or”.

§ 13.305 [Amended]

■ 36. Amend § 13.305 by removing the word “shore-based tankermen” and adding, in its place, the word “shore-based PICs”.

§ 13.401 [Amended]

■ 37. Amend § 13.401 paragraph (d) by removing the word “license”.

§ 13.403 [Amended]

■ 38. Amend § 13.403 paragraph (a) introductory text by removing the words “MMD or”.

§ 13.501 [Amended]

■ 39. Amend § 13.501 paragraph (c)(3) by removing the word “license”.

§ 13.503 [Amended]

■ 40. Amend § 13.503 paragraph (b) by removing the words “MMD or”.

§ 13.603 [Amended]

■ 41. Amend § 13.603 by removing paragraph (e).

§ 13.605 [Amended]

■ 42. Amend § 13.605 by removing paragraph (e).

§ 13.607 [Amended]

■ 43. Amend § 13.607 by removing paragraph (e).

§ 13.609 [Amended]

■ 44. Amend § 13.609 by removing paragraph (b).

§ 13.611 [Amended]

■ 45. Amend § 13.611 by removing paragraph (b).

PART 15—MANNING REQUIREMENTS

■ 46. The authority citation for part 15 is revised to read as follows:

Authority: 46 U.S.C. 2101, 2103, 3306, 3703, 8101, 8102, 8103, 8104, 8105, 8301, 8304, 8502, 8503, 8701, 8702, 8901, 8902, 8903, 8904, 8905(b), 8906 and 9102; sec. 617, Pub. L. 111–281, 124 Stat. 2905; and DHS Delegation No. 00170.1, Revision No. 01.3.

PART 15—[Amended]

■ 47. Amend part 15 by, removing the following references wherever they appear, and adding in their place:

- a. “Lifeboatman” to read “Lifeboat operator”;
- b. “lifeboatman” to read “lifeboat operator”;
- c. “lifeboatman’s” to read “lifeboat operator’s”;

■ d. “Lifeboatmen” to read “Lifeboat operators”;

■ e. “lifeboatmen” to read “lifeboat operators”;

■ f. “pumpman” to read “pump technician”;

■ g. “seaman” to read “seafarer”;

■ h. “Seamen” to read “Seafarers”; and

■ i. “seamen” to read “seafarers”.

§ 15.403 [Amended]

■ 48. In § 15.403 paragraph (a), remove the words “or MMD”.

§ 15.404 [Amended]

■ 49. In § 15.404 paragraph (h), remove the words “MMD or”.

§ 15.840 [Amended]

■ 50. In § 15.840 paragraph (c), removing the word “ratings” and adding, in its place, the word “rating”.

■ 51. Revise § 15.860 to read as follows:

§ 15.860 Tank Vessel endorsements.

(a) The OCMI enters on the COI issued to each manned tank vessel subject to the regulations in this chapter the number of crewmembers required to hold valid MMCs with the proper tanker vessel endorsement. Table 1 to § 15.860(a) of this section provides the minimum required for tank vessel endorsements aboard manned tank vessels. Table 2 to § 15.860(a) of this section provides the tank vessel endorsements required for personnel aboard tankships.

TABLE 1 TO § 15.860(a)—MINIMUM REQUIREMENTS FOR TANK VESSEL PERSONNEL ABOARD MANNED TANK VESSELS

Tank vessels	Tank vessel-PIC	Tank vessel assistant	Tank vessel engineer	Tank vessel-PIC or tank barge-PIC
Tankship Certified for Voyages Beyond Boundary Line:				
Over 5,000 GRT	2	3	2	.....
5,000 GRT or less	2	.....	¹ 2	.....
Tankship Not Certified for Voyages Beyond Boundary Line	² 2	.....	.....	.....
Tank Barge .....	.....	.....	.....	² 2

¹ If only one engineer is required, then only one tank vessel-engineer is required.

² If the total crew complement is one or two persons, then only one tank vessel-PIC is required.

³ If the total crew complement is one or two persons, then only one tank vessel-PIC or tank vessel-PIC (barge) is required.

TABLE 2 TO § 15.860(a)—TANK VESSEL ENDORSEMENTS REQUIRED FOR PERSONNEL ABOARD TANKSHIPS

[Endorsement for the classification of the bulk liquid cargo or residues carried]

Tankship certified for voyages beyond boundary line	Tank vessel-PIC		Tank vessel engineer	Tank vessel assistant
Master	X			
Chief Mate	X			
Chief Engineer	X	or	X	
First Assistant Engineer	X	or	X	
Cargo Engineer	X	or	X	
Credentialed Officer Acting as PIC of Transfer of Liquid Cargo in Bulk	X			
Credentialed Officer or Crewmember Not Directly Supervised by PIC				X

(b) For each tankship of more than 5,000 GRT certified for voyages beyond the boundary line as described in part 7 of this chapter—

(1) At least two tank vessel-PICs or restricted tank vessel-PICs must be carried;

(2) At least three tank vessel-assistants must be carried; and

(3) At least two tank vessel-engineers must be carried.

(c) For each tankship of 5,000 GRT or less certified for voyages beyond the boundary line, as described in part 7 of this chapter

(1) At least two tank vessel-PICs or restricted tank vessel-PICs must be carried; and

(2) At least two tank vessel-engineers must be carried, unless only one engineer is required, in which case at least one tank vessel-engineer must be carried.

(d) For each tankship not certified for voyages beyond the boundary line, as described in part 7 of this chapter, if the total crew complement is—

(1) One or two, at least one tank vessel-PIC or restricted tank vessel-PIC must be carried; or

(2) More than two, at least two tank vessel-PICs or restricted Tank vessel-PICs must be carried.

(e) For each tank barge manned under § 31.15–5 of this chapter, if the total crew complement is—

(1) One or two, at least one tank vessel-PIC, restricted tank vessel-PIC, tank barge-PIC, or restricted tank barge-PIC must be carried; or

(2) More than two, at least two tank vessel-PICs, restricted Tank vessel-PICs, tank barge-PICs, or restricted tank barge-PICs must be carried.

(f) The following personnel aboard each tankship certified for voyages beyond the boundary line, as described in part 7 of this chapter, must hold valid MMCs, endorsed as follows:

(1) The master and chief mate must each hold a tank vessel-PIC or restricted tank vessel-PIC endorsement.

(2) The chief, first assistant, and cargo engineers must each hold a Tank vessel-engineer or tank vessel-PIC endorsement.

(3) Each credentialed officer acting as the PIC of a transfer of liquid cargo in bulk must hold a tank vessel-PIC or restricted tank vessel-PIC endorsement.

(4) Each officer or crewmember who is assigned by the PIC duties and responsibilities related to the cargo or cargo-handling equipment during a transfer of liquid cargo in bulk, but is not directly supervised by the PIC, must hold a tank vessel-assistant endorsement.

(g) The endorsements required by this section must be for the classification of

the liquid cargo in bulk or of the cargo residue being carried.

(h) All individuals serving on tankships certified for voyages beyond the boundary line, as described in part 7 of this chapter, must hold an appropriate STCW endorsement, as follows:

(1) For tank vessel-PIC, an STCW endorsement as Advanced Oil Tanker Cargo Operations, Advanced Chemical Tanker Cargo Operations, or Advanced Liquefied Gas Tanker Cargo Operations, as appropriate.

(2) For tank vessel-Assistant, an STCW endorsement as Basic Oil and Chemical Tanker Cargo Operations, or Basic Liquefied Gas Tanker Cargo Operations, as appropriate.

(3) For a tank barge-PIC, an STCW endorsement as Advanced Oil Tanker Cargo Operations, Advanced Chemical Tanker Cargo Operations, or Advanced Liquefied Gas Tanker Cargo Operations, as appropriate, including endorsements with a limitation for non-self-propelled vessels.

(4) For a tank vessel-engineer, an STCW endorsement as Advanced Oil Tanker Cargo Operations, or Advanced Chemical Tanker Cargo Operations, as appropriate, including endorsements with a limitation to maintenance and repair of cargo equipment.

PART 16—CHEMICAL TESTING

■ 52. The authority citation for part 16 is revised to read as follows:

Authority: 46 U.S.C. 2103, 3306, 7101, 7301, and 7701; DHS Delegation No. 00170.1, Revision No. 01.3.

■ 53. Revise § 16.220 paragraph (a)(4) to read as follows:

§ 16.220 Periodic testing requirements.

(a) * * *

(4) The first endorsement as an able seafarer, lifeboat operator, qualified member of the engine department, or a tank vessel endorsement; or

* * * * *

PART 30—GENERAL PROVISIONS

■ 54. The authority citation for part 30 is revised to read as follows:

Authority: 46 U.S.C. 2103, 3306, 3703; DHS Delegation No. 00170.1, Revision No. 01.3.

■ 55. Revise § 30.10–71 to read as follows:

§ 30.10–71 Tank Vessel Endorsements—TB/ALL.

The following ratings are established in part 13 of this chapter. The terms for the ratings identify persons holding valid endorsements for service in the ratings issued under that part:

- (a) Tank vessel-PIC.
- (b) Tank barge-PIC.
- (c) Restricted tank vessel-PIC.
- (d) Restricted tank barge-PIC.
- (e) Tank vessel-Assistant.
- (f) Tank vessel-Engineer.

PART 35—OPERATIONS

■ 56. The authority citation for part 35 is revised to read as follows:

Authority: 33 U.S.C. 1321(j); 46 U.S.C. 3306, 3703, 6101, 70011, 70034; 49 U.S.C. 5103, 5106; Executive Order 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; Executive Order 12777, 56 FR 54757, 3 CFR, 1991 Comp., p. 351; DHS Delegation No. 00170.1, Revision No. 01.3.

■ 57. Revise § 35.30–5 to read as follows:

§ 35.30–5 Fires, matches, and smoking—TB/ALL.

(a) *General.* In making the determinations required under paragraphs (b), (c), and (d) of this section the senior deck officer on duty, who must be a credentialed officer or have an appropriate tank vessel endorsement, must exercise their skill and experience with due regard to attendant conditions and circumstances, including consideration for location of shore side facilities, maintenance of mobility, provision for fire protection, state or change of winds, tides, sea, weather conditions, forces of nature, and other circumstances generally beyond human control.

(b) *Boiler fires.* Boiler fires are normally permitted during cargo transfer operations: Provided, that before loading Grades A, B, and C cargoes, the senior deck officer on duty, who must be a credentialed officer or have an appropriate tank vessel endorsement, must make an inspection to determine whether in their judgment boiler fires may be maintained with reasonable safety during the loading operation.

(c) *Smoking.* Smoking is prohibited on the weather decks of tank vessels when they are not gas-free or are alongside docks. At other times and places the senior deck officer on duty, who must be a credentialed officer or have an appropriate tank vessel endorsement, must designate when and where the crew may smoke: Provided, that before loading Grade A, B, or C cargo the master or senior deck officer on duty must make an inspection to determine if and where, in their judgment, smoking may be permitted with reasonable safety during the loading operation.

(d) *Matches.* The use of other than safety matches is forbidden aboard tank vessels at all times.

§ 35.35–1 [Amended]

■ 58. Amend § 35.35–1 paragraph (a)(1) by:

- a. Removing the word “Tankerman-PICs” wherever it appears, and adding, in its place, the words “Tank vessel-PIC”; and
- b. Removing the word “Tankerman-Assistants” and adding, in its place, the words “Tank vessel-Assistants”.

PART 39—VAPOR CONTROL SYSTEMS

■ 59. The authority citation for part 39 is revised to read as follows:

Authority: 42 U.S.C. 7511b(f)(2); 46 U.S.C. 3306, 3703, 3715(b), 70011, 70034; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; DHS Delegation No. 00170.1, Revision No. 01.3.

■ 60. Revise § 39.5003 paragraph (c) to read as follows:

§ 39.5003 Additional requirements for multi-breasted loading using an inboard barge vapor collection system—B/CLBR.

* * * * *

(c) Persons holding an appropriate tank vessel endorsement trained in and familiar with multi-breasted loading operations, must be onboard each barge during transfer operations. The tank barge (PIC) serves as the barge person-in-charge (PIC). During transfer operations, the barge PICs must maintain constant communication with each other as well as with the facility PIC.

* * * * *

Dated: March 24, 2023.

Amy M. Beach,

Captain, U.S. Coast Guard, Acting, Assistant Commandant for Prevention Policy.

[FR Doc. 2023–06472 Filed 5–4–23; 8:45 am]

BILLING CODE 9110–04–P

FEDERAL COMMUNICATIONS COMMISSION**47 CFR Parts 0, 1, and 64**

[WC Docket No. 17–97; FCC 23–18; FR ID 139316]

Call Authentication Trust Anchor

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) seeks comment on additional measures to strengthen its caller ID authentication framework and further stem the tide of illegally spoofed calls. Specifically, this document seeks comment on the use of third-party caller

ID authentication solutions, including whether any changes should be made to the Commission’s rules to permit, prohibit, or limit their use. It also seeks comment on whether to eliminate the STIR/SHAKEN implementation extension for providers that cannot obtain Service Provider Code (SPC) tokens, which are necessary to participate in the STIR/SHAKEN caller ID authentication framework.

DATES: Comments are due on or before June 5, 2023, and reply comments are due on or before July 5, 2023. Written comments on the Paperwork Reduction Act proposed information collection requirements must be submitted by the public, Office of Management and Budget (OMB), and other interested parties on or before July 5, 2023.

ADDRESSES: Pursuant to §§ 1.415 and 1.419 of the Commission’s rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission’s Electronic Comment Filing System (ECFS). See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998). You may submit comments, identified by WC Docket No. 17–97, by any of the following methods:

- *Electronic Filers:* Comments may be filed electronically using the internet by accessing the ECFS: <http://apps.fcc.gov/ecfs/>.
- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing.

Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street NE, Washington, DC 20554.

- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID–19. See *FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy*, Public Notice, DA 20–304 (March 19, 2020), [https://www.fcc.gov/document/fcc-](https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy)

[closes-headquarters-open-window-and-changes-hand-delivery-policy](https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy).

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an email to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice), 202–418–0432 (TTY).

FOR FURTHER INFORMATION CONTACT:

Jonathan Lechter, Attorney Advisor, Competition Policy Division, Wireline Competition Bureau, at Jonathan.Lechter@fcc.gov or at (202) 418–0984. For additional information concerning the Paperwork Reduction Act proposed information collection requirements contained in this document, send an email to PRA@fcc.gov or contact Nicole Ongele at (202) 418–2991.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission’s Sixth Further Notice of Proposed Rulemaking (FNPRM) in WC Docket No. 17–97, FCC 23–18, adopted on March 16, 2023, and released on March 17, 2023. The full text of this document is available for public inspection at the following internet address: <https://docs.fcc.gov/public/attachments/FCC-23-18A1.pdf>.

The proceeding this document initiates shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and

must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

This document may contain potential new or revised information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104–13. Public and agency comments are due July 5, 2023.

Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and (e) way to further reduce the information collection burden on small business concerns with fewer than 25 employees. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4), the Commission seeks specific comment on how it might further reduce the information collection burden for small business concerns with fewer than 25 employees.

Synopsis

I. Sixth Further Notice of Proposed Rulemaking

A. Third-Party Caller ID Authentication

1. The Commission's rules require that a voice service provider "[a]uthenticate caller identification information for all SIP calls it originates and . . . to the extent technically feasible, transmit that call with authenticated caller identification information to the next voice service provider or intermediate provider in the

call path." In the *Fifth Caller ID Authentication Further Notice*, 87 FR 42916 (July 18, 2022), the Commission sought comment on whether it should amend its rules to address whether originating voice service providers may use third parties to perform their third-party authentication obligations. The resulting record confirms that third-party authentication is occurring. It does not, however, provide sufficient information to fully assess the impact that explicitly authorizing or prohibiting third-party authentication may have on the STIR/SHAKEN ecosystem. For instance, the record before the Commission is not sufficient for it to understand the full scope of the various arrangements that exist between providers and third parties that authenticate their calls. Nor does it allow the Commission to determine whether these third-party arrangements satisfy the requirements of its authentication rules, how and what information is shared within those arrangements, whether that information sharing implicates privacy, security, or other legal concerns, and whether they have a net positive or negative effect on the reliability of the STIR/SHAKEN framework and its objective to curtail illegal spoofing. The Commission thus seeks further comment on the use of third-party solutions to authenticate caller ID information and whether any changes should be made to its rules to permit, prohibit, or limit their use.

2. The Commission starts by seeking comment on the types of third-party authentication solutions being used by providers. Are originating or other providers entering into agreements with third parties to perform their authentication obligations under the Commission's rules and the Alliance for Telecommunications Industry Solutions (ATIS) technical standards? If so, who are these third parties, what is the nature of their relationship to the provider that has retained them, and how does any agreement between the provider and the third-party purport to assign responsibility for compliance with the Commission's authentication rules and the ATIS standards? The Commission notes that the ATIS technical standards acknowledge several scenarios in which providers may authenticate calls where they lack a direct relationship with the end user of a voice service. These cases—including those involving providers serving enterprise, communications reseller, and value-added service provider customers—generally involve an authenticating service provider that originates calls on behalf of a customer

that itself maintains the direct relationship with the end user of the communications service. Are third-party authentication arrangements limited to these types of situations or are providers outside of these limited scenarios contracting with third parties to perform all or part of their authentication responsibilities? For instance, are providers that originate calls themselves entering into arms-length agreements with third parties for authentication services? Are there third parties marketing caller ID authentication services for originating and other providers? The Commission asks that commenters detail the different types of third-party authentication arrangements that are currently being employed by providers, address how prevalent each type of third-party authentication arrangement is in the STIR/SHAKEN ecosystem, and provide any available data substantiating how effective they are at facilitating the authentication of caller ID information.

3. Along those lines, the Commission seeks comment on whether, and under what circumstances, a third party may authenticate calls on behalf of a provider with A- or B-level attestations consistent with the ATIS standards. Pursuant to ATIS–1000074, in order to apply a B-level attestation for a call, the signing party must originate the call onto the IP-based service network and have a direct authenticated relationship with the customer. An A-level attestation additionally requires the signing provider to establish a verified association with the telephone number used for the call. Can a third-party authenticating a call on behalf of an originating provider satisfy all or any these criteria, and if so, how? Does the answer to that question depend on the nature of the relationship between the originating provider and the third party? For instance, is it possible for a third party that is a wholesale provider for a reseller, or an intermediate provider, to apply A- or B-level attestations on behalf of an originating provider in a manner that complies with the ATIS attestation-level criteria, but not a different type of third party? Are there third parties authenticating calls on behalf of originating providers that can only apply C-level attestations under the ATIS criteria? If commenters contend that third parties can meet the ATIS criteria for signing calls with A- and B-level attestations because they effectively stand in the shoes of the originating provider with the direct relationship with the customer, the Commission asks that they specify the legal bases for that conclusion, e.g., the

specific grounds for an agency theory, if any, and/or how the terms of the ATIS standards may be construed to include the third-party arrangement.

4. To the extent commenters contend that third parties may satisfy the criteria to sign calls with A- or B-level attestations, what information must be shared between originating providers and third parties for those attestation levels to be applied, is that information sharing occurring, and does it implicate any legal or public interest concerns, including privacy concerns? For instance, does any of the information shared constitute customer proprietary network information? Should any action taken by the Commission to explicitly authorize third-party authentication solutions be conditioned upon any particular restrictions or protections related to that information sharing? Should any explicit authorization of third-party authentication practices be conditioned upon providers ensuring that third parties have the information needed to apply A- or B-level attestations consistent with the ATIS standards?

5. The Commission seeks comment on whether there is a distinction between scenarios in which a third-party entity is retained to authenticate calls on behalf of a provider and the technical solutions described in the October 13, 2021, Deployment by Small Voice Service Providers Report, produced by the North American Numbering Council (NANC) Call Authentication Anchor Working Group (NANC Small Providers Report). In that report, the NANC stated that small service providers may wish to “leverage [a] number of vendor solutions” offering third-party call signing services in order to comply with their STIR/SHAKEN implementation obligations under the Commission’s rules, identifying three options: (1) “hosted SHAKEN;” (2) “carrier SHAKEN;” and (3) “SHAKEN software.” Although each option involves different features, they each require the originating provider to “determin[e] the proper ‘A’ ‘B,’ or ‘C’ level attestation” for a given call and to use the third-party platform to sign the call using the originating provider’s SPC token. The NANC states that these options offer a cost-effective means for providers—particularly small providers—to implement STIR/SHAKEN consistent with the ATIS standards. The Commission seeks comment on these technical solutions and the extent to which they are currently in use by providers. If commenters agree that they satisfy the criteria for signing calls under the ATIS standards, is that because the solutions

require the originating provider to make the attestation level determinations and sign calls using the originating provider’s SPC token, as opposed to arrangements in which a third party is allowed to make attestation level determinations and sign calls using a different SPC token? Do these technical solutions, in fact, result in A- B-, and C-level attestations being accurately applied?

6. The record developed in response to the *Fifth Caller ID Authentication Further Notice* indicates that there could be benefits to explicitly authorizing third-party authentication arrangements. For instance, some commenters suggest that third-party authentication can strengthen the caller ID authentication regime by enabling STIR/SHAKEN to be applied to calls that would otherwise be transmitted without authentication. The Commission seeks comment on the full range of benefits that could result from authorization of different third-party authentication arrangements. The Commission also seeks comment on the potential pitfalls of third-party authentication. For example, some commenters suggest that improper third-party signing practices are resulting in misleading and improper attestations, which in turn undermine the efficacy of the STIR/SHAKEN framework and impair the analytics tools that rely on accurate attestation data to make blocking and labelling recommendations to their clients.

7. Accordingly, the Commission seeks comment on whether it should amend its rules to explicitly authorize third-party authentication and what, if any, limitations it should place on that authorization to ensure compliance with authentication requirements and the reliability of the STIR/SHAKEN framework. For instance, should the Commission limit third-party authentication to scenarios akin to those described in the ATIS standards, where the entity authenticating the call is originating the call for a customer, such as a reseller or an enterprise customer? ATIS-1000088 defines “customer” as “[t]ypically a service provider’s subscriber, which may or not be the ultimate end-user of the telecommunications service,” and which “may be a person, enterprise, reseller, or value added service provider;” and defines “end user” as “[t]he entity ultimately consuming the VoIP-based telecommunications service.” Notwithstanding the definitions provided by the ATIS standards, should the Commission “clarify that, for the purposes of the STIR/SHAKEN standard, a ‘customer’ means an end user and not a wholesale

upstream provider” as USTelecom suggests? Should the Commission limit an authorization to the technical solutions described in the NANC Small Providers Report? Alternatively, should the Commission explicitly authorize third-party authentication more broadly but require the provider with the authentication obligation to make attestation-level determinations, rather than allowing them to rely on the third-party to make those determinations? If the Commission were to explicitly authorize third-party authentication, should the Commission also require third parties to sign calls using the provider’s SPC token? Should the Commission prohibit providers from certifying to having implemented STIR/SHAKEN in the Robocall Mitigation Database unless their calls are signed with their own SPC token, whether directly or through a third party? Would such a requirement improve accountability by third-party authenticators? Is the ability to obtain SPC tokens likely to present a barrier to providers’ compliance with such a requirement? If so, in what circumstances? Are there security or other concerns implicated by a provider sharing its SPC token with another entity for the purpose of signing calls? Would that undermine trust in the STIR/SHAKEN regime?

8. The Commission asks that commenters address the specific costs that would be incurred and gains that would be realized if it were to explicitly authorize or prohibit specific third-party authentication practices. Are there any other rules that the Commission would need to change if it were to explicitly authorize certain third-party authentication practices? What measures would the Commission need to implement to monitor compliance with the Commission’s rules if third-party authentication arrangements are employed? For instance, should the Commission amend its rules to explicitly require providers to identify any third-party solutions they rely upon in their Robocall Mitigation Database certifications and robocall mitigation plans, including the identity of the third party providing the solution, any requirements the provider has imposed on the third party to ensure compliance with the requirements of the ATIS technical standards and the Commission’s rules, and what the provider itself does to ensure compliance with those requirements under the third-party arrangement? Are there any other compliance or enforcement measures that the

Commission should adopt if it explicitly authorizes third-party authentication?

9. The Commission also invites comment on whether a rulemaking is necessary to address third-party authentication or if another procedural device would be appropriate. For instance, to the extent commenters argue that third-party authentication is already authorized in the limited scenarios described in the ATIS standards, and no other third-party authentication arrangement should be permitted, should the Commission instead address these issues through a declaratory ruling? To the extent commenters advocate for imposing rules on third parties that authenticate calls on behalf of providers, rather than upon the providers themselves, the Commission seeks comment on its legal authority to do so.

10. Lastly, if the Commission were to explicitly authorize the use of third parties to authenticate caller ID information, the Commission seeks comment on whether it should require providers that are not currently required to implement STIR/SHAKEN because they do not have the facilities necessary to do so or are subject to an implementation extension to engage a third-party authentication solution for the SIP calls they originate. Would this significantly increase the number of calls authenticated with STIR/SHAKEN or is the impact likely to be minimal given the authentication obligation the Commission adopted in the *Sixth Report and Order* (FCC 23–18), published elsewhere in this issue of the **Federal Register**, for the first intermediate provider in the path of a SIP call and the fact that the implementation extension for facilities-based small providers will lapse on June 30, 2023?

B. Eliminating the Implementation Extension for Providers Unable To Obtain an SPC Token

11. The Commission seeks comment on whether to eliminate the STIR/SHAKEN implementation extension for providers that cannot obtain an SPC token. To participate in STIR/SHAKEN, a voice service provider must obtain an SPC token issued through the STIR/SHAKEN governance system. In the *Second Caller ID Authentication Report and Order*, 85 FR 73360 (November 17, 2020), the Commission granted voice service providers that are incapable of obtaining an SPC token due to Governance Authority policy a STIR/SHAKEN implementation extension until they are capable of obtaining said token.

12. The Commission seeks comment on whether it should eliminate this extension. What are the benefits of, or drawbacks to, retaining the extension? Given changes in token access policy since the *Second Caller ID Authentication Report and Order* making it easier to obtain an SPC token, which, if any, providers are likely to qualify for this extension today, and under what circumstances? Assuming some providers remain unable to obtain an SPC token, are there other ways the Commission could account for these providers in its rules, apart from an implementation extension? Alternatively, would the Commission's standard waiver provisions be sufficient protection for any providers unable to obtain an SPC token? Are there other solutions that would allow any providers who remain unable to obtain an SPC token to participate in the STIR/SHAKEN framework? The Commission seeks comment on these and any alternative approaches to eliminating the SPC token extension.

C. Legal Authority

13. The Commission proposes to rely upon section 251(e) of the Communications Act of 1934 (the Act) and the Truth in Caller ID Act to require providers to meet any such requirements it adopts. The Commission seeks comment on this approach and whether there are any alternative sources of authority that it should consider.

14. The Commission proposes to rely on the TRACED Act to require originating providers to ensure that their calls are signed with their own token. To eliminate the extension for token access, the Commission proposes to rely on its authority under the TRACED Act to revise any granted extensions. The Commission seeks comment on these proposals. The Commission also seeks specific comment on its authority to eliminate an existing TRACED Act extension by Commission action outside of the annual extension reevaluation process mandated by the TRACED Act. Are there any other sources of authority the Commission should consider?

D. Digital Equity and Inclusion

15. The Commission, as part of its continuing effort to advance digital equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality, invites comment on any equity-related considerations and benefits (if any) that may be associated with the proposals and issues discussed herein. The Commission defines the

term “equity” consistent with Executive Order 13985 as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. See Exec. Order No. 13985, 86 FR 7009, Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (Jan. 20, 2021). Specifically, the Commission seeks comment on how its proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility.

II. Initial Regulatory Flexibility Analysis

16. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this *FNPRM*. The Commission requests written public comments on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments provided on the first page of the Further Notice. The Commission will send a copy of the Further Notice, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA). In addition, the *FNPRM* and IRFA (or summaries thereof) will be published in the **Federal Register**.

A. Need for, and Objectives of, the Proposed Rules

17. In order to continue the Commission's work of protecting American consumers from illegal calls, the *FNPRM* seeks comment on the use of third-party caller ID authentication solutions and whether any changes should be made to the Commission's rules to permit, prohibit, or limit their use. It also seeks comment on whether to eliminate the STIR/SHAKEN implementation extension for voice service providers that cannot obtain an SPC token.

B. Legal Basis

18. The *FNPRM* proposes to find authority largely under those provisions through which it has previously adopted rules. Specifically, the *FNPRM* proposes to find authority under section 251(e) of the Communications Act of 1934, as amended, the Truth in Caller ID Act, and the TRACED Act. The *FNPRM* solicits comment on these proposals.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

19. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules and by the rule revisions on which the Notice seeks comment, if adopted. The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small-business concern” under the Small Business Act. A “small-business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

20. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* The Commission’s actions, over time, may affect small entities that are not easily categorized at present. The Commission therefore describes, at the outset, three broad groups of small entities that could be directly affected herein. First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA’s Office of Advocacy, in general a small business is an independent business having fewer than 500 employees. These types of small businesses represent 99.9% of all businesses in the United States, which translates to 32.5 million businesses.

21. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.” The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations. Nationwide, for tax year 2020, there were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and

tax data for exempt organizations available from the IRS.

22. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.” U.S. Census Bureau data from the 2017 Census of Governments indicate there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States. Of this number there were 36,931 general purpose governments (county, municipal and town or township) with populations of less than 50,000 and 12,040 special purpose governments— independent school districts with enrollment populations of less than 50,000. Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”

23. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired communications networks. Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services, wired (cable) audio and video programming distribution, and wired broadband internet services. By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry. Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers.

24. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 5,183 providers that reported they were engaged in the provision of fixed local services. Of

these providers, the Commission estimates that 4,737 providers have 1,500 or fewer employees. Consequently, using the SBA’s small business size standard, most of these providers can be considered small entities.

25. *Local Exchange Carriers (LECs).* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include both incumbent and competitive local exchange service providers. Wired Telecommunications Carriers is the closest industry with an SBA small business size standard. Wired Telecommunications Carriers are also referred to as wireline carriers or fixed local service providers. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 5,183 providers that reported they were fixed local exchange service providers. Of these providers, the Commission estimates that 4,737 providers have 1,500 or fewer employees. Consequently, using the SBA’s small business size standard, most of these providers can be considered small entities.

26. *Incumbent Local Exchange Carriers (Incumbent LECs).* Neither the Commission nor the SBA have developed a small business size standard specifically for incumbent local exchange carriers. Wired Telecommunications Carriers is the closest industry with an SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms in this industry that operated for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 1,227 providers that reported they were incumbent local exchange service providers. Of these providers, the Commission estimates that 929 providers have 1,500 or fewer employees. Consequently, using the SBA’s small business size standard, the

Commission estimates that the majority of incumbent local exchange carriers can be considered small entities.

27. *Competitive Local Exchange Carriers (LECs)*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. Providers of these services include several types of competitive local exchange service providers. Wired Telecommunications Carriers is the closest industry with an SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 3,956 providers that reported they were competitive local exchange service providers. Of these providers, the Commission estimates that 3,808 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

28. The Commission has included small incumbent LECs in this present RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small-business size standard (e.g., a telephone communications business having 1,500 or fewer employees) and "is not dominant in its field of operation." The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope. The Commission therefore included small incumbent LECs in this RFA analysis, although it emphasizes that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

29. *Interexchange Carriers (IXCs)*. Neither the Commission nor the SBA have developed a small business size standard specifically for Interexchange Carriers. Wired Telecommunications Carriers is the closest industry with a SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms that operated in this industry for the entire year. Of this number, 2,964

firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 151 providers that reported they were engaged in the provision of interexchange services. Of these providers, the Commission estimates that 131 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, the Commission estimates that the majority of providers in this industry can be considered small entities.

30. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, contains a size standard for a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000." For purposes of the Telecom Act Standard, the Commission determined that a cable system operator that serves fewer than 677,000 subscribers, either directly or through affiliates, will meet the definition of a small cable operator based on the cable subscriber count established in a 2001 Public Notice. Based on industry data, only six cable system operators have more than 677,000 subscribers. Accordingly, the Commission estimates that the majority of cable system operators are small under this size standard. The Commission notes however, that the it neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million. Therefore, the Commission is unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

31. *Other Toll Carriers*. Neither the Commission nor the SBA has developed a definition for small businesses specifically applicable to Other Toll Carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. Wired Telecommunications Carriers is the closest industry with a SBA small business size standard. The SBA small business size standard for Wired Telecommunications Carriers classifies firms having 1,500 or fewer employees as small. U.S. Census Bureau data for 2017 show that there were 3,054 firms

in this industry that operated for the entire year. Of this number, 2,964 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 115 providers that reported they were engaged in the provision of other toll services. Of these providers, the Commission estimates that 113 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

32. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year. Of that number, 2,837 firms employed fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services. Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

33. *Satellite Telecommunications*. This industry comprises firms "primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications." Satellite telecommunications service providers include satellite and earth station operators. The SBA small business size standard for this industry classifies a business with \$35 million or less in annual receipts as small. U.S. Census Bureau data for 2017 show that 275 firms in this industry operated for the entire year. Of this number, 242 firms had revenue of less than \$25 million. Additionally, based on Commission data in the 2021 Universal Service

Monitoring Report, as of December 31, 2020, there were 71 providers that reported they were engaged in the provision of satellite telecommunications services. Of these providers, the Commission estimates that approximately 48 providers have 1,500 or fewer employees. Consequently using the SBA's small business size standard, a little more than of these providers can be considered small entities.

34. *Local Resellers.* Neither the Commission nor the SBA have developed a small business size standard specifically for Local Resellers. Telecommunications Resellers is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry. The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year. Of that number, 1,375 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 293 providers that reported they were engaged in the provision of local resale services. Of these providers, the Commission estimates that 289 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

35. *Toll Resellers.* Neither the Commission nor the SBA have developed a small business size standard specifically for Toll Resellers. Telecommunications Resellers is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell

telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry. The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year. Of that number, 1,375 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 518 providers that reported they were engaged in the provision of toll services. Of these providers, the Commission estimates that 495 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

36. *Prepaid Calling Card Providers.* Neither the Commission nor the SBA has developed a small business size standard specifically for prepaid calling card providers. Telecommunications Resellers is the closest industry with a SBA small business size standard. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry. The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that 1,386 firms in this industry provided resale services for the entire year. Of that number, 1,375 firms operated with fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 58 providers that reported they were engaged in the provision of payphone services. Of these providers, the Commission estimates that 57 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

37. *All Other Telecommunications.* This industry is comprised of establishments primarily engaged in

providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Providers of internet services (e.g. dial-up ISPs) or voice over internet protocol (VoIP) services, via client-supplied telecommunications connections are also included in this industry. The SBA small business size standard for this industry classifies firms with annual receipts of \$35 million or less as small. U.S. Census Bureau data for 2017 show that there were 1,079 firms in this industry that operated for the entire year. Of those firms, 1,039 had revenue of less than \$25 million. Based on this data, the Commission estimates that the majority of "All Other Telecommunications" firms can be considered small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

38. The *FNPRM* seeks comment on imposing several obligations on various providers, many of whom may be small entities. Specifically, the *FNPRM* seeks comment on the types of third-party authentication solutions being used by providers and the nature of any agreements or relationships with third parties, including whether providers are entering into agreements with third parties to perform their authentication obligations under the Commission's rules and the ATIS technical standards.

39. The *FNPRM* seeks comment on whether, and under what circumstances, a third party may authenticate calls on behalf of a provider with A- or B-level attestations consistent with the ATIS standards. To the extent that commenters contend that third parties can meet the ATIS standards for signing calls with A- and B-level attestations, the *FNPRM* seeks comment on the specific legal bases for that conclusion and the information that must be shared between originating providers and third parties for such attestation levels to be applied. It also seeks comment on whether the Commission should condition any explicit authorization of third-party authentication solutions upon any particular restrictions or protections related to information sharing, including ensuring that third parties have the information needed to apply A-

or B-level attestations consistent with the ATIS standards.

40. The *FNPRM* further seeks comment on whether the Commission should amend its rules to explicitly permit third-party authentication and any limitations the Commission should place on any such authorization, including: (1) whether to limit authorization to scenarios akin to those described in the ATIS standards; (2) whether to limit authorization to the technical solutions described in the NANC's 2021 Small Providers Report; (3) whether to only permit third-party authentication if the third party signs the call using the provider's SPC token; (4) whether to require providers with the authentication obligation to make attestation-level determinations; and (5) whether to prohibit providers from certifying that they have implemented STIR/SHAKEN in the Robocall Mitigation Database unless their calls are signed with their own SPC token, whether directly or through a third-party.

41. The *FNPRM* seeks comment on whether the Commission should change any other rules if certain third-party authentication practices are explicitly authorized. In particular, it seeks comment on whether the Commission should require providers to explicitly identify certain additional information in their Robocall Mitigation Database certifications and plans, including: (1) any third-party solutions; (2) the identity of the third party providing the solution; and (3) any requirements the provider has imposed on the third party to ensure compliance with the requirements of the ATIS technical standards and Commission's rules, and any action taken by the provider to ensure compliance with those requirements.

42. The *FNPRM* seeks comment on whether there are any other compliance or enforcement measures that the Commission should adopt if it explicitly authorizes third-party authentication. It also seeks comment on whether a rulemaking is necessary to address third-party authentication or if another procedural device would be appropriate. To the extent that third-party caller ID authentication is explicitly authorized, the *FNPRM* seeks comment on whether the Commission should require providers that are not currently required to implement STIR/SHAKEN because they do not have the facilities necessary to do so or are subject to an implementation extension to engage a third-party authentication solution for the SIP calls they originate.

43. Lastly, the *FNPRM* also seeks comment on whether to eliminate the

STIR/SHAKEN implementation extension for providers that cannot obtain an SPC token.

E. Steps Taken To Minimize the Significant Economic Impact on Small Entities and Significant Alternatives Considered

44. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rules for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.

45. The *FNPRM* seeks comment on the particular impacts that the proposed rules may have on small entities. In particular, it seeks comment regarding the different types of third-party authentication arrangements currently being employed by providers, the prevalence of each type of third-party authentication arrangement in the STIR/SHAKEN ecosystem, and any available data substantiating how effective they are at facilitating the authentication of caller ID information.

46. The *FNPRM* seeks comment on whether third-party authentication providers are able to satisfy all or any of the ATIS standards, and whether the answer to such question is dependent on the nature of the relationship between the originating provider and the third party.

47. The *FNPRM* seeks comment on the information that must be shared between originating providers and third parties for A- or B-level attestations to be applied and whether information sharing practices implicate any legal or public interest concerns. It seeks comment on whether the Commission should condition any explicit authorization of third-party authentication practices upon providers ensuring that third parties have the information needed to apply A- or B-level attestations consistent with the ATIS standards.

48. The *FNPRM* seeks comment on whether there is a distinction between scenarios in which third parties authenticate calls on behalf of a provider and the technical solutions described in the 2021 Small Providers Report produced by the NANC. The *FNPRM* notes that the NANC described

the technical solutions as a cost-effective means for providers—particularly small providers—to implement STIR/SHAKEN consistent with the ATIS standards, and sought comment on these solutions. The *FNPRM* seeks comment on whether the Commission should limit any authorization of third-party authentication to the technical solutions described in the NANC's 2021 Small Provider Report. It also seeks comment on only permitting third-party authentication if the third party signs the call using the provider's SPC token and prohibiting providers from certifying that they have implemented STIR/SHAKEN in the Robocall Mitigation Database unless their calls are signed with their own SPC token. In so doing, it specifically seeks comment on whether the ability to obtain an SPC token is likely to present a barrier to providers' compliance with such a requirement.

49. The *FNPRM* further seeks comment on the full range of potential benefits that could result from authorization of different third-party authentication arrangements, as well as the potential pitfalls of third-party authentication. It also seeks comment on the specific costs that would be incurred and gains that would be realized if the Commission were to explicitly authorize or prohibit specific third-party authentication practices. In addition, the *FNPRM* seeks comment on whether there are any other rules that the Commission would need to change if it were to explicitly authorize certain third-party authentication practices. Moreover, if third-party caller ID authentication is explicitly permitted, the *FNPRM* seeks comment on whether to require providers that are not currently required to implement STIR/SHAKEN because they do not have the facilities necessary to do so or are subject to an implementation extension to engage a third-party authentication solution for the SIP calls they originate.

50. Lastly, the *FNPRM* seeks comment on whether to eliminate the STIR/SHAKEN implementation for providers that cannot obtain an SPC token, as well as any benefits or drawbacks to retaining the extension.

51. Small entities may provide input in these areas addressing, among other considerations, any particular implementation challenges faced by small entities. The Commission expects to evaluate the economic impact on small entities, as identified in comments filed in response to the *Further Notice* and this IRFA, in reaching its final conclusions and taking action in this proceeding.

F. Federal Rules That May Duplicate, Overlap, or Conflict With the Proposed Rules

52. None.

III. Procedural Matters

53. *Initial Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act of 1980 (RFA), the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules addressed in this *FNPRM*. The IRFA is set forth above. Written public comments are requested on the IRFA. Comments must be filed by the deadlines for comments on the *FNPRM* indicated on the first page of this document and must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this *FNPRM*, including the IRFA, to the Chief Counsel for Advocacy of the SBA.

54. *Paperwork Reduction Act.* The *FPRM* may contain proposed new and revised information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and OMB to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4), the Commission seeks specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

IV. Ordering Clauses

55. Accordingly, *it is ordered* that, pursuant to sections 4(i), 4(j), 201, 202, 217, 227, 227b, 251(e), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 154(j), 201, 202, 217, 227, 227b, 251(e), and 303(r), this *FNPRM* is adopted.

56. *It is further ordered* that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, shall send a copy of this *FNPRM*, including the IRFA analysis, to the Chief Counsel for Advocacy of the SBA.

Federal Communications Commission.

Marlene Dortch,
Secretary.

[FR Doc. 2023–09543 Filed 5–4–23; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 300

[Docket No. 230418–0104]

RIN 0648–BJ85

International Affairs; Antarctic Marine Living Resources Convention Act

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule.

SUMMARY: NMFS proposes to revise its Antarctic Marine Living Resources Convention Act regulations, including those that implement the trade-monitoring program for frozen and fresh *Dissostichus* species, commonly marketed or referred to as Chilean seabass or Patagonian toothfish. Specifically, this action would: revise regulations that specify the circumstances under which NMFS would deny issuance of a preapproval certificate that is required to legally import frozen *Dissostichus* species; add regulations that specify the circumstances under which NMFS would deny issuance of a re-export or export document that is required to legally re-export or export both frozen and fresh *Dissostichus* species; clarify that the applicable authorization must be received prior to re-export or export; and remove the prohibition on the importation of toothfish harvested from the Food and Agriculture Organization of the United Nations (FAO) Statistical Areas 51 and 57. NMFS also proposes other non-substantive technical and procedural updates.

DATES: Written comments must be received by June 5, 2023.

ADDRESSES: You may submit comments on this document, identified by NOAA–NMFS–2023–0022, by any of the following methods:

Electronic Submission: Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to <https://www.regulations.gov> and enter NOAA–NMFS–2023–0022 in the Search box. Click on the “Comment” icon, complete the required fields, and enter or attach your comments.

Mail: Submit written comments to Mi Ae Kim, Office of International Affairs, Trade, and Commerce, National Marine Fisheries Service, 1315 East-West Highway (F/IS5), Silver Spring, MD 20910.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on <https://www.regulations.gov> without change. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter “N/A” in the required fields if you wish to remain anonymous).

FOR FURTHER INFORMATION CONTACT: Mi Ae Kim, Office of International Affairs, Trade, and Commerce, NMFS (phone 301–427–8365, or email mi.ae.kim@noaa.gov).

SUPPLEMENTARY INFORMATION:

Background

The United States is a contracting party to the Convention on the Conservation of Antarctic Marine Living Resources (Convention) and a member of the governing body established under the Convention—the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR or Commission). During its annual meetings, the Commission formulates and adopts conservation measures (CMs) that apply to fishing for Antarctic marine living resources in the Convention Area, which generally consists of the Southern Ocean. The Antarctic Marine Living Resources Convention Act of 1984 (AMLRCA), codified at 16 U.S.C. 2431, *et seq.*, provides the statutory authority for the United States to carry out its obligations under the Convention. Under section 307(b)(1) of AMLRCA, 16 U.S.C. 2436(b), the Secretary of Commerce has authority to promulgate regulations as necessary and appropriate to implement the Act. Acting under a delegation of that authority, the Assistant Administrator for Fisheries has implemented Commission-adopted conservation measures that are binding on the United States through regulations at 50 CFR part 300, subpart G.

To inhibit trade of illegal catches, CCAMLR adopted Conservation Measure 10–05, which established an electronic Catch Documentation Scheme (CDS) for tracking of *Dissostichus* species from harvest through the trade cycle, including transshipment, landing, import, export, and re-export, regardless of where the fish were harvested. Under the regulations at 50 CFR part 300, subpart G, the Assistant Administrator

has implemented the CCAMLR CDS, among other U.S. requirements, as a part of U.S. monitoring of trade in Antarctic marine living resources. Those regulations require a preapproval certificate for importation of frozen *Dissostichus* species, 50 CFR 300.105(a), and, for re-export or export of frozen or fresh product, an electronically-generated *Dissostichus* re-export document (DRED), 300.106(f)(1)(ii) or export document (DED), 300.106(g)(1)(ii). As explained in more detail below, this proposed rule would revise regulations at section 300.105 that apply to issuance of preapproval certificates required for importation of frozen *Dissostichus* species, add new regulations to section 300.106 that would apply to issuance of DREDs or DEDs, and make corresponding changes to the prohibitions under section 300.114.

In addition, NMFS proposes to clarify that a person must receive the electronically-generated DRED or DED required for re-export or export of *Dissostichus* species before re-exporting or exporting any shipments.

Lastly, NMFS proposes to update references to the Antarctic Conservation Act (16 U.S.C. 2401, *et seq.*, as amended) and associated regional agreements, and update contact information at NMFS and the Department of State for reporting violations of conservation measures adopted by CCAMLR.

These proposed regulatory revisions are further explained below.

Required Import and Trade Authorizations for Dissostichus Species and Prohibitions

1. Revisions To Prevent Issuance of Documents Authorizing Import, Re-Export, or Export of Illegally-Harvested *Dissostichus* Species

U.S. regulations provide that: “No shipment of *Dissostichus* species shall be released for entry into the United States unless accompanied by an accurate, complete, valid and validated CCAMLR CDS document.” 50 CFR 300.106(a)(2). This applies to all shipments, whether or not the subject *Dissostichus* species were harvested within or outside of the CCAMLR Convention Area and regardless of whether the respective harvesting vessel is flagged to a CCAMLR contracting party or a non-contracting party cooperating with CCAMLR by participating in the CDS. See 50 CFR 300.106(a)(1). Regulations that apply to issuance of preapproval certificates for importation of frozen *Dissostichus* species at 300.105(h) provide the

circumstances when NMFS will not issue a preapproval certificate. These include any shipment of *Dissostichus* species determined to have been harvested or transshipped in contravention of any CCAMLR Conservation Measure in force at the time of the harvest or transshipment; or harvested or transshipped by a vessel identified by CCAMLR as having engaged in illegal, unreported and unregulated (IUU) fishing. However, the current regulations do not provide that NMFS will deny a preapproval certificate for *Dissostichus* species illegally harvested or transshipped outside the Convention Area, including within foreign exclusive economic zones or high seas areas under the competence of a regional fisheries management organization, despite the fact that such imports would be prohibited under other existing federal law (*e.g.*, Section 307(1)(Q) of Magnuson-Stevens Fishery Conservation and Management Act, Lacey Act, 16 U.S.C. 3372(a)). To address this inconsistency, and to avoid a possible scenario where a preapproval certificate is issued for product determined to be subject to enforcement action, NMFS proposes to include additional bases for denial in 50 CFR 300.105(h).

Section 307(1)(Q) of the Magnuson-Stevens Act prohibits, among other things, imports or exports of any fish “taken, possessed, transported, or sold in violation of any foreign law or regulation or any treaty or in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party.” 16 U.S.C. 1857(1)(Q). Consistent with that provision, this proposed rule would revise 50 CFR 300.105(h) to provide that NMFS will not issue a preapproval certificate for any shipment of frozen *Dissostichus* species determined to have been taken, possessed, transported or sold in violation of:

- any foreign law or regulation; or
- any treaty within the meaning of section 2 of article II of the U.S. Constitution.

In addition, NMFS proposes that it will not issue a preapproval certificate for any shipment of frozen *Dissostichus* species determined to have been taken, possessed, transported or sold in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party.

NMFS has also noted a gap in the current regulations that apply to issuance of DREDs and DEDs for re-export or export of *Dissostichus* species.

These regulations at sections 300.106(f)(1)(ii) and (g)(1)(ii) do not explicitly provide that NMFS may deny issuance of a DRED or DED when *Dissostichus* species are harvested or transshipped in contravention of a CCAMLR conservation measure in force. Under the conservation measure that established the CCAMLR CDS, the export and re-export of *Dissostichus* species determined to have been harvested in a manner inconsistent with CCAMLR conservation measures is prohibited. Thus, in order to implement that requirement, NMFS is proposing to revise 300.106(f) and (g) to provide that a DRED or a DED will not be issued for *Dissostichus* species that NMFS has determined were harvested or transshipped in contravention of a CCAMLR Conservation Measure, AMLRCA, or the regulations of this subpart. In addition, NMFS proposes to revise these paragraphs to include, as relevant, the bases for denial of issuance of a DRED or DED that are proposed to be added to section 300.105(h) (preapproval certificates) as discussed above. As with preapproval certificates, these bases for denial of a DRED or a DED are necessary to avoid an inconsistency where NMFS issues a re-export or export document for *Dissostichus* species that is prohibited from trade and that may be subject to an enforcement action under other existing Federal law (*e.g.*, Section 307(1)(Q) of Magnuson-Stevens Fishery Conservation and Management Act, Lacey Act, 16 U.S.C. 3372(a)).

NMFS also proposes to make corresponding revisions to the prohibitions under 50 CFR 300.114(o).

2. Removal of the Prohibition on Imports of Toothfish From FAO Statistical Areas 51 and 57

This action would remove the prohibition on the importation of toothfish harvested from FAO Statistical Areas 51 and 57 in 50 CFR 300.105(h)(1) and 300.114(o). NMFS believes removal of this prohibition is appropriate because the management, monitoring and control of toothfish fishing in the Southern and Indian Oceans has improved. In 2003, to prevent the entry of illegally-harvested toothfish into the U.S. market, NMFS implemented an import prohibition of those species identified as originating from FAO Statistical Areas 51 and 57. Information available to NMFS at that time suggested that catches attributed to Areas 51 and 57 in CDS documents had in fact been illegally harvested from the Convention Area by unlicensed vessels. Any catches of toothfish reported as originating from Statistical Areas 51 and

57 were deemed to be misrepresented because fisheries surveys and bathymetric data available at the time suggested those areas had no fishable concentrations of toothfish. In addition, there was insufficient vessel monitoring system (VMS) data from the vessels operating in those areas to verify the harvest location of catches reported as originating from Statistical Areas 51 and 57.

Since 2003, CCAMLR has made a number of improvements and advancements that enable verification of toothfish harvest locations reported in CDS documents. Among these, CCAMLR has strengthened VMS requirements for vessels participating in toothfish fisheries and processes are in place to compare CDS data with relevant catch data. In addition, since 2010, NMFS has, as a condition for issuance of a preapproval certificate for importation of frozen toothfish, required verifiable documentation that a harvesting vessel reported positions to CCAMLR's centralized VMS from port-to-port in real-time regardless of harvest location. 50 CFR 300.105(c).

In 2012, the Southern Indian Ocean Fisheries Agreement (SIOFA) entered into force. SIOFA manages bottom-fishing activities in the Southern Indian Ocean, including the high seas portions of Statistical Areas 51 and 57. Vessels operating in SIOFA-managed areas are now harvesting toothfish in commercial quantities under SIOFA-adopted catch limits. In the last few years, toothfish has been caught in Statistical Areas 51 and 57 by vessels of CCAMLR members, who are also members of SIOFA, and tracked as required through the CDS. Thus, the bases for the prohibition on imports from those areas (*i.e.*, apparent lack of fishable concentrations and insufficient monitoring and reporting) no longer appear to be concerns.

Other Technical and Administrative Changes

1. Online Application for a Preapproval Certificate

The Office of International Affairs, Trade, and Commerce has made the application process for preapproval certificates available online, including the ability to access forms, submit required information, and complete payment through a web portal. This process is in addition to options for applying by mail or email using the portable document format application form. The online application decreased the processing time for preapproval certificates and serves to facilitate entry processing for importers. Language in 50 CFR 300.105 would be updated to delete

the requirement to provide information "in writing," as well as note that applications for a preapproval certificate are available from NMFS instead of NMFS Headquarters and the National Seafood Inspection Laboratory. Accordingly, the National Seafood Inspection Laboratory would be removed from the list of definitions in 50 CFR 300.101. These proposed regulatory text changes do not affect the previously approved public reporting burden for this information collection.

2. Clarification on When a Person Must Receive an Electronically-Generated Dissostichus Re-Export Document (DRED) or Export Document (DED)

Under 50 CFR 300.106(f)(1)(ii) and (g)(1)(ii), a person must receive an electronically-generated DRED or export document DED in order to re-export or export *Dissostichus* species from the United States. While NMFS believed that it is clear that a person must have a DRED or DED before re-exporting or exporting *Dissostichus* species, in order to ensure that there is no confusion on when a person must have a DRED or DED to legally export or re-export *Dissostichus* species, NMFS proposes to revise 50 CFR 300.106(f)(1)(ii) and (g)(1)(ii) to explicitly provide that a person must receive the electronically-generated DRED or DED *before* shipments of *Dissostichus* species are re-exported or exported.

3. Updates To Reflect the Antarctic Conservation Act, as Amended

Congress amended the Antarctic Conservation Act of 1978 (ACA) to implement the Protocol on Environmental Protection to the Antarctic Treaty (Protocol) and as part of those amendments the statute was renamed the "Antarctic Conservation Act." This proposed rule would update 50 CFR 300.101 to reflect that renaming. 50 CFR 300.102(b) would be revised to replace the reference to Agreed Measures for the Conservation of Antarctic Fauna and Flora, which is no longer in effect, with the Protocol. Similarly, the reference to the Agreed Measures would be removed from 50 CFR 300.113(c)(1). Also in 50 CFR 300.113(a)(2), the reference to the Protocol would be removed because there is no protected system under the Protocol that would apply to CCAMLR Ecosystem Monitoring Program (CEMP) sites. A reference related to specially protected areas regulated under the ACA is also updated.

4. Update to Contact Information for Reporting Violations of CCAMLR Conservation Measures

In 50 CFR 300.115, NMFS is proposing amendments that would update contact information for reporting any violations of CCAMLR conservation measures observed in the Convention Area.

Classification

This proposed rule is published under the authority of the Antarctic Marine Living Resources Convention Act of 1984 (16 U.S.C. 2431 *et seq.*) and the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*). The NMFS Assistant Administrator has determined that this proposed action is consistent with the provisions of these and other applicable laws, subject to further consideration after any relevant public comment.

Executive Order 12866

This rule has been determined to be not significant for purposes of Executive Order 12866.

Regulatory Flexibility Act (RFA)

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration (SBA) that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities.

The proposed rule relates to trade of toothfish: Antarctic and Patagonian toothfish species (*Dissostichus mawsoni* and *D. eleginoides*, respectively). There are approximately 80 dealers who could fall within the scope of NMFS's AMLRCA regulations. All U.S. dealers are considered small entities under the "Small Business Size Regulations" established by the SBA under 13 CFR 121.201. Although all regulated entities are considered small under the SBA size standard, this rule is expected to have no significant economic impact on these regulated entities.

The proposed changes would amend the circumstances when NMFS will deny a preapproval certificate for importation of frozen *Dissostichus* species, to include the following additional circumstances, consistent with section 307(1)(Q) of the Magnuson-Stevens Fishery Conservation and Management Act: determined to have been taken, possessed, transported or sold in violation of:

- any foreign law or regulation; or
- any treaty within the meaning of section 2 of article II of the U.S. Constitution.

In addition, NMFS proposes that it will not issue a preapproval certificate for any shipment of frozen *Dissostichus* species determined to have been taken, possessed, transported or sold in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party.

These changes are not expected to have any economic impacts on dealers of Antarctic marine living resources (AMLR) product. These additional circumstances in which NMFS will deny a preapproval certificate would not require importers to change anything they currently do to apply for a preapproval certificate. Similarly, the addition of the same criteria for denying a DRED or DED is not expected to have any economic impacts on dealers of AMLR product and would not require exporters to do anything differently when re-exporting or exporting toothfish species. By providing additional circumstances in which NMFS will deny a preapproval certificate, DRED, or DED these proposed amendments will ensure that such documents are not issued for trade that would be prohibited under other existing federal law (e.g., Section 307(1)(Q) of Magnuson-Stevens Fishery Conservation and Management Act, Lacey Act, 16 U.S.C. 3372(a)). As this proposed change does not affect compliance costs or add any regulatory burden, AMLR dealers would not incur additional economic costs.

The proposed change to remove the import prohibition of *Dissostichus* species harvested in FAO Statistical Areas 51 and 57 (in the Indian Ocean) would allow AMLR dealers an additional potential source of toothfish for import into the United States. Toothfish imports from these dealers average 14 million kilograms per year and are valued at \$225 million per year. Toothfish is considered a luxury product due to its high market price (according to the industry source Urner Barry, the average market price for processed toothfish has ranged from \$18 to \$20 per pound since 2019, with more recent pricing on the upper end of that scale). The increased sourcing options for dealers of toothfish, in addition to the existing available sources, expands dealer access to product. This additional source of product may increase options for small entities to seek more competitive prices and increase profits from this high end product.

The other proposed changes in this rule: clarifying that an electronically-generated DRED or DED must be received before re-exporting or exporting shipments of *Dissostichus*

species; updating language by removing “in writing” in preapproval certificate application provisions; updating references to the Antarctic Conservation Act (ACA); and revising contact information are administrative in nature and not expected to economically impact dealers engaged in the import, re-export, and export of toothfish. The clarification of the requirement to receive the DRED or DED prior to re-exporting or exporting shipments of toothfish would not impact dealers of toothfish because this requirement already exists and dealers already have to comply with it. NMFS is clarifying the requirement to prevent any possible confusion. The remaining proposed changes listed here would not affect dealers of toothfish.

For the above reasons, this proposed rule is not expected to have a significant economic impact on a substantial number of small entities. As a result, a regulatory flexibility analysis was not prepared.

Paperwork Reduction Act

This proposed rule contains no new or revised collection-of-information requirements subject to the Paperwork Reduction Act. The proposed regulatory text changes do not affect the previously approved public reporting burden for this information collection.

List of Subjects in 50 CFR Part 300

Antarctica, Antarctic marine living resources, Catch documentation scheme, Fisheries, Fishing, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: April 26, 2023.

Samuel D. Rauch, III,
Deputy Assistant Administrator for
Regulatory Programs, National Marine
Fisheries Service.

For the reasons set out in the preamble, NMFS proposes to amend 50 CFR part 300 as follows:

PART 300—INTERNATIONAL FISHERIES REGULATIONS

Subpart G—Antarctic Marine Living Resources

■ 1. The authority citation for part 300, subpart G is revised to read as follows:

Authority: 16 U.S.C. 2431 *et seq.*, 31 U.S.C. 9701 *et seq.*, 16 U.S.C. 1801 *et seq.*

■ 2. Amend § 300.101 by removing the definition for *National Seafood Inspection Laboratory* and revising the definition for *ACA* to read as follows:

§ 300.101 Definitions.

* * * * *

ACA means the Antarctic Conservation Act, 16 U.S.C. 2401, *et seq.*, as amended.

* * * * *

■ 3. Revise § 300.102 (b) to read as follows:

§ 300.102 Relationship to other treaties, conventions, laws, and regulations.

* * * * *

(b) The ACA implements the Protocol on Environmental Protection to the Antarctic Treaty. The ACA and its implementing regulations (including, but not limited to, 45 CFR part 670) apply to certain defined activities of U.S. citizens south of 60° S lat.

* * * * *

■ 4. Amend § 300.105 by revising paragraphs (b), (g)(1) and (2), and (h) to read as follows:

§ 300.105 Preapproval for importation of frozen *Dissostichus* species.

* * * * *

(b) *Application.* Applications for a preapproval certificate are available from NMFS. With the exception of the U.S. Customs 7501 entry number, a complete and accurate application must be received by NMFS for each preapproval certificate at least 10 working days before the anticipated date of the importation. Dealers must supply the U.S. Customs 7501 entry number at least three working days prior to the expected arrival of a shipment of frozen *Dissostichus* species at a U.S. port.

* * * * *

(g) * * *

(1) For pending preapproval certificates, applicants must report to NMFS any changes in the information submitted in their preapproval certificate applications. NMFS may extend the processing period for the application as necessary to review and consider any changes.

(2) For issued preapproval certificates, the certificate holder must report to NMFS any changes to information included in the preapproval certificate application. Any changes related to fish being imported, such as harvesting vessel or country of origin, type and quantity of the fish to be imported, or statistical subarea from which the resource was harvested, will void the preapproval certificate and the shipment may not be imported unless authorized by NMFS through issuance of a revised or new preapproval certificate.

* * * * *

(h) * * *

(1) Determined to have been harvested or transshipped in contravention of any CCAMLR Conservation Measure in force at the time of harvest or transshipment;

(2) Determined to have been taken, possessed, transported, or sold in violation of any foreign law or regulation or international agreement which is a treaty within the meaning of section II of article II of the U.S. Constitution;

(3) Determined to have been taken, possessed, transported or sold in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party;

(4) Determined to have been harvested or transshipped by a vessel identified by CCAMLR as having engaged in illegal, unreported and unregulated (IUU) fishing; or

(5) Accompanied by inaccurate, incomplete, invalid, or improperly validated CDS documentation or by a SVDGD.

■ 5. In § 300.106, revise paragraph (f)(1)(ii), add paragraph (f)(3), revise paragraph (g)(1)(ii), and add paragraph (g)(3). The revisions and additions read as follows:

§ 300.106 Catch Documentation Scheme (CDS): Documentation and other requirements.

* * * * *

(f) * * *

(1) * * *

(ii) Obtain validation by a responsible official(s) designated by NMFS and receive an electronically-generated DRED before re-exporting shipments of *Dissostichus* species.

* * * * *

(3) A DRED will not be issued for any shipment of *Dissostichus* species:

(i) Determined to have been harvested or transshipped in contravention of any CCAMLR Conservation Measure in force at the time of harvest or transshipment;

(ii) Determined to have been taken, possessed, transported, or sold in violation of any foreign law or regulation or international agreement which is a treaty within the meaning of section II of article II of the U.S. Constitution;

(iii) Determined to have been taken, possessed, transported or sold in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party;

(iv) Determined to have been harvested or transshipped by a vessel identified by CCAMLR as having engaged in illegal, unreported and unregulated (IUU) fishing;

(v) Accompanied by inaccurate, incomplete, invalid, or improperly validated CDS documentation; or

(vi) Imported in violation of AMLRCA or this subpart.

(g) * * *

(1) * * *

(ii) Obtain validation by a responsible official(s) designated by NMFS and receive an electronically-generated DED before exporting shipments of *Dissostichus* species.

* * * * *

(3) A DED will not be issued for any shipment of *Dissostichus* species:

(i) Determined to have been harvested or transshipped in contravention of a CCAMLR Conservation Measure, AMLRCA, or this subpart;

(ii) Determined to have been taken, possessed, transported or sold in violation of any foreign law or regulation or international agreement which is a treaty within the meaning of section II of article II of the U.S. Constitution;

(iii) Determined to have been taken, possessed, transported or sold in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party;

(iv) Determined to have been harvested or transshipped by a vessel identified by CCAMLR as having engaged in illegal, unreported and unregulated (IUU) fishing; or

(v) Accompanied by inaccurate, incomplete, invalid, or improperly validated CDS documentation.

* * * * *

■ 6. In § 300.113, revise paragraphs (a)(2), (c)(1), and (l) to read as follows:

§ 300.113 CCAMLR Ecosystem Monitoring Program sites.

(a) * * *

(2) If a CEMP site is also an area specially protected under the Antarctic Treaty (such as the sites listed in 45 CFR 670.29(a)), an applicant seeking to enter such site must apply to the Director of the NSF for a permit under applicable provisions of the ACA or any superseding legislation. The permit granted by NSF shall constitute a joint CEMP/ACA Protected Site permit and any person holding such a permit must comply with the appropriate CEMP site management plan. In all other cases, an applicant seeking a permit to enter a CEMP site must apply to the Assistant Administrator for a CEMP permit in accordance with the provisions of this section.

* * * * *

(c) * * *

(1) The Antarctic Treaty as implemented by the ACA and any superseding legislation. (Persons interested in conducting activities subject to the Antarctic Treaty should

contact the Office of Polar Programs, NSF).

* * * * *

(l) *Protected areas*. Specially protected areas designated under the Antarctic Treaty and regulated under the ACA are listed at 45 CFR 670.29(a). See also: <https://www.ats.aq/e/protected.html>.

■ 7. Amend § 300.114 by revising paragraph (o) to read as follows:

§ 300.114 Prohibitions.

* * * * *

(o) Import, export or re-export *Dissostichus* spp. that were:

(1) Harvested or transshipped in contravention of a CCAMLR Conservation Measure, AMLRCA, or this subpart;

(2) Taken, possessed, transported or sold in violation of:

(i) Any foreign law or regulation or

(ii) Any international agreement which is a treaty within the meaning of section II of article II of the Constitution;

(3) Taken, possessed, transported or sold in contravention of any binding conservation measure adopted by an international agreement or organization to which the United States is a party;

(4) Harvested or transshipped by a vessel identified by CCAMLR as having engaged in illegal, unreported and unregulated (IUU) fishing, or

(5) Unaccompanied by CDS documentation, accompanied by inaccurate, incomplete, invalid, or improperly validated CDS documentation or accompanied by a SVDGD.

* * * * *

■ 8. In § 300.115, revise paragraph (b) to read as follows:

§ 300.115 Facilitation of enforcement and inspection.

* * * * *

(b) *Reports by non-inspectors*. All scientists, fishermen, and other non-inspectors present in the Convention Area and subject to the jurisdiction of the United States are encouraged to report any violation of CCAMLR conservation measures observed in the Convention Area to the Office of Ocean and Polar Affairs (CCAMLR Violations), Department of State, Room 2665, Washington, DC 20520, antarctica@state.gov, and the NMFS Office of International Affairs, Trade, and Commerce, <https://www.fisheries.noaa.gov/about/office-international-affairs-trade-and-commerce>.

* * * * *

[FR Doc. 2023-09214 Filed 5-4-23; 8:45 am]

BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration****50 CFR Part 622****[Docket No. 230424–0111]****RIN 0648–BM13****Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Resources of the Gulf of Mexico; Commercial Trip Limit for Gray Triggerfish**

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes to implement management measures described in a framework action under the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (FMP) as prepared by the Gulf of Mexico Fishery Management Council (Council). If implemented for gray triggerfish in the Gulf of Mexico (Gulf), this proposed rule would increase the commercial trip limit from 16 fish to 25 fish. The purpose of this action is to increase the gray triggerfish commercial trip limit to allow commercial fishermen the opportunity to harvest the commercial annual catch target (ACT).

DATES: Written comments must be received by June 5, 2023.

ADDRESSES: You may submit comments on the proposed rule identified by “NOAA–NMFS–2023–0044” by either of the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to www.regulations.gov and enter “NOAA–NMFS–2023–0044” in the Search box. Click the “Comment” icon, complete the required fields, and enter or attach your comments.

- *Mail:* Submit all written comments to Peter Hood, NMFS Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on www.regulations.gov without change. All personal identifying information, *e.g.*, name and address, confidential business information, or otherwise sensitive information

submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments—enter “N/A” in required fields if you wish to remain anonymous.

An electronic copy of the environmental assessment (EA) supporting this proposed rule may be obtained from the Southeast Regional Office website at <https://www.fisheries.noaa.gov/action/modification-gray-triggerfish-commercial-trip-limits>. The EA includes a regulatory impact review and a Regulatory Flexibility Act (RFA) analysis.

FOR FURTHER INFORMATION CONTACT: Peter Hood, NMFS Southeast Regional Office, telephone: 727–824–5305, or email: peter.hood@noaa.gov.

SUPPLEMENTARY INFORMATION: NMFS and the Council manage the Gulf reef fish fishery, which includes gray triggerfish, under the FMP. The Council prepared the FMP and NMFS implements the FMP through regulations at 50 CFR part 622 under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Background

The Magnuson-Stevens Act requires NMFS and regional fishery management councils to prevent overfishing and achieve, on a continuing basis, the optimum yield from federally managed fish stocks. These mandates are intended to ensure fishery resources are managed for the greatest overall benefit to the nation, particularly with respect to providing food production and recreational opportunities, and protecting marine ecosystems.

All weights in this proposed rule are given in round weight unless indicated otherwise.

Gray triggerfish are managed under the FMP, and are harvested by commercial and recreational fishermen in the Gulf. The stock was determined to be undergoing overfishing according to the results of the 2006 Southeast Data, Assessment, and Review (SEDAR) 9 stock assessment. Based on the criteria selected by the Council in Amendment 30A to the FMP, the gray triggerfish stock was also considered overfished. Therefore, NMFS implemented a gray triggerfish rebuilding plan through Amendment 30A, as well as annual catch limits (ACLs), ACTs, and accountability measures (73 FR 38139, July 3, 2008). Amendment 30A also established the current allocation of the stock ACL as 21 percent for the commercial sector and 79 percent for the recreational sector. The 2011 SEDAR

9 Update Assessment found that gray triggerfish were still overfished and undergoing overfishing. NMFS published a final temporary rule (77 FR 28308, May 14, 2012) that reduced the commercial and recreational ACLs and ACTs to end overfishing while the Council developed Amendment 37 to the FMP. Amendment 37 established a plan to rebuild the stock in 5 years and the implementing final rule reduced the ACLs and ACTs for gray triggerfish (78 FR 27084, May 9, 2013). Amendment 37 also established the first commercial trip limit of 12 fish to reduce commercial landings. The commercial trip limit is the amount of the applicable species that may be possessed on the vessel, or landed, purchased, or sold from a vessel per day (50 CFR 622.43). The Council decided to establish the commercial trip limit in numbers of fish instead of weight based on recommendations made by the Council’s Law Enforcement Advisory Panel, who advised it would be difficult to enforce a low poundage limit of fish per trip, *e.g.*, if a commercial trip limit was set at less than 75 lb (34 kg).

In 2017, the Council developed Amendment 46 to the FMP in response to the 2015 SEDAR 43 stock assessment. The assessment indicated the gray triggerfish stock was not experiencing overfishing, but was not rebuilt and remained overfished. Amendment 46 specified a new rebuilding timeline, and revised ACLs and ACTs. Commercial landings per trip were analyzed to determine the impact of changing the trip limit because the commercial sector was often harvesting gray triggerfish below its ACT since the implementation of the 12-fish commercial trip limit. The analyses supported an increase of the commercial trip limit to 16 fish to provide a better opportunity for the commercial sector to catch its ACT while the gray triggerfish stock continued to rebuild (82 FR 59523, December 15, 2017).

In 2017, the Council also developed Amendment 44 to the FMP. Amendment 44 reduced the overfished thresholds for gray triggerfish and six other reef fish species to reduce the likelihood that stock status changes between overfished and not overfished would occur frequently as a result of scientific uncertainty or natural fluctuations in biomass levels (82 FR 61487, December 28, 2017). Although this action resulted in the determination that gray triggerfish was no longer overfished, the rebuilding plan remained in place because the rebuilding target, which is the biomass that produces maximum sustainable yield, had not been achieved.

In 2020, the Council's Scientific and Statistical Committee (SSC) reviewed an interim analysis of the gray triggerfish stock conducted by the NMFS Southeast Fisheries Science Center. The analysis suggested an increasing biomass trend of the gray triggerfish stock that could support a greater harvest. The Council's SSC determined the interim analysis was suitable for providing sufficient catch advice to update the acceptable biological catch (ABC), and the SSC recommended an increase in the ABC. As a result, the Council increased the ACLs and ACTs consistent with the ABC increase through a framework action under the FMP. The final rule, implemented on July 29, 2021, increased the commercial ACL for gray triggerfish from 64,100 lb (29,075 kg) to 95,949 lb (43,522 kg) and the commercial ACT increased from 60,900 lb (27,624 kg) to 88,273 lb (40,040 kg) based on the current sector allocations (86 FR 34159, June 29, 2021).

Since implementation of the 16-fish trip limit in 2018, commercial landings have been below the commercial ACL and ACT, with the exception of in 2018 when 100.9 percent of the ACL was landed. Additionally, since the most recent ACL and ACT increase in 2021, commercial landings in 2021 and preliminary 2022 commercial landings were 45 and 47 percent, respectively, of the sector's ACL, and 49 and 51 percent, respectively, of the sector's ACT.

During public testimony at meetings of the Council and the Council's Reef Fish Advisory Panel, commercial industry stakeholders indicated that the 16-fish trip limit is still limiting commercial landings and gray triggerfish are only landed incidentally when targeting other species. As a result, the commercial industry stakeholders requested the Council increase the trip limit to reduce discards when encountering gray triggerfish and allow for increased harvest of these fish to make it worthwhile to retain them when they are encountered. Analyses of alternatives increasing the trip limit to 20, 25, and 30 fish indicated that increasing the trip limit is not expected to result in an early closure of the commercial harvest of gray triggerfish. The Council selected the 25-fish commercial trip limit based on the advice of its Reef Fish Advisory Panel, which advocated for a conservative approach that allows for an increased trip limit but reduces the likelihood of an in-season closure that may occur with a higher trip limit.

Management Measure Contained in This Proposed Rule

If implemented, this proposed rule would increase the Gulf gray triggerfish commercial trip limit from 16 fish to 25 fish. Although this trip limit increase is projected to increase annual landings of gray triggerfish by 33 percent, projections developed for the framework action indicate the commercial season would stay open through each fishing year with the exception of the existing seasonal closure from June 1 through July 31.

Classification

Pursuant to section 304(b)(1)(A) of the Magnuson-Stevens Act, the NMFS Assistant Administrator has determined that this proposed rule is consistent with the framework action, the FMP, other provisions of the Magnuson-Stevens Act, and other applicable law, subject to further consideration after public comment.

This proposed rule has been determined to be not significant for purposes of Executive Order 12866.

Pursuant to section 605(b) of the RFA, the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities. The factual basis for this determination follows.

A description of this proposed rule, why it is being considered, and the objectives of this proposed rule are contained in the **SUMMARY** and **SUPPLEMENTARY INFORMATION** sections of this proposed rule. The Magnuson-Stevens Act provides the statutory basis for this proposed rule. No duplicative, overlapping, or conflicting Federal rules have been identified. In addition, no new reporting, record-keeping, or other compliance requirements are introduced by this proposed rule.

This proposed rule, if implemented, would increase the commercial trip limit for gray triggerfish. The commercial trip limit would apply to all federally-permitted commercial vessels that fish for or harvest gray triggerfish in Federal waters of the Gulf. It would not directly apply to federally-permitted dealers. Any change in the supply of gray triggerfish available for purchase by dealers as a result of this proposed rule, and associated economic effects, would be an indirect effect of the proposed rule and would therefore fall outside the scope of the RFA.

During 2020, there were a total of 837 valid or renewable commercial permits

for Gulf reef fish. On average from 2017 through 2021, there were 261 federally-permitted commercial vessels with reported landings of gray triggerfish in the Gulf. The average annual vessel-level gross revenue from all species for 2017 through 2021 was \$159,747 (2021 dollars) and gray triggerfish harvested in the Gulf accounted for less than half a percent of this revenue. For commercial vessels that harvest gray triggerfish in the Gulf, economic profits are estimated to be \$51,279, or approximately 32.1 percent of annual gross revenue, on average. The maximum annual revenue from all species reported by a single one of the vessels that harvested gray triggerfish from 2017 through 2021 was approximately \$2.8 million (2021 dollars).

For RFA purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (see 50 CFR 200.2). A business primarily engaged in commercial fishing (North American Industry Classification System code 11411) is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of \$11 million for all its affiliated operations worldwide. All of the commercial fishing businesses directly regulated by this proposed rule are believed to be small entities based on the NMFS size standard. No other small entities that would be directly affected by this rule have been identified.

This proposed rule would raise the commercial trip limit for gray triggerfish from 16 fish to 25 fish per vessel. NMFS expects this change to increase commercial gray triggerfish landings by 16,782 lb (7,612 kg) in gutted weight, or 33 percent relative to the status quo. These additional landings would be worth an estimated \$38,246 (2021 dollars) in aggregate annual ex-vessel revenue. Divided by the average number of vessels with reported landings of gray triggerfish from 2017 through 2021, this translates to an annual increase of \$147, or approximately 0.1 percent of average annual per vessel gross revenue. Because gray triggerfish generates only a fraction of total revenue for vessels that land the species, NMFS assumes this proposed rule would not materially affect fishing effort or trip costs. Therefore, this increase in ex-vessel revenue would equate to an equivalent increase in economic profits (0.3 percent of average annual economic profits). Individual fishing businesses, however, may experience varying levels of economic effects, depending on their

fishing practices, operating characteristics, and profit maximization strategies.

In summary, the information provided above supports a determination that this proposed rule would not have a significant economic impact on a substantial number of small entities. As a result, an initial regulatory flexibility analysis is not required and none has been prepared.

This proposed rule contains no information collection requirements under the Paperwork Reduction Act of 1995.

List of Subjects in 50 CFR Part 622

Fisheries, Fishing, Gray triggerfish, Gulf of Mexico.

Dated: April 24, 2023.

Samuel D. Rauch, III,

Deputy Assistant Administrator for
Regulatory Programs, National Marine
Fisheries Service.

For the reasons set out in the preamble, NMFS proposes to amend 50 CFR part 622 as follows:

PART 622—FISHERIES OF THE CARIBBEAN, GULF OF MEXICO, AND SOUTH ATLANTIC

■ 1. The authority citation for part 622 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

■ 2. In § 622.43, revise paragraph (b) to read as follows:

§ 622.43 Commercial trip limits.

* * * * *

(b) *Gray triggerfish*—25 fish. The commercial trip limit applies until the commercial quota specified in § 622.39(a)(1)(vi) is reached, which is equal to the commercial ACT. See § 622.39(b) for the limitations regarding gray triggerfish after the commercial quota is reached.

* * * * *

[FR Doc. 2023-08992 Filed 5-4-23; 8:45 am]

BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 635

[Docket No. 230419-0106]

RIN 0648-B110

Atlantic Highly Migratory Species; Spatial Fisheries Management

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and

Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments; public hearings.

SUMMARY: This proposed rule would implement Draft Amendment 15 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) (Amendment 15). NMFS is proposing changes to Atlantic HMS fishery management measures regarding four commercial longline spatial management areas and the administration and funding of the HMS pelagic longline electronic monitoring (EM) program. Specifically, NMFS proposes to modify the timing and boundaries of the Mid-Atlantic shark, Charleston Bump, East Florida Coast, and DeSoto Canyon closed areas to create low- and/or high-bycatch risk areas. Lastly, NMFS proposes to implement a cost allocation program to transition electronic monitoring sampling costs to the industry, while NMFS remains responsible for administrative costs. These proposed changes would directly impact bottom and pelagic longline fishermen who hold Atlantic HMS fishing permits, and HMS commercial fishermen who use other gear types and HMS recreational fishermen may also be indirectly impacted given the proposed changes to the existing closed areas.

DATES: Written comments must be received by September 15, 2023. NMFS will hold five public hearings via conference calls and webinars on Amendment 15 from June 15 through August 22, 2023. For specific dates and times, see the **SUPPLEMENTARY INFORMATION** section of this document.

ADDRESSES: You may submit comments on this document, identified by NOAA–NMFS–2019–0035, by electronic submission. Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to <https://www.regulations.gov/> and enter “NOAA–NMFS–2019–0035” in the Search box. Click the “Comment” icon, complete the required fields, and enter or attach your comments.

Comments sent by any other method, to any other address or individual, or received after the close of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on www.regulations.gov without change. All personal identifying information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be

publicly accessible. NMFS will accept anonymous comments (enter “N/A” in the required fields if you wish to remain anonymous). Written comments regarding the burden-hour estimates or other aspects of the collection-of-information requirements contained in this proposed rule may also be submitted via www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting “Currently under Review—Open for Public Comments” or by using the search function.

NMFS will hold three in-person public hearings and two virtual public hearings via conference call and webinar on this proposed rule and Draft Amendment 15. NMFS will hold public hearings in Jupiter, FL; Houma, LA; and Manteo, NC. For specific locations, see the **SUPPLEMENTARY INFORMATION** section of this document.

Copies of the supporting documents—including Draft Amendment 15, which includes the draft environmental impact statement (DEIS), Regulatory Impact Review (RIR), Initial Regulatory Flexibility Analysis (IRFA); the Issues and Options for Research and Data Collection in Closed and Gear Restricted Areas in Support of Spatial Fisheries; the peer-reviewed journal article regarding the predictive modeling program used in support of this rulemaking; and the 2006 Consolidated HMS FMP and amendments are available from the HMS website at <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species> or by contacting Steve Durkee or Larry Redd, Jr., at the email addresses and telephone number below.

FOR FURTHER INFORMATION CONTACT: Steve Durkee (steve.durkee@noaa.gov), Larry Redd, Jr. (larry.redd@noaa.gov), Randy Blankinship (randy.blankinship@noaa.gov), or Karyl Brewster-Geisz (karyl.brewster-geisz@noaa.gov) at 301–427–8503.

SUPPLEMENTARY INFORMATION:

Background

Atlantic HMS fisheries are managed under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Atlantic Tunas Convention Act (ATCA). The 2006 Consolidated HMS FMP and its amendments are implemented by regulations at 50 CFR part 635. A brief summary of the background of Draft Amendment 15 and this proposed rule is provided below. Additional information regarding spatial management can be found in Draft Amendment 15 itself, the 2006 Consolidated HMS FMP and its

amendments, the annual HMS Stock Assessment and Fishery Evaluation (SAFE) Reports, and online at: <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species>.

Closed areas are typically discrete geographic areas where certain types of fishing are restricted or prohibited (usually by restricting a particular type of gear) for limited periods of time or the entire year. Closed areas can be particularly effective in reducing or eliminating fishing interactions between particular species and gears. Since 1999, NMFS has implemented a number of time/area closures and gear restricted areas in the Atlantic Ocean and Gulf of Mexico to reduce discards and bycatch of a number of species. NMFS acknowledges that incidental catch is different than “bycatch,” which has a specific definition under the Magnuson-Stevens Act, *see* 16 U.S.C. 1802(2). However, for ease of communication in this rule, unless otherwise noted, “bycatch species” generally refer to all non-target catch species, including incidentally-caught species that fishermen may or may not retain. Four spatial management areas are being addressed by Draft Amendment 15 and this proposed action: Charleston Bump, DeSoto Canyon, East Florida Coast, and Mid-Atlantic shark closed areas. In 2000, NMFS published a final rule that, in addition to other things, closed the Charleston Bump, DeSoto Canyon, and East Florida Coast areas to pelagic longline gear effective in early 2001 (65 FR 47213, August 1, 2000). The Charleston Bump closed area is a seasonal closure from February through April every year, whereas the DeSoto Canyon and East Florida Coast closed areas are closed year-round to pelagic longline gear. The closures were implemented to reduce bycatch and incidental catch of overfished and protected species by pelagic longline fishermen who target HMS. In 2005, NMFS published a final rule that, in addition to other things, implemented the Mid-Atlantic shark closed area. HMS fishermen are prohibited from using bottom longline gear in the Mid-Atlantic shark closed area from January through July. The intent of this closure was to reduce both the catch and mortality of dusky and juvenile sandbar sharks (68 FR 74746, December 24, 2003). Further information on the four spatial management areas is contained in the above-cited FR documents and Section 4.11 of Draft Amendment 15.

Since implementation of these time/area closures, there has been little to no formal evaluation on whether the closures are still effective in achieving their objectives or whether the balance

of associated costs and benefits over time is still appropriate. Given the static nature of the existing time/area management measures, the highly dynamic nature of HMS fisheries, and the highly dynamic nature of the ocean environment, the need to assess the effectiveness of time/area closures and other gear restricted management measures is heightened. However, while closed areas can be an effective management tool for achieving certain objectives, closed areas can also reduce or eliminate the ability to gather fishery-dependent data within the areas. Fishery-dependent data are information collected during normal fishing operations (*e.g.*, catch composition, bycatch rates, fishing effort), and provide a vital and cost-effective source of information for fisheries management. In general, such data are critical in determining stock status, assessing bycatch levels, and in meeting other fishery management needs. Relevant to this proposed rule, it is important to recognize that in addition to reducing fishery-dependent data, the closed areas have also reduced the ability to collect fishery-independent data from these areas. Fishery-independent data are similar to fishery-dependent data, but the information is collected by scientists and the data collection methods may not be directly comparable to the methods used by fishermen, even if the data are collected on the same gears. The collection of fishery-independent data is more costly than fishery-dependent data and relies on scientists being able to collect the information and obtain the permits needed to fish in the closed areas. Of all four areas, because it is the only area that had research built into its design, only the Mid-Atlantic shark closed area has had consistent data collection and monitoring. In the mid-2000s, there was one research project that collected data in the East Florida Coast closed area from three vessels over three years (73 FR 450, January 3, 2008). In 2017, NMFS approved another research project for that area (82 FR 37566, August 11, 2017), but that research did not occur.

To address the lack of catch information inside of closed areas and provide a means of evaluating the efficacy of the closed areas, NMFS developed a spatial modeling tool, HMS Predictive Spatial Modeling (PRiSM). HMS PRiSM combines observer-collected catch data with environmental variables (*e.g.*, sea surface temperature, salinity, chlorophyll-A, bathymetry) to create a model that predicts catch of modeled species even in areas where

limited or no data has been collected. HMS PRiSM fishery interaction predictions provide important information on where commercial bycatch is likely to occur and helps direct data collection efforts to avoid jeopardizing conservation goals. The model does not use other catch or location data (*e.g.*, tagging data or fishery-independent location data) because the intent is to model when and where the commercial fishery is likely to interact with species, not to model when and where the species can be found generally. Further details on PRiSM and analyses conducted for this action are in Chapter 2 and Appendices 1–6 of Draft Amendment 15.

On May 16, 2019, NMFS published a Notice of Intent in the **Federal Register** that provided formal notice to the public that NMFS intended to prepare an environmental impact analysis; announced the availability of the Issues and Options Paper and the start of the public scoping process (with a comment period of May 16 through July 31, 2019); and solicited public comments (84 FR 22112). On May 22, 2019, NMFS published a notice that provided the dates and locations of five scoping meetings, including a webinar, pertaining to spatial management research (84 FR 23519). Also on May 22, 2019, NMFS conducted scoping during the spring HMS Advisory Panel meeting.

Draft Amendment 15 is a consolidated document that includes a Draft Environmental Impact Statement (DEIS), Initial Regulatory Flexibility Analysis (IRFA), Draft Regulatory Impact Review, and Draft Social Impact Assessment. It contains a complete description and analysis of the range of alternatives analyzed. The preferred alternatives in Draft Amendment 15 are the measures proposed in this rule, described below. A description of the significant alternatives to the proposed measures is provided later in this preamble in the summary of the IRFA.

Proposed Measures

This proposed rule is designed to: (1) use spatial management tools to minimize bycatch and bycatch mortality, to the extent practicable, while also optimizing fishing opportunities for U.S. fishing vessels; (2) develop methods of collecting target and non-target species occurrence and catch rate data from HMS spatial management areas for the purpose of assessing area performance; (3) broaden the considerations for the use of spatial management areas as a fishery management tool, including to provide flexibility to account for the highly

variable nature of HMS and their fisheries, manage user conflicts, facilitate collection of information, address the need for regular evaluation and performance review, plan for climate resilience, and address environmental justice; (4) evaluate the effectiveness of existing HMS spatial management areas, and if warranted, modify them to achieve an optimal balance of ecological and socioeconomic benefits and costs; and (5) modify the HMS electronic monitoring program as necessary to augment spatial management and address the requirements of relevant NMFS policies regarding electronic monitoring. In Draft Amendment 15, NMFS considered a reasonable range of different alternatives to meet these objectives and is proposing to implement the preferred alternatives in this proposed rule. NMFS' detailed analysis of the alternatives is provided in Draft Amendment 15 (see **ADDRESSES** for how to get a copy) and a summary is provided in the IRFA below. In developing this proposed rule, NMFS considered comments received at HMS Advisory Panel meetings, other conservation and management measures that have been implemented in HMS fisheries since 2006 that have affected relevant fisheries and bycatch issues, and public comments received during scoping on the Issues and Options paper for this rulemaking (84 FR 22112, May 16, 2019), including comments provided at the May 2019 HMS Advisory Panel meeting. In response to public comment on this proposed rule and Draft Amendment 15, NMFS may make changes in the final rule by modifying the proposed measures or adopting different or additional measures in response to public comment.

For each of the four spatial management areas, Draft Amendment 15/DEIS analyzed a range of alternatives, including no action alternatives, on evaluation and modification of the areas, now referred to as "spatial management areas" (A alternatives); commercial data collection programs for the areas (B alternatives), and evaluation timing of the areas (C alternatives). The A alternatives include different temporal and/or spatial changes for each area and identify high- and low-bycatch-risk areas therein. The B alternatives consider data collection

approaches for the high- and low-bycatch-risk areas: establishing a research fishery; cooperative research through exempted fishing permits; and monitoring areas (*i.e.*, low-bycatch-risk areas inside the spatial management areas) with effort caps, bycatch caps, trip-level effort controls, observer coverage, electronic monitoring, and/or data sharing and communication protocols. The C alternatives consider three and five-year review cycles for spatial management areas; review of areas as warranted based on regulatory review factors; and a sunset provision for spatial management areas. On a related note, NMFS proposes in this action to reorganize, clarify and add regulatory provisions regarding modifying or establishing spatial management areas (preferred alternative E2). Separate from the spatial management areas, Draft Amendment 15 also analyzed a range of alternatives related to transfer of sampling costs of the HMS pelagic longline electronic monitoring program from the Agency to industry (F alternatives).

As reflected below, NMFS has described its preferred packages of A, B, and C alternatives for each spatial management area that would allow for the bycatch risk-appropriate collection of data needed to evaluate the performance of spatial management measures in meeting conservation and management goals. The preferred packages are labeled D1, D2, D3, and D4 in Section 5.4 of Draft Amendment 15. While these proposed changes would directly impact bottom and pelagic longline fishermen who hold Atlantic HMS fishing permits, HMS commercial fishermen who use other gear types and HMS recreational fishermen have expressed concern about potential indirect impacts from changes to the current closed areas as a result of possible changes in fishing effort, strategy or location. Discussion of HMS recreational fisheries is in Section 5.4.6 of Draft Amendment 15.

Spatial Management Area Preferred Packages

For evaluation timing and review of all four spatial management areas, NMFS' preferred alternatives are C2, C4 and E2. NMFS would evaluate data collected from the spatial management areas once three years of catch and effort

data is finalized and available (Alternative C2). In addition, NMFS may review spatial management areas if specific concerns arise, which may include but is not limited to unexpectedly high or low bycatch, high or low data collection efforts, fishing effort that is overly clustered temporally or spatially, changed conditions within the fishery as a whole, or changed status of relevant stocks (Alternative C4). NMFS also prefers Alternative E2, which provides for adding or revising regulations to provide considerations for review, evaluation, and adjustment of spatial management areas. *See* Spatial Management regulatory provisions discussion below.

Proposed 50 CFR 635.34(d) and 635.35(e) contain regulatory text related to the preferred C and E alternatives. New text for the preferred A and B alternatives is mainly in proposed §§ 635.35 (spatial management area restrictions), 635.2 (definitions), and 635.69(e)(2)(i) and (5) (additional VMS hailing out declarations and reporting within Monitoring Areas)). Additions of or revisions to terminology (*i.e.*, using "spatial management areas" and "monitoring areas" instead of "closed areas"), reorganization of provisions, and updates to citations and other consistency edits appear in §§ 635.21(c)–(d) (sea turtle measures and possession/landing limits), 635.24 (commercial retention limits), 635.32 (exempted fishing permit (EFP)), and 635.34 (adjustment of management measures). However, substantive aspects of those provisions remain unchanged from current regulations.

Currently, HMS closed areas, as well as regulations back-stopping NMFS regional closed areas, are in § 635.21. This action would move regulatory text for those areas to proposed § 635.35, update and streamline names and citations for NMFS regional closed areas in § 635.35(d), and delete an outdated provision at current § 635.21(c)(3) (2020–2022 pelagic longline monitoring areas). Text regarding transiting areas, gear stowage, rebuttable presumption, shark research fishery, and Northeast Distant gear restrict area (NED) is the same in proposed § 635.35(a) as in current § 635.21. Proposed § 635.71 contains new prohibitions for spatial management areas as well as consistency edits.

Mid-Atlantic Shark Spatial Management Area

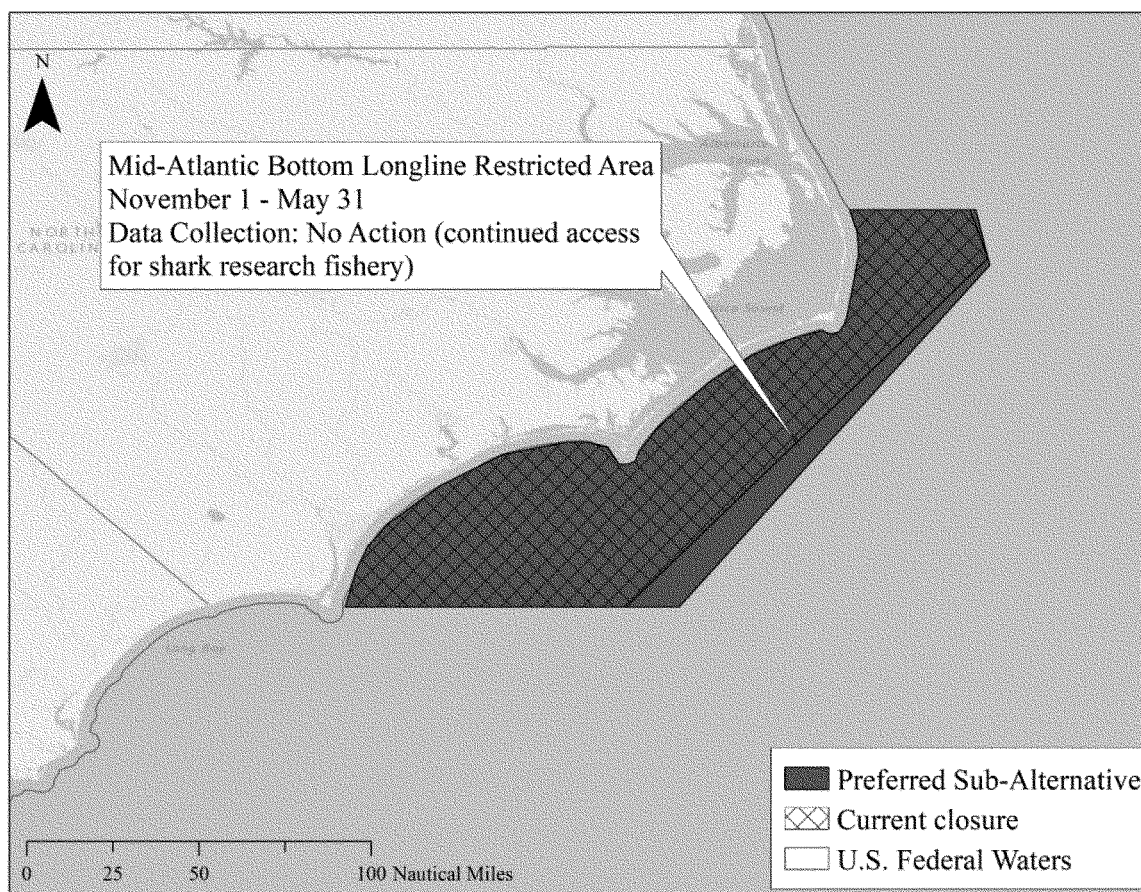


Figure 1 -- Preferred Mid-Atlantic Shark Spatial Management Area Package. High-bycatch risk area is shaded. No low-bycatch risk area is defined.

After considering four alternatives, including the No Action alternative, NMFS proposes implementing the preferred alternative (Alternative A1d) to modify the “Mid-Atlantic shark closed area.” This area, as shown in Figure 1, has been closed to HMS permitted fishermen using bottom longline gear during the months of January through July since 2005. This preferred alternative package would modify the geographic boundary and timing of the current Mid-Atlantic shark closed area, where the use of bottom longline gear is prohibited, unless operating in the shark research fishery. The new Mid-Atlantic Shark spatial management area (*see* proposed § 635.2 and 635.35(a), (b)) would be managed as follows:

- NMFS would extend the current eastern boundary to the 350-meter shelf break. The area would be designated as a high-bycatch risk area, and no low-

bycatch risk area would be defined. The high-bycatch risk area would be designated as the “Mid-Atlantic Bottom Longline Restricted Area.”

- The Mid-Atlantic Bottom Longline Restricted Area would be closed to fishing with bottom longline gear from November 1 to May 31 (proposed § 635.35(b)).

- Data collection would remain the same (Alternative B1, no action) with continued access for fishery-independent surveys and observer data collected from participants in the shark research fishery, who can use bottom longline in the area to target sharks.

Extending the eastern boundary of the current Mid-Atlantic shark closed area to the 350-meter shelf break would provide greater protections to bycatch species (*e.g.*, sandbar, dusky, and scalloped hammerhead sharks) with greater fishery interaction risk along the 350-meter shelf break. Shifting the

timing of the closure from January through July to the proposed November through May time period would align with the time period that has the highest likelihood of fishery interactions. Since 2005, the Mid-Atlantic shark closed area has been closed to bottom longline fishing, however, some data are currently collected in the area as part of the shark research fishery. NMFS established the shark research fishery as part of Amendment 2 to the HMS FMP. Within the Restricted Area, NMFS would continue to allow shark research participants the opportunity to land sandbar, other large coastal sharks, small coastal sharks, smoothhound, and pelagic sharks in the closed area and provide NMFS with valuable data. Participants within the program are subject to 100-percent observer coverage and other terms and conditions as defined in the permit. Data collection

from this program has been vital in numerous shark stock assessments and new data collection programs may not be necessary. Furthermore, due to the low level of shark bottom longline effort in the region, creating new data collection programs may not be feasible. Thus, NMFS is not proposing a new data collection program within the revised coordinates of the Mid-Atlantic Bottom Longline Restricted Area.

NMFS would evaluate the area once three years of data is available but may

evaluate the area earlier, if preliminary data indicate that there may be potential conservation and management issues, *e.g.*, unexpectedly high or low bycatch, high or low data collection efforts, fishing effort that is overly clustered temporally or spatially, changed conditions within the fishery as a whole, changed status of relevant stocks, etc. *See* proposed § 635.35(e) (considerations for review of spatial management areas). The use of an evaluative process provides NMFS a

precautionary mechanism to collect and review data, and determine whether spatial or temporal modifications to the area, or other changes to area management measures, are needed. After reviewing an area, NMFS may make changes or modifications, as appropriate, through framework adjustments (*see* proposed § 635.34).

Charleston Bump Spatial Management Area

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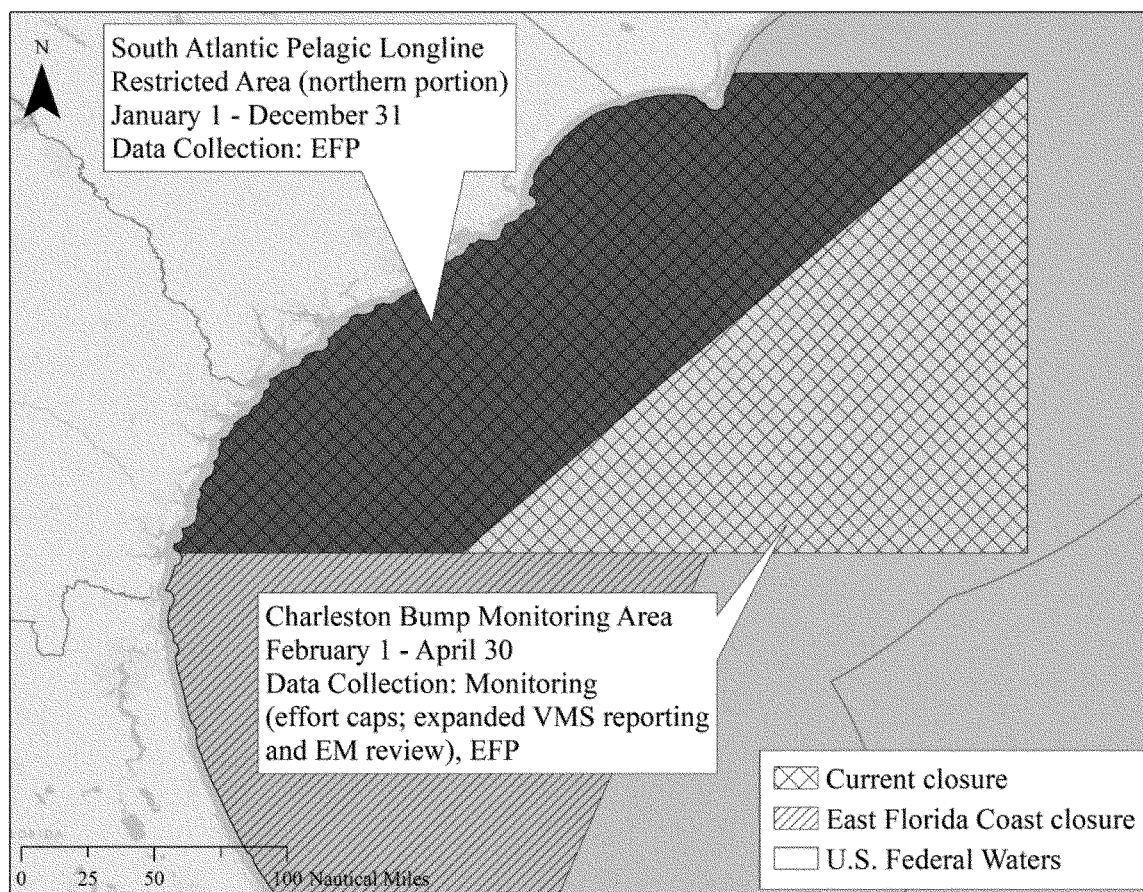


Figure 2 -- Preferred Charleston Bump Spatial Management Area Package. High-bycatch risk area is shaded and low-bycatch risk area is in unshaded cross-hatch.

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After considering five alternatives, including the No Action alternative, NMFS proposes implementing the preferred alternative (Alternative A2c) to modify the current Charleston Bump closed area. This area, as shown in Figure 2, has been closed to HMS permitted fishermen using pelagic longline gear during the months of February through April since 2000. The Preferred alternative package would modify the geographic boundary and the

duration of the current Charleston Bump closed area, includes two different data collection alternatives, and requires evaluation of the area according to a set schedule. The new Charleston Bump spatial management area (*see* proposed § 635.2 and 635.35(a), (c)(1) and (3)) would be managed as follows:

- NMFS would shift the current eastern boundary to the west. The redefined area would create a boundary

that nearly bisects the current Charleston Bump closed area, with a line that runs from the northeastern corner of the current closure, southwest to a point near the Charleston Bump bathymetric feature on the southern boundary. The area inshore of the boundary would be designated as a high-bycatch risk area and offshore of that boundary would be designated as a low-bycatch risk area. The high-bycatch risk area would be combined with the

preferred modification alternative for the East Florida Coast closed area to create the “South Atlantic Pelagic Longline Restricted Area.” The low-bycatch risk area in the remaining offshore portion of the closure would be designated as the “Charleston Bump Monitoring Area.”

- The South Atlantic Pelagic Longline Restricted Area (proposed §§ 635.35(c)(1) and 635.2) would be closed to fishermen with HMS permits who are fishing with pelagic longline gear year round unless otherwise allowed per cooperative research via an exempted fishing permit (EFP) (Alternative B4), as described below.

- The Charleston Bump Monitoring Area (proposed §§ 635.35(c)(3) and 635.2) would be open to fishermen with HMS permits who are fishing with pelagic longline gear from February 1 through April 30 but would be subject to an effort cap (Sub-Alternative B3a) that could close the area to fishing through April 30. From May 1 through January 31, the area would be open to normal pelagic longline fishing activities.

- There would be an annual effort cap of 69 pelagic longline sets within the Monitoring Area. The proposed 69 pelagic longline sets effort cap is based on the amount of fishing effort of the larger geographic area called the “reference area” in which the Monitoring Area is located (from 2011 through 2020). See Section 3.2.3.1 of Draft Amendment 15 for details on how the cap was calculated. The Atlantic region pelagic longline reference area occurred within the U.S. EEZ from 35° N lat. to 22° N lat. and east of 81°47’24” W long.

- Effort in the Monitoring Area would be closely monitored by NMFS. If the effort cap is reached, or is projected to be reached, NMFS would file a closure for the Monitoring Area with the Office of the Federal Register. From the effective date and time of the closure action, the Monitoring Area would be closed to pelagic longline fishing until May 1. The Monitoring Area would become effective again on February 1. However, NMFS may file for publication with the Office of the Federal Register a closure of the

monitoring area before the effort cap is reached and/or an action to not reopen the area on February 1, if warranted by conservation and management concerns raised by unexpectedly high bycatch, high fishing effort, fishing effort that is overly clustered temporally or spatially, or other relevant considerations.

- Within the Monitoring Area (from February through April), pelagic longline vessels fishing for all, or a part of a trip, would have 100 percent of the electronic monitoring data reviewed for that trip, paid for by the vessel owner.

- In order to fish in the Monitoring Area (from February through April), fishermen with HMS permits using pelagic longline gear would be required to comply with three reporting requirements using a vessel monitoring system (VMS). See proposed § 635.69(e)(2)(i)–(ii) and (5). First, vessel owners and/or operators that intend to fish in a Monitoring Area would need to declare that intention via VMS during the pre-trip or in-trip hail-out. Second, the vessel owner and/or operator must report fishing effort (date and area of each set and number of hooks) through VMS within 12 hours of the completion of each pelagic longline haul-back. Third, within 12 hours of the completion of each pelagic longline haul-back, the vessel owner and/or operator must report through VMS (or an alternative method specified by NMFS) the length of the following species that are retained and approximate length of these species that are discarded dead or alive: blue marlin, white marlin, roundscale spearfish, sailfish, leatherback sea turtles, loggerhead sea turtles, and shortfin mako sharks. These requirements are in addition to current bluefin tuna reporting requirements. Vessels would be allowed to fish inside and outside of a Monitoring Area on the same trip, but any fishing effort would be considered to have occurred from within the Monitoring Area.

- Researchers could apply for an EFP under § 635.32 to collect data in the Monitoring Area or the Restricted Area, provided their research plan includes standardized conditions that would provide more timely accounting for effort and bycatch and caps at levels

designed to prevent adverse ecological impacts. The standardized EFP conditions include additional safeguards such as reporting, observer, and EM requirements.

Establishment of the Charleston Bump Monitoring Area would allow for bycatch risk-appropriate data collection inside the Charleston Bump spatial management area. Data collected during these activities would provide information to evaluate the effectiveness of the area in meeting conservation and management goals. The Monitoring Area also provides increased flexibility for fishermen to adapt to changing distributions and concentrations of HMS and target catch by providing more locations to distribute fishing effort, however, the area would be a special access area, not open to normal commercial pelagic longline fishing, and heavily monitored. This measure also alleviates short-term uncertainty due to lack of data collection from within the boundaries of the Monitoring Area.

NMFS would evaluate the area once three years of data is available but may evaluate the area earlier, if preliminary data indicate that there may be potential conservation and management issues, *e.g.*, unexpectedly high bycatch, fishing effort that is overly clustered temporally or spatially, changed status of relevant stocks, etc. See proposed § 635.35(e) (considerations for review of spatial management areas). The use of an evaluative process provides NMFS a precautionary mechanism to collect and review data, and determine whether spatial or temporal modifications to the area, or other changes to area management measures, are needed. After reviewing an area, NMFS may consider changes or modifications to the area or its management measures, as appropriate, through framework adjustments (see proposed § 635.34). For example, if bycatch is lower than expected for a period of time, NMFS could consider increasing effort caps for the following year(s).

East Florida Coast Spatial Management Area

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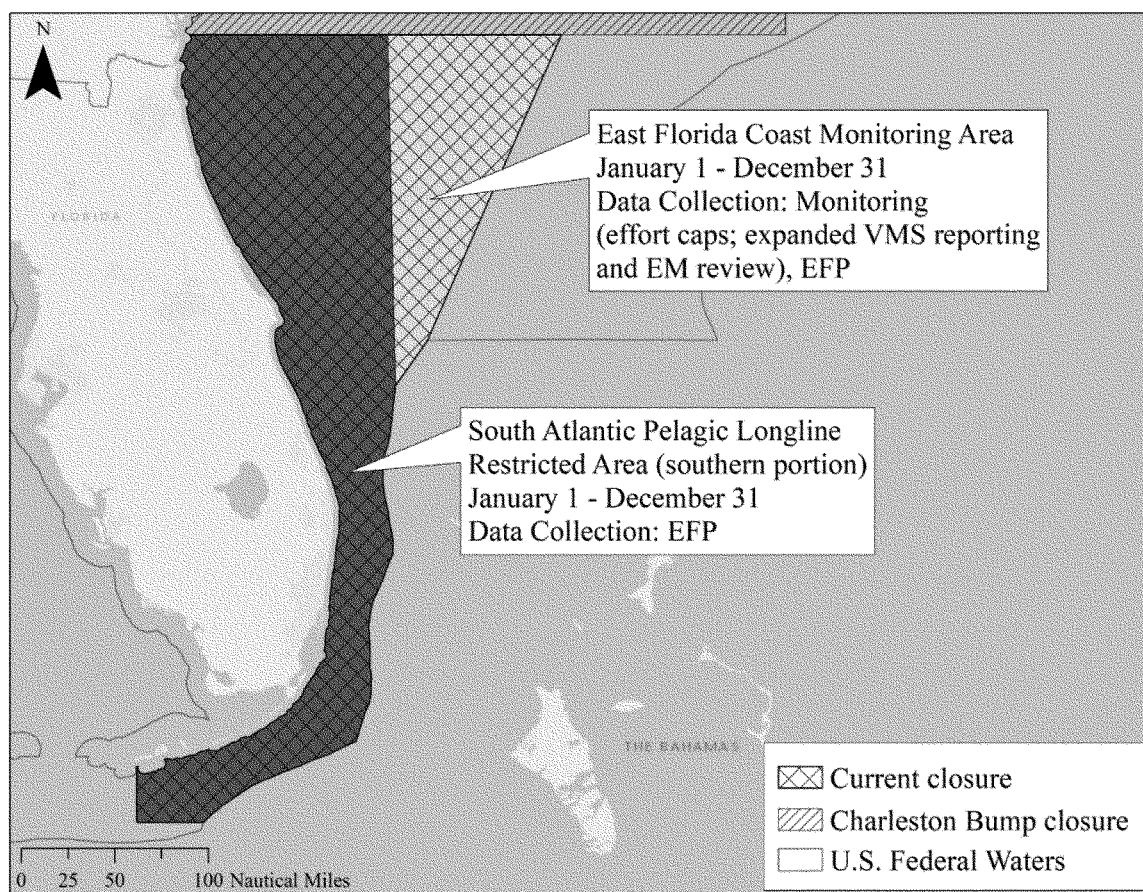


Figure 3 -- Preferred East Florida Coast Spatial Management Area Package.

High-bycatch risk area is shaded and low-bycatch risk area is in unshaded cross-hatch.

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After considering five alternatives, including the No Action alternative, NMFS proposes implementing the preferred alternative (Alternative A3d) to modify the “East Florida Coast Closed Area.” This area, as shown in Figure 3, has been closed to fishermen using pelagic longline gear year-round since 2000. The preferred alternative package would modify the geographic boundary of the current East Florida Coast Closed Area, includes two different data collection alternatives, and requires evaluation of the area according to a set schedule. The new East Florida Coast spatial management area (*see* proposed § 635.2 and 635.35(a), (c)(1) and (4)) would be managed as follows:

- NMFS would shift the current northeastern boundary to the west to 79°32’46” W long. The area inshore would be designated as a high-bycatch risk area and the offshore area would be designated as a low-bycatch risk area.

As noted earlier, the Charleston Bump high-bycatch risk area would be combined with the East Florida Coast high-bycatch risk area to create the South Atlantic Pelagic Longline Restricted Area. The low-bycatch risk area in the offshore portion of the current closure footprint would be designated as the East Florida Coast Monitoring Area.

- As described above, the South Atlantic Pelagic Longline Restricted Area (proposed §§ 635.35(c)(1) and 635.2)) would be closed year round to fishing with pelagic longline gear unless otherwise allowed per cooperative research via an EFP (Alternative B4).

- The East Florida Coast Monitoring Area would be open to fishermen with HMS permits who are fishing with pelagic longline gear year-round, subject to an effort cap (Sub-Alternative B3a) similar to the effort cap in the Charleston Bump Monitoring Area, as described above.

- There would be an annual effort cap of 124 pelagic longline sets within the East Florida Coast Monitoring Area. The proposed 124 pelagic longline sets effort cap is based on the amount of fishing effort of the larger geographic area called the “reference area” in which the Monitoring Area is located (from 2011 through 2020). *See* Section 3.2.3.1 of Draft Amendment 15 for details on how the cap was calculated. The Atlantic region pelagic longline reference area occurred within the U.S. EEZ from 35° N lat. to 22° N lat. and east of 81°47’24” W long.

- Effort in the East Florida Coast Monitoring Area would be closely monitored by NMFS. If the effort cap is reached, or is projected to be reached, NMFS would file a closure for the Monitoring Area with the Office of the Federal Register. From the effective date and time of the closure action, the Monitoring Area would be closed to pelagic longline fishing until January 1.

However, NMFS may file for publication with the Office of the Federal Register a closure of the monitoring area before the effort cap is reached and/or an action to not reopen the area on January 1, if warranted by conservation and management concerns raised by unexpectedly high bycatch, high data collection efforts, fishing effort that is overly clustered temporally or spatially, or other relevant considerations.

- Within the East Florida Coast Monitoring Area, pelagic longline vessels fishing for all, or a part of a trip, would have 100 percent of the electronic monitoring data reviewed for that trip, paid for by the vessel owner.

- In order to fish in the East Florida Coast Monitoring Area, owners and/or operators of vessels using pelagic longline gear would be required to comply with the same three additional VMS reporting requirements described under Preferred Charleston Bump spatial management area package. *See* proposed § 635.69(e)(2), (5).

- Researchers could apply for an EFP under § 635.32 to collect data in the East Florida Coast Monitoring Area or the Restricted Area, provided their research

plan includes standardized conditions that would provide more timely accounting for effort and bycatch and caps at levels designed to prevent adverse ecological impacts. The standardized EFP conditions include additional safeguards such as reporting, observer, and EM requirements.

Establishment of the Monitoring Area would allow for bycatch risk-appropriate data collection inside the East Florida Coast spatial management area. Data collected during these activities would provide information to evaluate the effectiveness of the area in meeting conservation and management goals. The Monitoring Area also would provide increased flexibility for fishermen to adapt to changing distributions and concentrations of HMS and target catch by providing more locations to distribute fishing effort, however, the area would be a special access area, not open to normal commercial pelagic longline fishing, and heavily monitored. This measure also would alleviate short-term uncertainty due to lack of data collection from within the boundaries of the Monitoring Area.

NMFS would evaluate the area once three years of data is available but may evaluate the area earlier, if preliminary data indicate that there may be potential conservation and management issues, *e.g.*, unexpectedly high bycatch, fishing effort that is overly clustered temporally or spatially, changed status of relevant stocks, etc. *See* proposed § 635.35(e) (considerations for review of spatial management areas). The use of an evaluative process provides NMFS a precautionary mechanism to collect and review data, and determine whether spatial or temporal modifications to the area, or other changes to area management measures, are needed. After reviewing an area, NMFS may consider changes or modifications to the area or its management measures, as appropriate, through framework adjustments (*see* proposed § 635.34). For example, if bycatch is lower than expected for a period of time, NMFS could consider increasing effort caps for the following year(s).

DeSoto Canyon Spatial Management Area

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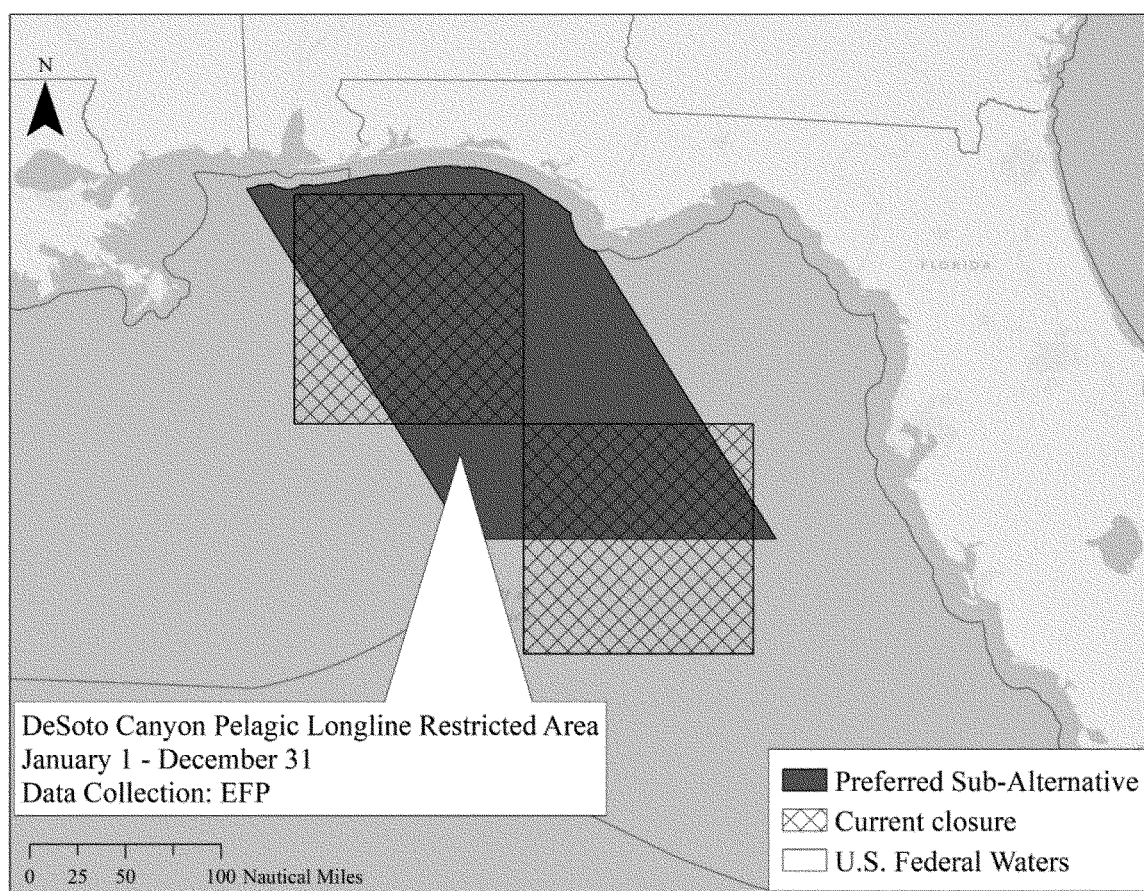


Figure 4 -- Preferred DeSoto Canyon Spatial Management Area Package. High-bycatch risk area is shaded and low-bycatch risk area is in unshaded cross-hatch

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After considering four alternatives, including the No Action alternative, NMFS proposes implementing the preferred alternative (Alternative A4d) to modify the “DeSoto Canyon Closed Area.” This area, as shown in Figure 4, has been closed to fishermen using pelagic longline gear year-round since 2000. The preferred alternative package would modify the geographic boundary of the current DeSoto Canyon Closed Area, include a method of data collection for the high-bycatch risk area, and require evaluation of the area according to a set schedule. The low-bycatch risk area (unshaded, cross-hatched area in Figure 4) would be open to normal pelagic longline fishing activities. The new DeSoto Canyon spatial management area (see proposed § 635.2 and 635.35(a), (c)(1)) would be managed as follows:

- NMFS would shift the spatial extent and shape, creating a parallelogram designated as a high-bycatch risk area. The high-bycatch risk area would be designated as the “DeSoto Canyon

Pelagic Longline Restricted Area.” The parallelogram would connect the southern points; 27°00′ N lat., 86°30′ W long. and 27°00′ N lat., 83°48′ W long., while the northern boundary would be defined by the state water boundary between 88°24′58″ W long. and 85°22′34″ W long.

- The DeSoto Canyon Pelagic Longline Restricted Area would be closed year round to fishing with pelagic longline gear unless otherwise approved via an EFP. Researchers could apply for an EFP under § 635.32 to collect data in the DeSoto Canyon Pelagic Longline Restricted Area, provided their research plan includes standardized conditions that would provide more timely accounting for effort and bycatch and caps at levels designed to prevent adverse ecological impacts. The standardized EFP conditions include additional safeguards such as reporting, observer, and EM requirements.

In the redesigned high-bycatch risk area, NMFS proposes collecting data

through the issuance of exempted fishing permits to researchers with research plans that include the standardized conditions discussed above. NMFS is not proposing a new data collection program in the low-bycatch risk areas because the modified shape of the spatial management area created multiple, non-contiguous areas and a data collection program in those areas would be overly complex to administer and enforce. As described under the other alternatives above, NMFS would evaluate the De Soto Canyon Restricted Area once three years of data is available (or earlier, if needed), and after a review, may consider changes or modifications to the area or its management measures, as appropriate, through framework adjustments (see proposed § 635.34).

Spatial Management Regulatory Provisions

After considering two alternatives, including the No Action alternative (Alternative E1), NMFS is proposing the

preferred alternative (Alternative E2) with regard to spatial management area regulatory provisions. See Section 5.6 of Draft Amendment 15. Under this alternative, NMFS would add to proposed § 635.35(c) considerations for review of spatial management areas, such as fishery metrics, social and economic data, biological information, and oceanographic data. This action is necessary to ensure that future and existing spatial management areas are designed to include the data collection requirements that will show whether the areas meet the intent for which they were created. The need to assess the effectiveness of spatial management measures is critical due to the static nature of the spatial management measures, the highly dynamic nature of HMS fisheries, and the highly dynamic nature of the ocean environment. As explained earlier, after reviewing an area, NMFS may consider changes or modifications to the area or its management measures, as appropriate, through framework adjustments (see proposed § 635.34).

HMS Pelagic Longline Electronic Monitoring Cost Allocation

After considering three alternatives, including the No Action alternative (F1) and removal of current EM regulations regarding bluefin tuna and shortfin mako sharks (F3), NMFS is proposing the preferred alternative (Alternative F2) with regard to electronic monitoring costs. Detailed information regarding the electronic monitoring alternatives and preferred Alternative F2 measures can be found in Section 5.6 of Draft Amendment 15. Under preferred Alternative F2, NMFS would transfer 100 percent of electronic monitoring sampling costs to the industry, over a 3-year period (phased-in). See proposed § 635.9(b). NMFS would certify electronic monitoring vendors based on their ability to carry out responsibilities and duties under § 635.9(d) and through the application process in § 635.9(c). Vessel owners could then contract directly with any NMFS-certified vendor for electronic monitoring services. Unless otherwise specified, owners and operators would be jointly and severally responsible for their vessel's compliance with EM requirements (see proposed § 635.9(a)). To have a standardized electronic monitoring program that can be implemented by vendors, the program has four distinct components: (1) vendor requirements (§ 635.9(d) with application, approval and removal processes in paragraph (c)); (2) vessel owner and operator requirements (§ 635.9(a), (e)); (3) vessel monitoring

plan (§ 635.9(d)(2)); and (4) modification of the current IBQ Program's electronic monitoring spatial/temporal requirements (§ 635.9(a) (EM Data Review Areas)).

The proposed rule clarifies responsibilities of EM service providers and vessel owners and operators, but many requirements of the current electronic monitoring regulations are not substantively changed. Required content for vessel monitoring plans in proposed rule § 635.9(d)(1) is from current § 635.9(e). EM system components in proposed § 635.9(f) are from current § 635.9(c). Vessel owner and operator requirements in proposed § 635.9(e) are from current § 635.9(b)(2) and (e). Data maintenance, storage and viewing text in proposed § 635.9(g) is from current § 635.9(d). When drafting new regulatory text on cost responsibilities and EM vendors (§ 635.9(b)–(d)), NMFS took into consideration existing regulations at 50 CFR 648.11 (Northeast Fisheries Monitoring Coverage) and 50 CFR 660.603–660.604 (West Coast Groundfish EM Program).

Vendor Requirements (§ 635.9(c)–(d))

NMFS would solicit vendors to perform the operational tasks (e.g., install and maintain electronic monitoring equipment; review electronic monitoring video data, etc.), consistent with vendor technical performance standards (See proposed § 635.9(d)). NMFS, or a NMFS-designated entity, would certify vendors that meet certain requirements, including meeting the technical performance standards, and publish a list of certified vendors in the **Federal Register**, which would be made available to vessel owners. NMFS would reserve the right to remove vendors from the approved list if vendor technical performance standards are not being met or if the vendor is shown to have a conflict of interest. See proposed § 635.9(c)(4).

Vessel Requirements (§ 635.9(e))

The vessel owner and/or operator subject to the relevant electronic monitoring regulations would need to comply with the operational, cost responsibility, reporting, and communication protocols in the approved Vessel Monitoring Plan (VMP) (see below for more detail on the VMP). Non-compliance with these requirements could result in enforcement action.

Vessel Monitoring Plans (§ 635.9(d))

The vessel owner must develop a VMP with assistance from the EM

vendor. Final approval of the VMP would be provided by NMFS or a NMFS-designated entity. The VMP must be consistent with relevant VMP regulations. This proposed rule does not consider any changes to the required information in the VMP. However, if a vessel owner changes vendor, the owner would be required to update the VMP with the new vendor before leaving on a trip.

Modification of EM IBQ Spatial/Temporal Requirements (§ 635.9(a))

This proposed rule would change the location and timing of HMS pelagic longline electronic monitoring requirements. Currently, vessels must comply with electronic monitoring requirements regardless of time or location of fishing. This proposed rule would limit the electronic monitoring requirements to certain areas and times. For all areas outside of the spatial management areas discussed earlier, NMFS has identified areas where electronic monitoring data would be most useful to meet bluefin tuna catch reporting compliance goals and designated these spatial/temporal areas as four large “EM Data Review Areas.” In addition to requirements for monitoring areas as described above, vessels would be required to activate EM and submit video only when fishing with pelagic longline in an EM Data Review Area during all or a portion of a trip. Trips that engage in fishing in multiple areas must abide by the more restrictive requirement (e.g., if any fishing occurs in an area that requires electronic monitoring, the entire trip must use electronic monitoring and all videos must be submitted even when fishing in areas that do not require electronic monitoring).

The current EM regulations require vessels fishing with pelagic longline gear on board to have an operational EM system powered on during the full duration of all trips, to record video of all haul-backs, and to send in the hard drive (with the recorded video and metadata) to a NMFS-contracted vendor. At the end of each sampling time period, the SEFSC selects sets for video review under a stratified sampling plan. The first step in selecting sets for review is to filter sets that occurred in a time and area where bluefin tuna interactions are likely. Sets that occur in areas of unlikely bluefin tuna interactions are not considered when selecting sets for review under the stratified sampling plan. From the narrowed list of sets that occurred in areas and times of likely bluefin tuna catch, the SEFSC selects sets for review and notifies the NMFS-contracted vendor to review the

associated videos. The stratified sampling plan cannot be carried out until after all the pelagic longline sets have been deployed and reported. Under Alternative F2, this process would not be operationally feasible, given that vessel owners would directly contract with EM vendors and there may be several approved vendors providing services. Neither the vendor nor the vessel owner would know which sets would ultimately require video review, thus, would be unable to negotiate a price for video review at the time of video submission. Furthermore, video review may be unequally distributed among the multiple vendors, with some vendors receiving more video review requests than expected and some less. This unpredictability could result in higher prices to cover the possibility of higher video costs or could disincentive vendors from entering the HMS EM pelagic longline market. Modification of the EM spatial and temporal requirements could address these problems by limiting video submission to times and areas of likely bluefin tuna catch, allowing vendors to simply review 10 percent of the

submitted sets. This would reduce uncertainty for the vendor and simplify the process for selecting sets for video review. Modification of the EM spatial and temporal requirements are designed around the current SEFSC sampling program, would reduce complexity in the selection of pelagic longline sets for review, and should reduce the costs associated with the EM requirements and with the IBQ Program, while maintaining the effectiveness of the EM Program. The objectives of the EM Program in support of the IBQ Program would remain the same (*i.e.*, to verify the accuracy of counts and identification of bluefin tuna reported by the vessel). NMFS also considered ease of communication, compliance, and enforcement when developing the EM Data Review Areas, and does not believe that the areas pose concerns in these regards. Because these EM Data Review Areas are largely designed around the current electronic monitoring video review sampling plan, no impact to monitoring compliance with the IBQ program is expected. For further details and explanation of EM

Data Review Areas, see Section 3.6.2.4 of Draft Amendment 15.

Request for Comments

NMFS is requesting comments on the alternatives and analyses described in this proposed rule, Draft Amendment 15, and the IRFA. Written comments may be submitted via www.regulations.gov or at a public conference call/webinar. NMFS solicits comments on this action by September 15, 2023 (see **DATES** and **ADDRESSES**).

During the comment period, NMFS will hold three public hearings and two public hearings via conference call and webinar for this proposed action. The hearing locations will be physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Steve Durkee or Larry Redd, Jr. at 301–427–8503, at least 7 days prior to the meeting. Information on the webinar will be posted at: <https://www.fisheries.noaa.gov/action/amendment-15-2006-consolidated-hms-fishery-management-plan-spatial-management-EM>.

TABLE 1—DATES, TIMES, AND LOCATIONS OF UPCOMING PUBLIC HEARINGS AND CONFERENCE CALL

Venue	Date/time	Street address/webinar information
Conference call/Webinar	June 15, 2023, 2 p.m. to 4 p.m	https://www.fisheries.noaa.gov/action/amendment-15-2006-consolidated-hms-fishery-management-plan-spatial-management-EM .
Public Hearing	July 20, 2023, 5 p.m. to 8 p.m	River Center, 805 US Highway 1, Jupiter, FL 33477.
Public Hearing	July 25, 2023, 5 p.m. to 8 p.m	Terrebonne Parish Library (Main Branch), 151 Library Drive, Houma, LA 70360.
Conference call/Webinar	August 17, 2023, 2 p.m. to 4 p.m	https://www.fisheries.noaa.gov/action/amendment-15-2006-consolidated-hms-fishery-management-plan-spatial-management-EM .
Public Hearing	August 22, 2023, 5 p.m. to 8 p.m	Dare County Administration Building, Commissioners Meeting Room, 954 Marshall Collins Drive, Manteo, NC 27954.

The public is reminded that NMFS expects participants at public conference calls and webinars to conduct themselves appropriately. At the beginning of each public conference call and webinar, the moderator will explain how the public conference call and webinar will be conducted and how and when participants can provide comments. NMFS representative(s) will structure the public conference calls and webinars so that all members of the public will be able to comment, if they so choose, regardless of the controversial nature of the subject(s). Participants are expected to respect the ground rules, and those that do not may be asked to leave the public conference call and webinars.

Classification

Pursuant to the Magnuson-Stevens Act, the NMFS Assistant Administrator has determined that the proposed rule is

consistent with the 2006 Consolidated HMS FMP and its amendments, other provisions of the Magnuson-Stevens Act, ATCA, and other applicable law, subject to further consideration after public comment.

This proposed rule has been determined to be not significant for purposes of Executive Order 12866.

Pursuant to the National Environmental Policy Act (NEPA), NMFS prepared a DEIS for Draft Amendment 15 and this proposed rule that analyzes impacts on the environment from the preferred alternatives and other alternatives analyzed. The DEIS is consolidated in the same document as Draft Amendment 15. A copy of the Draft Amendment/DEIS is available from NMFS (see **ADDRESSES**). A Notice of Availability of the DEIS is publishing in the **Federal Register** on the same day as this proposed rule. A summary of the

impacts of the alternatives considered is described below.

Regulatory Flexibility Act

An Initial Regulatory Flexibility Analysis (IRFA) was prepared, as required by section 603 of the Regulatory Flexibility Act (RFA). The IRFA describes the economic impact this proposed rule, if adopted, would have on small entities. A summary of the analysis follows. A copy of this analysis is available from NMFS (see **ADDRESSES**).

Section 603(b)(1) requires Agencies to describe the reasons why the action is being considered. NMFS is amending the 2006 Consolidated Atlantic HMS FMP to address the modification, data collection, and assessment of four commercial longline spatial management areas; and modification to

the administration and funding of the HMS pelagic longline EM program.

Section 603(b)(2) of the RFA requires Agencies to state the objective of, and legal basis for the proposed action. This action is necessary to meet domestic management objectives of the Magnuson-Stevens Act including preventing overfishing, achieving optimal yield, and minimizing bycatch to the extent practicable, as well as the objectives of the ATCA and obligations pursuant to binding recommendations of ICCAT. The objectives of this Amendment are (1) Using spatial management tools, minimize bycatch and bycatch mortality, to the extent practicable, while also optimizing fishing opportunities for U.S. fishing vessels; (2) Develop methods of collecting target and non-target species occurrence and catch rate data from HMS spatial management areas for the purpose of assessing spatial management area performance; (3) Broaden the considerations for the use of spatial management areas as a fishery management tool, including to provide flexibility to account for the highly variable nature of HMS and their fisheries, manage user conflicts, facilitate collection of information, address the need for regular evaluation and performance review, plan for climate resilience, and address environmental justice; (4) Evaluate the effectiveness of existing HMS spatial management areas, and if warranted, modify them to achieve an optimal balance of ecological, social, and economic benefits and costs; and (5) Modify the HMS electronic monitoring program as necessary to augment spatial management and address the requirements of relevant NMFS policies regarding electronic monitoring, including the 2019 Cost Allocation Policy.

NMFS developed the draft management objectives based upon comments received during the Amendment 15 scoping process and the detailed suggestions and concerns expressed by the HMS Advisory Panel, fishery participants, and the public regarding management of spatial management areas over the last several years. Additionally, the EM funding alternatives were developed to comply with the 2019 NMFS Policy 04–115–02 “Cost Allocation in Electronic Monitoring Programs for Federally Managed Fisheries.” These specific objectives are within the context of the current 2006 Consolidated HMS FMP and its amendments, including the overarching objectives of ending overfishing, and meeting other legal

obligations and conservation and management goals and requirements.

Section 603(b)(3) of the Regulatory Flexibility Act requires Agencies to provide an estimate of the number of small entities to which the rule would apply. The Small Business Administration (SBA) authorizes an agency to develop its own industry-specific size standards after consultation with the SBA Office of Advocacy and an opportunity for public comment (see 13 CFR 121.903(c)). Pursuant to this process, NMFS issued a final rule that established a small business size standard of \$11 million in annual gross receipts for all businesses in the commercial fishing industry (NAICS 11411) for RFA compliance purposes (80 FR 81194; December 29, 2015; effective on July 1, 2016). SBA has established size standards for all other major industry sectors in the U.S., including the scenic and sightseeing transportation (water) sector (North American Industry Classification System (NAICS) code 487210, for-hire), which includes charter/party boat entities. SBA has defined a small charter/party boat entity as one with average annual receipts (revenue) of less than \$14.0 million.

NMFS considers all HMS permit holders to be small entities because they had average annual receipts of less than \$11 million for commercial fishing. Regarding those entities that would be directly affected by the proposed measures, the average annual revenue per active pelagic longline vessel is estimated to be \$222,000, based on approximately 82 active vessels that produced an estimated \$18.2 million in revenue in 2020, well below the NMFS small business size standard for commercial fishing businesses of \$11 million. No single pelagic longline vessel has exceeded \$11 million in revenue in recent years. HMS bottom longline commercial fishing vessels typically earn less revenue than pelagic longline vessels and, thus, would also be considered small entities.

NMFS has determined that the preferred alternatives would not likely directly affect any small organizations or small government jurisdictions defined under RFA, nor would there be disproportionate economic impacts between large and small entities.

Section 603(b)(4) of the RFA requires Agencies to describe any new reporting, record-keeping and other compliance requirements. Some preferred alternatives in Draft Amendment 15 would result in reporting, record-keeping, and compliance requirements that require a new or modified Paperwork Reduction Act filing. Under

Preferred Alternative Packages D2 and D3, NMFS would implement Alternative B3 to create two monitoring areas within the current footprints of the Charleston Bump and East Florida Coast closed areas. To control effort and ensure accurate reporting under Alternative B3, NMFS prefers implementation of Sub-Alternative B3a (effort caps) and Sub-Alternative B3e (expanded EM review). Sub-Alternative B3a includes two expanded reporting requirements for HMS pelagic longline fishermen operating in the monitoring areas. First, vessel operators that intend to fish in a monitoring area would need to declare that intention via VMS before embarking on a trip or during the in-trip hail-out. Second, vessel operators would be required to report the catch of the following species, in addition to current bluefin tuna reporting requirements, through VMS within 12 hours after the end of a longline set: blue marlin, white marlin, roundscale spearfish, sailfish, leatherback sea turtles, loggerhead sea turtles, and shortfin mako sharks. Neither requirement is wholly new since pelagic longline vessel operators currently need to hail-out via VMS before embarking on a trip and bluefin tuna catch must be reported with 12 hours after the end of a longline set. Rather, the proposed measures are expanded requirements with an additional hail-out declaration requirement and species reporting requirements. These requirements would impact a sub-set of the 82 active HMS pelagic longline vessels that choose to fish within the monitoring areas.

Under Preferred Alternative F2, HMS pelagic longline vessel owners would be required to cover sampling costs associated with the EM program to support compliance with catch reporting requirements during pelagic longline fishing activity, including incidentally caught bluefin tuna. The alternative would also open up the HMS pelagic longline EM program to additional vendors, and establishes application and reporting standards for potential EM vendors. All pelagic longline vessel owners (82 active vessels) would need to coordinate with a NMFS-approved vendor to provide support for EM requirements including equipment maintenance and replacement and review of video data. NMFS would solicit vendors to perform the tasks in support of the EM program, consistent with performance design standards. NMFS, or a NMFS-designated entity, would certify vendors that meet certain requirements, including meeting the technical

performance standards and publish a list of certified vendors in the **Federal Register**, which would be made available to vessel operators. Certification of EM vendors would require submittal of information by vendors including demonstration of technical ability, a data integrity and storage plan, and conflict of interest information. NMFS anticipates receiving applications from up to four vendors and approval of three.

The expanded requirements under both these alternatives are within the scope of an existing approved Paperwork Reduction Act (OMB Control No. 0648–0372 “Electronic Monitoring Systems for Atlantic Highly Migratory Species”). However, due to the existence of concurrent actions for that collection, which will come up for renewal before the final rule for this action is anticipated to be published, the collection-of-information requirements in this proposed rule will be assigned a temporary Control Number that will later be merged into Control Number 0648–0372. A revised Paperwork Reduction Act submission and approval is pending.

Under section 603(b)(5) of the RFA, Agencies must identify, to the extent practicable, relevant Federal rules which duplicate, overlap, or conflict with the proposed action. Fishermen, dealers, and managers in these fisheries must comply with a number of international agreements, domestic laws, and other fishery management measures. These include, but are not limited to, the Magnuson-Stevens Act, the Atlantic Tunas Convention Act, the High Seas Fishing Compliance Act, the Marine Mammal Protection Act, the Endangered Species Act, the National Environmental Policy Act, the Paperwork Reduction Act, and the Coastal Zone Management Act. This proposed action has been determined not to duplicate, overlap, or conflict with any Federal rules.

One of the requirements of an IRFA is to describe any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. NMFS cannot establish differing compliance or reporting requirements for small entities or exempt small entities from coverage of the rule or parts of it. All of the businesses impacted by this action are considered small entities, and thus the requirements are already designed for small entities. Moreover, the objectives for this action center around the modification, data collection, and assessment of spatial management areas

and funding and administration of the HMS pelagic longline EM program. NMFS thus analyzed a broad range of alternatives to meet those objectives: Alternatives A–E consider modification, data collection, and assessment of spatial management areas and the F Alternatives consider funding and administration of the HMS pelagic longline EM program. Consistent application of management measures is important for effective management of spatial management areas and the EM program. Thus, no differing requirements or exemptions would be appropriate. NMFS designed alternatives that would simplify compliance or reporting requirements while still meeting the objectives of the amendment. Preferred A Alternatives to modify spatial management areas used design elements that would ease communication and enforcement including straight lines and points near ports or existing spatial management areas. Preferred B Alternatives to create data collection programs largely built upon current reporting and other requirements to avoid creating overly-complicated measures. Preferred Alternative F2 does introduce new complexities into the HMS pelagic longline EM program, including new requirements to independently contract with EM vendors. However, these complexities may be necessary in order to mitigate adverse economic impacts. Performance standards are built into the preferred B Alternatives to collect data through monitoring areas and cooperative EFP research. Each of these components include a total cap on effort to ensure conservation goals are met. Once effort caps are reached, the area is closed to data collection.

Evaluation and Modification of Closed Areas

Mid-Atlantic Shark Spatial Management Area

Sub-Alternative A1a, the no action sub-alternative, would maintain the current Mid-Atlantic shark closed area in effect with respect to its spatial and temporal extent. This sub-alternative would likely maintain the recent catch levels and revenues, because the spatial and the temporal extents would remain unchanged and social and economic impacts are expected to be neutral. Median earnings across the shark research fishery and non-shark research fishery per trip (taking into account operating costs) ranged between \$609 and \$1,192 from 2017 through 2020 in nominal dollars (\$614 in 2020). Estimated total ex-vessel revenue from sharks in 2020 is \$2,311,319 (2021 real

dollars). Based on permit and target species, some fishermen direct effort on sharks while others only retain incidentally caught sharks. In 2020, there were 13 active vessels (vessels that had trips where 75 percent of the landings by weight were sharks) targeting sharks in the Atlantic.

Sub-Alternative A1b would maintain the current Mid-Atlantic shark closed area in effect with respect to its spatial extent, and shift the temporal extent to November 1 through May 31 from January 1 through July 31 (*i.e.*, same seven-month duration, but shifted two months earlier). The social and economic impacts of Sub-Alternative A1b are expected to be neutral. There is relatively little bottom longline fishing effort in the Mid-Atlantic region during open time periods, including and adjacent to the area defined by this spatial management area. Effort is low enough that totals for the area, even during open time periods, that the data cannot be provided due to confidentiality concerns. This sub-alternative would maintain the recent catch levels and revenues, and there would likely be low levels of data collection from within the spatial management area. Overall revenues from shark research fishery trips are likely to continue in the range noted in Sub-Alternative A1a. Based on permit and target species, some fishermen direct effort on sharks while others only retain incidentally caught sharks. In 2020, there were 13 active vessels (vessels that had trips where 75 percent of the landings by weight were sharks) targeting sharks in the Atlantic.

Sub-Alternative A1c would modify both the spatial and temporal extent of the current Mid-Atlantic shark closed area. Specifically, this sub-alternative would extend the eastern boundary of the current Mid-Atlantic shark closed area eastward to the 350-m shelf break and shift the north boundary south to Cape Hatteras (35°13'12" N lat.). The temporal extent would shift to November 1 through May 31 from January 1 through July 31. The social and economic impacts of Sub-Alternative A1c are expected to be neutral. There is relatively little bottom longline fishing effort in the Mid-Atlantic region during open time periods, including and adjacent to the area defined by this spatial management area. Effort is low enough that totals for the area, even during open time periods, that the data cannot be provided due to confidentiality concerns. This sub-alternative would maintain the recent catch levels and revenues, and there would likely be low levels of data collection from within the spatial

management area. Overall revenues from shark research fishery trips are likely to continue in the range noted in Sub-Alternative A1a. Based on permit and target species, some fishermen direct effort on sharks while others only retain incidentally caught sharks. In 2020, there were 13 active vessels (vessels that had trips where 75 percent of the landings by weight were sharks) targeting sharks in the Atlantic.

Sub-Alternative A1d would modify both the spatial and temporal extent of the current Mid-Atlantic shark closed area. Specifically, this sub-alternative would extend the eastern boundary of the current Mid-Atlantic shark closed area eastward to the 350-m shelf break. The temporal extent would shift to November 1 through May 31 from January 1 through July 31. The social and economic impacts of Sub-Alternative A1d are expected to be neutral. There is relatively little bottom longline fishing effort in the Mid-Atlantic region during open time periods, including and adjacent to the area defined by this spatial management area. Effort is low enough that totals for the area, even during open time periods, that the data cannot be provided due to confidentiality concerns. This sub-alternative would maintain the recent catch levels and revenues, and there would likely be low levels of data collection from within the spatial management area. Overall revenues from shark research fishery trips are likely to continue in the range noted in Sub-Alternative A1a. Based on permit and target species, some fishermen direct effort on sharks while others only retain incidentally caught sharks. In 2020, there were 13 active vessels (vessels that had trips where 75 percent of the landings by weight were sharks) targeting sharks in the Atlantic.

Charleston Bump Spatial Management Area

Sub-Alternative A2a, the no action sub-alternative, would maintain the current Charleston Bump closed area in effect with respect to its spatial and temporal extent. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. The estimated combined target species revenue is \$4,419,261 (2021 real dollars). This sub-alternative would maintain the recent fishing effort, catch levels, and revenues, resulting in direct neutral social and economic impacts on pelagic longline fishermen. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Sub-Alternative A2b would maintain the current Charleston Bump closed area in effect with respect to its spatial extent, and would shift the temporal scope from December 1 through March 31 from February 1 through April 30 (*i.e.*, starting two months earlier and ending one month earlier; change from a three-month closure to a four-month closure). NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate less revenue from swordfish and bigeye tuna, but more from yellowfin tuna than the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is –\$205,237. However, fishermen are unlikely to fish in areas with lower catch rates, so reductions in revenue may not be realized. Sub-Alternative A2b would likely result in minor adverse social and economic impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A2c would modify both the spatial and temporal extent of the current Charleston Bump closed area. This sub-alternative would move the eastern boundary of the current Charleston Bump closed area westward. Specifically, the eastern boundary of this sub-alternative would be formed by the line connecting the northeast corner of the current Charleston Bump closed area (34°00' N lat., 76°00' W long.) to a point on the current southern border of Charleston Bump closed area (31°00' N lat., 79°32'46" W long.). The western boundary of this management area would remain the same as the current western boundary of Charleston Bump closed area. The temporal extent of the high-bycatch-risk area would increase from February 1 to April 30 to include the entire year. The remainder of the current closed area footprint would only be designated low-bycatch-risk area from February 1 through April 30. Outside those months, that area would be open to normal pelagic longline fishing. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish, but less from yellowfin and bigeye tuna relative to the No Action

sub-alternative. When combined the total revenue difference between this sub-alternative and the No Action sub-alternative is \$235,863 resulting in moderate positive direct economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A2d would modify both the spatial and temporal extent of the current Charleston Bump closed area. Specifically, this sub-alternative would shift the eastern boundary westward 40 nm from the coastline; retain the current northern and southern boundaries of the current Charleston Bump closed area; and retain the current western boundary of Charleston Bump closed area. The temporal extent of the high-bycatch-risk area would be extended from February 1 through April 30 to October 1 through May 31. The remainder of the current closed area footprint would only be designated low-bycatch-risk area from February 1 through April 30. Outside those months, that area would be open to normal pelagic longline fishing. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish, but less from yellowfin and bigeye tuna relative to the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is \$390,532 resulting in moderate positive direct economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A2e would modify both the spatial and temporal extent of the current Charleston Bump closed area. Specifically, this sub-alternative would reduce the spatial extent by moving the northern boundary of the current Charleston Bump closed area southward to 33°12'39" N lat. and the shifting the eastern boundary westward to 78°00' W long. The western boundary would be consistent with the current western boundary of Charleston Bump closed area. The temporal extent of the high-bycatch-risk area would be eight months (from October 1 through May

31) instead of three months (February 1 through April 30). The remainder of the current closed area footprint would only be designated low-bycatch-risk area from February 1 through April 30. Outside those months, that area would be open to normal pelagic longline fishing. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish and yellowfin tuna, but less from bigeye tuna relative to the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is \$83,590 resulting in minor positive direct economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

East Florida Coast Spatial Management Area

Sub-Alternative A3a, the no action sub-alternative, would maintain the current East Florida Coast closed area in effect with respect to its spatial and temporal extent. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. The estimated annual revenue for each target species and the combined target species revenue is \$4,196,431 (2021 real dollars). This sub-alternative would maintain the recent fishing effort, catch levels, and revenues, resulting in direct neutral social and economic impacts on pelagic longline fishermen. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Sub-Alternative A3b would modify both the spatial and temporal extent of the current East Florida Coast closed area. Specifically, this sub-alternative consists of two different spatial configurations associated with two temporal periods. From May 1 through November 30 the spatial extent would be the same as the No Action alternative. From December 1 through April 30 the spatial extent would shift the eastern boundary to 40 nm from the coastline within the northern and southern boundaries of the current East Florida Coast closed area. The remainder of the current closed area footprint would be designated a low-

bycatch-risk area from May 1 through November 30. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate slightly more revenue from swordfish, but less from yellowfin tuna and bigeye tuna relative to the No Action sub-alternative. When combined the total revenue difference between this sub-alternative and the No Action sub-alternative is -\$75,453 resulting in minor negative direct economic impacts in the short- and long-term, which could also lead to negative social impacts. However, fishermen are unlikely to fish in areas with lower catch rates, so reductions in revenue may not be realized. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A3c would modify only the spatial extent of the current East Florida Coast closed area. Specifically, this sub-alternative would reduce the spatial extent by shifting the eastern boundary of the current closed area to 40 nm from the coastline in areas north of the U.S.—Bahamas EEZ boundary at approximately 28°17'24" N lat. All areas south of that boundary within the current closed area would remain the same relative to the No Action alternative. The temporal extent would remain unchanged relative to the No Action alternative. The remainder of the current closed area footprint would be designated a low-bycatch-risk area for the entire year. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish, but less from yellowfin and bigeye tuna relative to the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is \$15,145 resulting in minor positive direct economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A3d would modify only the spatial extent of the current East Florida Coast closed area. Specifically, this sub-alternative would

reduce the spatial extent by including areas east of the line connecting two points at 31°00' N lat., 79°32'46" W long. and 27°52'55" N lat., 79°28'34" W long. at the northern and southern boundaries, respectively, of the current closed area. All areas south of 27°52'55" N lat. within the current closed area would remain the same relative to the No Action alternative. The temporal extent would remain unchanged relative to the No Action alternative. The remainder of the current closed area footprint would be designated a low-bycatch-risk area for the entire year. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish, but less from yellowfin and bigeye tuna relative to the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is \$37,845 resulting in minor positive direct economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A3e would modify both the spatial and temporal extent of the current East Florida Coast closed area. Specifically, this sub-alternative consists of two different spatial configurations associated with two temporal periods. From June 1 through September 30 the spatial extent would consist of the area within 40 nm of the coastline within the northern and southern boundaries of the current East Florida Coast closed area. During this time period, the remainder of the current closed area footprint would be designated a low-bycatch-risk area. From October 1 through May 31 and the spatial extent would include the area east of the Florida coast to a line connecting two points at 31°00' N lat., 79°32'46" W long. and 27°52'55" N lat., 79°28'34" W long. at the northern and southern boundaries, respectively, of the current closed area. As with the June to September area, from October to May, the remainder of the current closed area footprint would be designated a low-bycatch-risk area. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial

pelagic longline revenue. This sub-alternative would generate slightly more revenue from swordfish, but less from yellowfin tuna and bigeye tuna relative to the No Action sub-alternative. When combined the total revenue difference between this sub-alternative and the No Action sub-alternative is –\$8,762 resulting in minor negative direct economic impacts in the short- and long-term, which could also lead to negative social impacts. However, fishermen are unlikely to fish in areas with lower catch rates, so reductions in revenue may not be realized. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

DeSoto Canyon Spatial Management Area

Sub-Alternative A4a, the no action sub-alternative, would maintain the current DeSoto Canyon closed area in effect with respect to its spatial and temporal extent. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. The estimated annual revenue for each target species and the combined target species revenue is \$4,618,912 (2021 real dollars). This sub-alternative would maintain the recent fishing effort, catch levels, and revenues, resulting in direct neutral social and economic impacts on pelagic longline fishermen. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Sub-Alternative A4b would modify both the spatial and temporal extent of the current DeSoto Canyon closed area. Specifically, the sub-alternative would maintain the current spatial extent of the DeSoto Canyon spatial management area while changing the timing of the closed areas. Both boxes would remain closed from April 1 to October 31 instead of all year. Additionally, from November to March, the top northwest box would be closed while the bottom southeast box would be designated a low-bycatch-risk area. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish, but less from yellowfin tuna and similar from bigeye tuna relative to the No Action sub-alternative. When combined the total revenue difference between this sub-alternative and the No Action sub-

alternative is \$38,188 resulting in minor positive direct economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A4c would only modify the spatial extent of the current DeSoto Canyon closed area. Specifically, this sub-alternative would reduce the spatial extent by including areas within the current spatial extent that occurs north of 27°00' N lat. The temporal extent would remain unchanged relative to the No Action alternative. The remainder of the current closed area footprint would be designated a low-bycatch-risk area throughout the year. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate more revenue from swordfish and yellowfin tuna, but less from bigeye tuna relative to the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is \$278,627 resulting in moderate positive direct and indirect economic impacts in the short- and long-term, which would also lead to positive direct social impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Sub-Alternative A4d would modify the spatial extent of the current DeSoto Canyon closed area; the temporal extent would remain unchanged (*i.e.*, area would remain closed year-round). Specifically, this sub-alternative would shift the spatial extent putting a parallelogram through the current area. The parallelogram connects southern points; 27°00' N lat., 86°30' W long. and 27°00' N lat., 83°48' W long., while the northern boundary would be defined by the state water boundary between 88°24'58" W long. and 85°22'34" W long. The areas outside this parallelogram that are currently closed would reopen to normal fishing. NMFS used the target species catch estimates and ex-vessel prices for swordfish, yellowfin tuna, and bigeye tuna to estimate the effect of the sub-alternative on commercial pelagic longline revenue. This sub-alternative would generate less revenue from all three target species

relative to the No Action sub-alternative. When combined, the total revenue difference between this sub-alternative and the No Action sub-alternative is –\$224,295 resulting in moderate negative direct and indirect economic impacts in the short- and long-term, which could also lead to negative social impacts. However, fishermen are unlikely to fish in areas with lower catch rates, so reductions in revenue may not be realized. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Commercial Data Collection

Alternative B1, the no action alternative, would not implement any new closed area data collection approaches to support HMS spatial management. Because Alternative B1 would not implement any new data collection programs, direct social and economic impacts to fishermen would be neutral in the short-term. In the long-term, as described above, because there would not be any way to collect data from the spatial management areas and modify them accordingly, the impacts to the species, and therefore the impacts to the fishermen and the economy, would be unknown. If the spatial management areas are appropriate and the species and their habitat are protected, fishermen and related industries might experience an increase in revenue as species become more abundant. However, if the spatial management areas are inappropriate and do not protect the species and their habitat, fishermen and related industries might experience a decrease in revenue as the species abundance declines. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Alternative B2 would create a new research fishery, similar to the existing bottom longline shark research fishery, where permitted commercial longline fishing vessels may apply, and a small number would be selected for participation in the spatial management area research fishery. The selected vessels would conduct fishing operations guided by a research plan developed by NMFS, and be subject to conditions. Alternative B2 would be a voluntary program and fishermen would continue to decide whether to fish based on market conditions, fish availability, and the restrictions and conditions of the research fishery. Because of the limited nature of the research fishery, large beneficial social or economic impacts to fishermen are not expected. From 2018 through 2020, there were 82

active pelagic longline vessels in the fishery.

Alternative B3 would implement monitoring areas to allow fishermen into previously-closed areas to collect data while following strict effort restrictions and monitoring and reporting requirements. Under this alternative a specific geographic area would be designated a “monitoring area” and commercial longline vessels would be permitted to fish inside the monitoring area subject to certain conditions and other applicable regulations. In conjunction with Alternative B3, two sub-alternatives are preferred as well: Sub-Alternative B3a (effort caps) and Sub-Alternative B3e (electronic monitoring). Under Sub-Alternative B3a, NMFS would monitor the number of longline sets occurring in the monitoring area, and when the number of sets reaches the effort “cap”, would prohibit fishing with the relevant gear type in the monitoring area as described above. Additionally, vessel operators that intend to fish in a monitoring area would need to (1) declare that intention via VMS before embarking on a trip and (2) would be required to report the catch of the following species, in addition to current bluefin tuna reporting requirements, through VMS within 12 hours after the end of a longline set: blue marlin, white marlin, roundscale spearfish, sailfish, leatherback sea turtles, loggerhead sea turtles, and shortfin mako sharks. Sub-Alternative B3e would require that longline vessels fishing for all, or a part of a trip in a monitoring area have 100 percent of the EM data reviewed for that trip, and paid for by the owner/operator of the vessel.

Fishing effort in the monitoring area(s) would rely on commercial fishermen’s willingness to fish in the area based on market conditions, fish availability, and the restrictions of the monitoring area. Although it is difficult to predict the amount of fishing effort and fish availability that would occur in the monitoring areas, the socio-economic impact is likely to be either neutral or minor and beneficial. Access to previously closed areas would provide the flexibility to fish in locations previously closed to fishing. If access to fishing in monitoring areas decreases the amount of steaming time required to reach the fishing locations, operating costs may be reduced, and a shorter trip duration would facilitate participation in the fishery. Shorter transit times would also result in reduced fuel consumption. Owners of fishing vessels can often have difficulty finding and hiring crew willing to work on vessels, in part due to the duration

of fishing trips, and the impact of fishing trips on crew members’ lives. The increased revenue and flexibility associated with monitoring areas would be limited by the restrictions and costs associated with the monitoring areas such as effort caps or the cost of electronic monitoring. Expanding the use of electronic monitoring to 100-percent video review of all sets that occur within the monitoring area would require owners or operators of fishing vessels to pay for the additional review. Each set would cost approximately \$280 for a full video review, thus, a typical ten day trip consisting of six sets would cost \$1,680. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels would choose to fish in monitoring areas so economic impacts would not be equally shared among all active vessels.

Under Alternative B4, data would be collected from within a spatial management area, which would otherwise be closed, through the issuance of an EFP. This EFP would be issued to fishing vessels participating in specific research. The EFP would exempt participating vessels from certain regulatory requirements for specific research during a limited timeframe. Consideration of an application for gear-specific research in closed areas would require incorporation of elements to ensure research activities do not jeopardize conservation goals or result in excessive gear conflicts with other user groups. Fishermen participating in research under an EFP are likely to be compensated through some combination of commercial target catch sales and research funds. Since the fishermen are likely to operate in areas of unknown target catch rates, researchers may partially or fully fund fishing activities to ensure trips do not have negative profits. As such, fishermen operating under the EFP are unlikely to experience adverse economic impacts nor are they expected to realize larger profits than regular commercial fishing. Thus, Alternative B4 would have neutral social and economic impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Evaluation Timing of Spatial Management Areas

Under Alternative C1, the no action alternative, NMFS would not commit to a schedule to evaluate the spatial management modifications using data collected under the data programs (“B” Alternatives) analyzed by this DEIS. Evaluations of spatial management areas

are administrative in nature and would not have any short-term social and economic impacts on fishermen or indirect impacts on supporting businesses. In the long-term, evaluation of spatial management areas could result in minor beneficial social and economic impacts due to the achievement of a better balance between the ecological and socioeconomic impacts of spatial management areas. This No Action Alternative has no time period for reviews or factors to consider when reviewing areas, and thus has less clarity process-wise than Alternatives C2, C3 and C4. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Under Alternative C2 NMFS would evaluate the four spatial management areas once three years of catch and effort data is finalized and available. Subsequent reviews would occur after three full years of data are available after the conclusion of the previous evaluation. Evaluations of spatial management areas are administrative in nature and would not have any short-term social or economic impacts on fishermen or indirect impacts on supporting businesses. In the long-term, evaluation of spatial management areas could result in minor beneficial social and economic impacts due to the achievement of a better balance among the ecological, social, and economic impacts of spatial management areas. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Under Alternative C3 NMFS would evaluate the four spatial management areas once five years of catch and effort data is finalized and available. Subsequent reviews would occur after five full years of data are available after the conclusion of the previous evaluation. Evaluations of spatial management areas are administrative in nature and would not have any short-term social or economic impacts on fishermen or indirect impacts on supporting businesses. In the long-term, evaluation of spatial management areas could result in minor beneficial social and economic impacts due to the achievement of a better balance among the ecological, social, and economic impacts of spatial management areas. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Under Alternative C4, NMFS would monitor data collection activities and begin an evaluation if conditions warrant it instead of, or in addition to, scheduled regular evaluation. Evaluations of spatial management areas are administrative in nature and would

not have any short-term social or economic impacts on fishermen or indirect impacts on supporting businesses. In the long-term, evaluation of spatial management areas could result in minor beneficial social economic impacts due to the achievement of a better balance among the ecological, social, and economic impacts of spatial management areas. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Under Alternative C5, NMFS would set a default end date for a spatial management area and the area and associated restrictions would be removed unless action is taken to maintain or modify the area. Eliminating spatial management areas after a set number of years would provide additional flexibility for fishermen to fish in areas that were previously closed to fishing, and therefore increase the total amount of area to pursue target species. Further, the newly open area may include locations with potential advantages such as higher catch rates or lower trips costs. Thus, Alternative C5 would likely result in minor beneficial social and economic impacts. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Preferred Alternative Packages

The D1 Mid-Atlantic Spatial Management Area Preferred Alternative Package would include implementation of four alternatives and sub-alternatives analyzed among the “A,” “B,” and “C” alternatives. Thus, economic impacts to small entities resulting from implementation of the D1 Preferred Alternative Package would be the combination of the impacts of the following alternatives and sub-alternatives described above: Sub-Alternative A1d (spatial and temporal modification to the area), Alternative B1 (no action data collection), Alternative C2 (three year evaluation), and Alternative C4 (triggered evaluation). Impacts of each of the alternatives are not repeated here. In 2020, there were 13 active vessels (vessels that had trips where 75 percent of the landings by weight were sharks) targeting sharks in the Atlantic.

The D2 Charleston Bump Spatial Management Area Preferred Alternative Package would include implementation of four alternatives and sub-alternatives analyzed among the “A,” “B,” and “C” alternatives. Thus, economic impacts to small entities resulting from implementation of the D2 Preferred Alternative Package would be the combination of the impacts of the

following alternatives and sub-alternatives described above: Sub-Alternative A2c (spatial and temporal modification to the area), Alternative B3 (monitoring area), Alternative B4 (cooperative research EFP), Alternative C2 (three year evaluation), and Alternative C4 (triggered evaluation). Impacts of each of the alternatives are not repeated here. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

The D3 East Florida Coast Spatial Management Area Preferred Alternative Package would include implementation of four alternatives and sub-alternatives analyzed among the “A,” “B,” and “C” alternatives. Thus, economic impacts to small entities resulting from implementation of the D3 Preferred Alternative Package would be the combination of the impacts of the following alternatives and sub-alternatives described above: Sub-Alternative A3d (spatial modification to the area), Alternative B3 (monitoring area), Alternative B4 (cooperative research EFP), Alternative C2 (three year evaluation), and Alternative C4 (triggered evaluation). Impacts of each of the alternatives are not repeated here. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

The D4 Preferred DeSoto Canyon Spatial Management Area Preferred Alternative Package would include implementation of four alternatives and sub-alternatives analyzed among the “A,” “B,” and “C” alternatives. Thus, economic impacts to small entities resulting from implementation of the D3 Preferred Alternative Package would be the combination of the impacts of the following alternatives and sub-alternatives described above: Sub-Alternative A4d (spatial modification to the area), Alternative B1 (no action data collection), Alternative B4 (cooperative research EFP), Alternative C2 (three year evaluation), and Alternative C4 (triggered evaluation). Impacts of each of the alternatives are not repeated here. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery, though, not all vessels are active in the area so economic impacts would not be equally shared among all active vessels.

Spatial Management Area Regulatory Provisions

Alternative E1, the no action alternative, would make no changes to the current high-level aspects of design and evaluation regulations at 50 CFR 635.34(d). Consideration of high-level spatial management design elements or factors are administrative in nature and would not have any short-term or long-term social or economic impacts on fishermen. Thus, all social and economic impacts would be neutral. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Alternative E2 would revise the HMS regulations at 50 CFR part 635 to add elements to address the high-level design of specific objectives, timing of evaluation, data collection and access within spatial management areas. Consideration of high-level spatial management design elements or factors are administrative in nature and would not have any short-term or long-term social or economic impacts on fishermen. Thus, all social and economic impacts would be neutral. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Electronic Monitoring

Under Alternative F1, NMFS would not transfer sampling costs to the industry and would continue to fund the EM Program (both administrative and sampling costs) and utilize contracts with one or more vendors to conduct EM system installation, maintenance, and repair, as well as data storage, video review, and analyses. Since this alternative would not implement any changes, direct social and economic impacts on pelagic longline fishermen are expected to be neutral. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Alternative F2 would transfer 100 percent of HMS pelagic longline EM sampling costs to the industry, over a three-year period (phased-in) and would include components designed to create a standardized EM program that may be implemented by NOAA certified vendors. In conjunction with the phase-in of sampling costs, this alternative would include four distinct components: (1) vendor requirements; (2) vessel requirements; (3) vessel monitoring plan requirements; and (4) modification of current IBQ Program's EM spatial/temporal requirements. The transfer of EM sampling costs from the Agency to industry would likely lead to a substantial increase in economic costs

for vessel owners. The cost to industry is estimated to be approximately \$280 per set before mitigation measures (e.g., multiple vendors, changes to EM spatiotemporal requirements) are factored in. On a median length trip of 10 days with 6 sets, the cost would be \$1,680/trip or \$168/sea-day. This cost estimate equates to approximately 19% of net revenue on a median trip. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Alternative F3 would remove all of the current EM program requirements applicable to pelagic longline vessels. Bluefin tuna interactions with pelagic longline gear would be monitored using a combination of VMS data, logbook data, observer reports, and landings data from dealers. Since the Agency funds nearly 100% of the EM program, removing EM requirements would not have a large economic impact on the fishery. However, the fishery would no longer incur costs associated with activities such as shipping hard drives and coordinating equipment repair and replacement. Thus, small economic benefits would be likely. From 2018 through 2020, there were 82 active pelagic longline vessels in the fishery.

Paperwork Reduction Act

This proposed rule contains collection-of-information requirements subject to review and approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) (PRA). The collection of information requirements in this proposed rule relate to the collection under Control Number 0648-0372, "Electronic Monitoring Systems for Atlantic Highly Migratory Species." However, due to the existence of concurrent actions for that collection, which will come up for renewal before the final rule for this action is anticipated to be published, the collection-of-information requirements in this proposed rule will be assigned a temporary Control Number that will later be merged into Control Number 0648-0372.

This rule proposes to establish two pelagic longline monitoring areas, in which pelagic longline vessel owners and/or operators that are approved to fish will be required to report interactions with select bycatch species by set via their vessel monitoring system (VMS) units. We estimate no more than 9 pelagic longline vessel operators would be required to submit a total of 198 bycatch reports each year with no additional recordkeeping and reporting costs, excluding labor costs. These reports would take an estimated 15

minutes to complete for 50 hours of burden per year across the fleet.

Amendment 15 would also bring the HMS Electronic Monitoring (EM) Program in line with National Marine Fisheries Service (NMFS) Procedure 04-1150-02 "*Cost Allocation in Electronic Monitoring Programs for Federally Managed Fisheries*" which outlines guidance and directives for EM cost allocation framework between fishery participants and the Agency. Primarily, the cost allocation policy requires fishery participants to take on responsibility for EM sampling costs, which have previously been covered by the Agency, and Amendment 15 would implement this requirement in the HMS EM Program. To facilitate this, NMFS is proposing a process under which EM vendors could apply to be approved by NMFS based on requirements set forth in the regulations. This process is expected to mitigate economic impacts by encouraging additional EM vendors to enter the market. Vessel owners would contract with NMFS-approved EM vendors for services. The proposed rule would result in new reporting requirements for EM vendors: vendors would be required to assist vessel owners in the development of vessel monitoring plans, and provide quarterly EM video review reports, non-compliance reports, and debriefs to NMFS staff as needed.

As explained above in the "HMS Pelagic Longline Electronic Monitoring Cost Allocation" section, while EM vendor provisions of this proposed rule are new, many requirements of the current EM regulations are not substantively changed by this proposed rule. We estimate 91 pelagic longline vessel operators would be subject to existing and new EM elements of the information collection with 547 total annual burden hours, and an estimated maximum total annual cost to the public of \$932,560 in recordkeeping and reporting costs. Proposed measures to limit the months and regions in which EM reporting is required may substantially reduce reporting costs for vessel owners depending on how they redistribute their fishing effort. Under the proposed measures, vessel owners would be responsible for the full cost of EM video processing. Currently, pelagic longline vessel operators are required to mail in their EM hard drives after every other trip, which is currently estimated to be 6 times per year, and take 1 hour. We estimate vessel owners would have \$1,692 in recordkeeping and reporting costs each time they submit video data, likely through removable hard drives in the near term.

We also anticipate up to 4 EM vendors will apply to be approved as EM service providers to the pelagic longline fleet, and that no more than 3 vendors will receive approval. EM vendor estimated total annual burden hours would be 718, with \$27,481 estimated total annual recordkeeping and reporting costs. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The estimated time per response varies by item within the suite of information collected, as follows: EM service provider applications, 45 hours; copies of contracts and other documents, 30 minutes; appeals, 4 hours; application revisions, 2 hours; EM certificate of installation, 30 minutes; vessel monitoring plans, 4 hours; quarterly EM review reports, 40 hours; technical assistance, 20 minutes; non-compliance reports, 20 minutes; data storage, 15 minutes; and debriefs of EM staff, 2 hours.

Public comment is sought regarding: whether this proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the burden estimate; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the collection of information, including through the use of automated collection techniques or other forms of information technology. Submit comments on these or any other aspects of the collection of information at www.reginfo.gov/public/do/PRAMain.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

List of Subjects in 50 CFR Part 635

Fisheries, Fishing, Fishing vessels, Foreign relations, Imports, Penalties, Reporting and recordkeeping requirements, Statistics, Treaties.

Dated: April 20, 2023.

Samuel D. Rauch, III,
Deputy Assistant Administrator for
Regulatory Programs, National Marine
Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 635 is proposed to be amended as follows:

PART 635—ATLANTIC HIGHLY MIGRATORY SPECIES

■ 1. This authority citation for part 635 continues to read as follows:

Authority: 16 U.S.C. 971 *et seq.*; 16 U.S.C. 1801 *et seq.*

■ 2. Amend § 635.2 by:

- a. Removing the definition of “Charleston Bump closed area”;
- b. Adding the definition of “Charleston Bump Monitoring Area”;
- c. Removing the definition of “DeSoto Canyon closed area”;
- d. Adding the definition of “DeSoto Canyon Pelagic Longline Restricted Area”;
- e. Removing the definition of “East Florida Coast closed area”;
- f. Adding the definition of “East Florida Coast Monitoring Area”;
- g. Removing the definitions of “Edges 40 Fathom Contour closed area” and “Madison-Swanson closed area”;
- h. Adding the definition of “Mid-Atlantic Bottom Longline Restricted Area”;
- i. Removing the definitions of “Mid-Atlantic shark closed area” and “Northeastern United States Pelagic Longline Monitoring Area”;
- j. Adding the definition of “South Atlantic Pelagic Longline Restricted Area”;
- k. Removing the definitions of “Spring Gulf of Mexico Pelagic Longline Monitoring Area” and “Steamboat Lumps closed area”; and
- l. Adding the definition of “Straight line”.

The additions read as follows:

§ 635.2 Definitions.

* * * * *

Charleston Bump Monitoring Area means the area within the Atlantic Ocean bounded by straight lines from 34°00'00" N lat., 76°00'00" W long.; proceeding due south to 31°00'00" N lat., 76°00'00" W long.; then proceeding due west to 31°00'00" N lat., 79°32'46" W long.; then proceeding northeast to 34°00'00" N lat., 76°00'00" W long.

* * * * *

DeSoto Canyon Pelagic Longline Restricted Area means the area within the Gulf of Mexico seaward of the inner boundary of the U.S. EEZ bounded by straight lines from a point intersecting the inner boundary of the U.S. EEZ at 29°30'27" N lat., 85°22'34" W long. near Cape San Blas, Florida; proceeding southeast to 27°00'00" N lat., 83°48'00" W long.; then proceeding due west to 27°00'00" N lat., 86°30'00" W long.; then proceeding northwest to 30°02'53" N lat., 88°24'57" W long.; then proceeding east to a point intersecting the inner

boundary of the U.S. EEZ at 30°07'30" N lat., 87°31'07" W long. near Orange Beach, Florida.

* * * * *

East Florida Coast Monitoring Area means the area within the Atlantic Ocean bounded by straight lines from 31°00'00" N lat., 79°32'46" W long.; proceeding due east to 31°00'00" N lat., 78°00'00" W long.; then proceeding southwest until the outer boundary of the EEZ is reached at 28°17'10" N lat., 79°11'24" W long.; then following the outer boundary of the EEZ southwest to 27°52'55" N lat., 79°28'35" W long.; then proceeding due north to 31°00'00" N lat., 79°32'46" W long.

* * * * *

Mid-Atlantic Bottom Longline Restricted Area means the area within the Atlantic Ocean seaward of the inner boundary of the U.S. EEZ bounded by straight lines from a point intersecting the inner boundary of the U.S. EEZ at 35°41'00" N lat., 75°25'00" W long. just south of Oregon Inlet, North Carolina; proceeding due east to 35°41'00" N lat., 74°48'50" W long.; then proceeding southeast to 35°29'55" N lat., 74°46'04" W long.; then proceeding southwest, roughly following the 191 fathom (350 meter) mark, to 33°50'46" N lat., 76°16'15" W long.; then proceeding due west to intersect the inner boundary of the U.S. EEZ at 33°50'46" N lat., 77°53'17" W long. near Cape Fear, North Carolina.

* * * * *

South Atlantic Pelagic Longline Restricted Area means the area within the Atlantic Ocean seaward of the inner boundary of the U.S. EEZ bounded by straight lines from a point intersecting the inner boundary of the U.S. EEZ at 34°00'00" N lat., 77°50'26" W long. near Wilmington Beach, North Carolina; proceeding due east to 34°00'00" N lat., 76°00'00" W long.; then proceeding southwest to 31°00'00" N lat., 79°32'46" W long.; then proceeding south until reaching the outer boundary of the EEZ at 27°52'55" N lat., 79°28'35" W long.; then proceeding along the outer boundary of the EEZ to the intersection of the EEZ with 24°00'00" N lat., 81°11'15" W long.; then proceeding due west to 24°00'00" N lat., 81°47'00" W long.; and then proceeding due north to intersect the inner boundary of the U.S. EEZ at 24°29'28" N lat., 81°47'00" W long. near Key West, Florida. long.; and then proceeding due north to intersect the inner boundary of the U.S. EEZ at 81°47'00" W long. near Key West, FL.

* * * * *

Straight line means in this part:

(1) For regulated areas, a straight line means a geodesic line with the shortest

length connecting two or more points. Straight lines will be displayed as a rhumb line on a map with a Mercator-based projection.

(2) For measuring fish, a straight-line measurement means a measurement between two points of the fish that is not made along the curve of the body.

* * * * *

■ 3. Revise § 635.9 to read as follows:

§ 635.9 Electronic Monitoring.

(a) Applicability. A vessel permitted or required to be permitted in the Atlantic Tunas Longline category under § 635.4 and that has pelagic longline gear on board is required to have an EM system installed and fully operational before departing on a trip where a vessel will fish with pelagic longline within the boundaries of the relevant EM Data Review Areas and/or Monitoring Areas while they are effective, as specified in paragraphs (a)(1) through (5) of this section. If during a trip pelagic longline sets are deployed both inside and outside of an effective EM Data Review Area and/or Monitoring Area, the EM requirements of this section are in effect for the entire trip and all videos must be submitted to an EM vendor as specified in paragraphs (d) and (e) of this section. This section sets forth EM cost responsibilities; NMFS' application, approval and removal process for EM vendors; requirements for NMFS-approved EM vendors providing services pursuant to contracts to vessels owners; requirements for vessel owners and/or operators; required EM system components; and other related provisions. Unless otherwise specified, owners and operators of vessels permitted or required to be permitted in the Atlantic Tunas Longline category under 635.4 must comply with this section and are jointly and severally responsible for their vessel's compliance with this section.

(1) The North Atlantic EM Data Review Area. The North Atlantic EM Data Review Area includes all waters north of 35°00'00" N lat., excluding the Mid-Atlantic Bight EM Data Review Area defined in paragraph (a)(2) of this section. This area is effective from June through December of each calendar year.

(2) The Mid-Atlantic Bight EM Data Review Area. The Mid-Atlantic Bight EM Data Review Area is the area seaward of the coastline bounded by straight lines from a point intersecting the coastline at 41°30'00" N lat. 71°01'37" W long.; proceeding due east to 41°30'00" N lat., 69°30'00" W long.; then proceeding due south to 35°00'00" N lat., 69°30'00" W long.; then proceeding due west to the point

intersecting the coastline at 35°00'00" N lat., 76°07'34" W long. This area is effective from January through December of each calendar year.

(3) The South Atlantic EM Data Review Area. The South Atlantic EM Data Review Area includes all waters south of 35°00'00" N lat., north of 22°00'00" N lat., and east of 83°00'00" W long. This area is effective from January through June of each calendar year.

(4) The Gulf of Mexico EM Data Review Area. The Gulf of Mexico EM Data Review Area includes all waters of the U.S. EEZ west and north of the boundary stipulated at § 600.105(c) of this chapter. This area is effective from January through June of each calendar year.

(5) The Monitoring Areas. The Monitoring Areas are defined in § 635.2 and are effective during the months specified for each area as provided in § 635.35(c)(3) and (4). Vessels fishing with pelagic longline within the boundaries of the Monitoring Areas during the months specified for each area are required to comply with all EM requirements and at all times during the trip.

(b) Cost responsibilities. NMFS is responsible for all administrative costs set forth in paragraph (1) of this section. As of January 1, 2028, the owner of a vessel fishing with pelagic longline gear within the boundaries of the relevant EM Data Review Areas described in paragraphs (a)(1) through (4) of this section and/or a Monitoring Area as described in paragraph (a)(5) of this section is responsible for the EM sampling costs set forth in paragraph (2) of this section. During the three-year period leading up to January 1, 2028, NMFS will transition the responsibility of the sampling costs to the vessel owner as follows. In year one, the vessel owner is responsible for 25 percent of the sampling costs and NMFS is responsible for 75 percent of the sampling costs (and 100 percent of the administrative costs). In year 2, the vessel owner is responsible for 50 percent of the sampling costs and NMFS is responsible for 50 percent of the sampling costs (and 100 percent of the administrative costs). In year 3, the vessel owner is responsible for 75 percent of the sampling costs and NMFS is responsible for 25 percent of the sampling costs (and 100 percent of the administrative costs).

(1) Administrative costs. Administrative costs may include, but are not limited to, program administration support; certification of EM service providers; EM program sample design and performance monitoring; compliance monitoring;

data analysis for management and enforcement purposes; and storage of Federal records.

(2) Sampling costs. Sampling costs may include, but are not limited to, equipment purchases, leases, and installation; equipment maintenance and upkeep; training for captain and crew; development and implementation of vessel monitoring plans (VMPs) (see paragraph (d)(2) of this section); data transmittal; video processing, review, and storage; and payment to a NMFS-certified vendor as appropriate for services rendered.

(c) EM vendor approval and evaluation. An entity seeking to provide EM services described in paragraph (d) of this section must submit a complete application to NMFS, at an address designated by NMFS. Once received, NMFS will review the application for completeness and possible approval.

(1) Contents of application. Application forms and instructions for their completion are available from NMFS. An application is complete when all requested forms, information, and documentation have been received, including the information described in this paragraph. NMFS will notify the applicant of any deficiency in the application, including failure to provide information required to be submitted under this part. If the applicant fails to correct the deficiency within 30 days following the date of notification, the application will be considered abandoned. An application to become an approved EM vendor shall include, but is not limited to, the following:

(i) Identification of the management, organizational structure, and ownership structure of the applicant's business, including identification by name and general function of all controlling management interests in the company, including but not limited to owners, board members, officers, authorized agents, and staff. If the applicant is a corporation, the articles of incorporation must be provided. If the applicant is a partnership, the partnership agreement must be provided.

(ii) A list of all physical and electronic mailing addresses and any relevant phone or fax numbers where the owner(s) can be contacted for official correspondence, and the current physical location for each office.

(iii) A description of the applicant's ability to carry out the responsibilities and duties of EM vendors under paragraph (d) of this section.

(iii) A statement signed under penalty of perjury by an authorized agent of the applicant EM vendor that each owner, board member, officer, and employee of the EM vendor has no conflict of

interest as described in paragraph (c)(3) of this section.

(iv) Procedures for hiring and training of competent program staff to carry out EM field services and data services, including procedures to maintain the skills of EM data processing staff in:

(A) Use of data processing software;
(B) Species identification;
(C) Metadata reporting requirements;
(D) Data processing procedures;
(E) Data tracking; and,
(F) Reporting and data upload procedures.

(2) Application evaluation. NMFS shall review and evaluate each complete application submitted under paragraph (c)(1) of this section. A decision to approve or deny an application shall be made by NMFS within 90 business days of receipt of the complete application by NMFS.

(i) Issuance of approval as an EM vendor shall be based on a determination by NMFS of the applicant's ability to perform the responsibilities and duties under paragraph (d) of this section, as demonstrated in the application information, and the absence of conflict of interest with the fishing industry (see paragraph (c)(3) of this section).

(ii) If NMFS approves the application, the EM vendor's name will be added to the list of approved EM vendors found on the NMFS website and in any outreach information to the industry. An approved vendor shall be notified in writing and provided with any information pertinent to its participation in the EM program.

(iii) If NMFS determines that the applicant is unable to perform the responsibilities and duties under paragraph (d) of this section or has conflicts of interest pursuant to paragraph (c)(3) of this section, NMFS shall deny the application. NMFS shall notify the applicant in writing of the reason for the denial. Within 30 days of the applicant's receipt of the denial notification, an applicant may request reconsideration by submitting additional information to rectify any deficiencies specified in the written denial. If the applicant does not submit additional information within that 30-day period, they would need to resubmit a new application containing all of the information required under paragraph (c)(1) of this section in order to be reconsidered for being added to the list of approved EM vendors.

(3) Limitations on conflict of interest for EM vendors. Other than providing EM services to vessel owners in the fishery, an approved EM vendor and its employees must not:

(i) Have a direct or indirect interest in a fishery managed under Federal regulations, including, but not limited to, a fishing vessel, fish dealer, and/or fishery advocacy group;

(ii) Solicit or accept, directly or indirectly, any gratuity, gift, favor, entertainment, loan, or anything of monetary value from anyone who conducts fishing or fishing related activities that are regulated by NMFS, or who has interests that may be substantially affected by the performance or non-performance of the responsibilities and duties of an EM vendor.

(4) Removal from the list of approved vendors. An EM vendor that fails to meet the responsibilities and duties under paragraph (d) of this section or that is shown to have a conflict of interest as described in paragraph (c)(3) of this section, shall be notified by NMFS, in writing, that it is subject to removal from the list of approved EM vendors. Such notification shall specify the reasons for the pending removal. Within 30 days of receiving such notification, an EM vendor may submit written evidence to rebut the reasons for removal from the list. Within 30 days of receiving any rebuttal, NMFS shall notify the EM vendor of its decision. If no rebuttal is received by NMFS within the first 30-day period, the EM vendor shall be automatically removed from the list of approved EM vendors. The decision to remove an EM vendor from the list, either after reviewing a rebuttal or if no rebuttal is submitted, shall be the final decision of NMFS and the Department of Commerce. Removal from the list of approved EM vendors does not necessarily prevent an EM vendor from obtaining an approval in the future if a new application is submitted that demonstrates that the reasons for removal are remedied.

(d) Responsibilities and duties of EM vendors. To maintain an approved EM vendor status, an EM vendor must demonstrate an ability to provide or support pelagic longline vessel owners and/or operators with the following services:

(1) Vessel Monitoring Plan (VMP). An approved EM vendor must, in consultation with the vessel owner with whom the vendor has a contract, develop required operational plans, also known as VMPs, for EM systems that meet the components and capabilities requirements under paragraph (f) of this section. The VMP is not valid until the EM vendor and the vessel owner have signed and dated the VMP indicating their agreement and NMFS or a NMFS-designated entity has approved the VMP as meeting the management

requirements of the EM program by signing and dating the VMP. At a minimum, the VMP must include: information on the locations of EM system components (including any customized camera mounting structure); contact information for technical support; instructions on how to conduct a pre-trip system test; instructions on how to verify proper system functions; location(s) on deck where fish retrieval should occur to remain in view of the cameras; specifications and other relevant information regarding the dimensions and grid line intervals for the standardized reference grid; procedures for how to manage EM system data transmission; catch handling procedures; procedures for periodic checks of the monitor during the retrieval of gear to verify proper functioning; and reporting procedures; and a date(s) specified upon which the requirements, specifications and protocols outlined in the VMP will be fully implemented and functional. The VMP may be updated, supplemented, or revised periodically if such a change determined necessary by either NMFS, the EM vendor, or the vessel owner. The VMP must be updated if changes to the regulations in this part necessitate changes. Any change, update, supplement, or revision to the VMP must be agreed to by the EM vendor and the vessel owner, and approved by NMFS or a NMFS-designated entity. The VMP should minimize to the extent practicable any impact of the EM systems on the current operating procedures of the vessel, and should help ensure the safety of the crew. The VMP is only valid when there is an existing, signed contract between an approved EM vendor and the vessel owner.

(2) EM installation and maintenance. An approved EM vendor is responsible for ensuring the appropriate EM system, as specified in the VMP, is installed and tested. The EM vendor is also responsible for providing training to vessel owners and operators on how to use the EM system. After confirming that the EM system is properly installed and tested and that the appropriate persons have been trained, the EM vendor will provide a Certificate of Installation to the vessel owner. If the EM system stops working properly, the EM vendor will assist in repairing or replacing the equipment and returning the system to working order. If the EM vendor is notified by the vessel owner or operator that the EM system has stopped functioning properly while the vessel is at sea, the EM vendor will notify NMFS and provide instructions

to the vessel owner and/or operator consistent with NMFS' guidance.

(3) Data integrity and storage requirements. An approved EM vendor must receive, access, and store video data consistent with the VMP, and the regulations in this section. Video and metadata must be stored for a minimum of two years after the date received.

(4) Video review requirements. An approved EM vendor must:

(i) Ensure that all video review staff has been trained in species identification consistent with requirements at paragraph (c)(1)(iv) of this section;

(ii) At NMFS' request, conduct additional video review to verify catch reports, and provide information for regulatory, enforcement, or for other management purposes; and,

(iii) On a calendar year quarterly basis, review 10 percent of the sets submitted (randomly selected); at least one set from each pelagic longline vessel that fished in the North Atlantic, Mid-Atlantic Bight, South Atlantic, and Gulf of Mexico EM Data Review Areas, as defined in paragraph (a)(1) through (4) of this section; and 100 percent of the sets submitted from the vessels that fished in the Monitoring Areas, as defined in paragraph (a)(5) of this section. NMFS may evaluate and modify video review rates on a regular basis.

(5) Reporting requirements. Each calendar year, an approved EM vendor must submit quarterly reports to NMFS for vessels for which the EM vendor has existing, signed contracts. Quarter 1 (January through March) report is due on or before June 30. Quarter 2 (April through June) report is due on or before September 30. Quarter 3 report (July through September) is due on or before December 31. Quarter 4 report (October through December) is due on or before March 31. The reports must include a list of vessels that submitted trips or sets for review; a list of vessels that did not submit any trips or sets for review; the location, date, and time of all sets submitted for review; identification of the sets reviewed (vessel name, location, date, and time of sets) for the quarterly report; species caught and amounts (retained and discarded) from the sets reviewed and disposition (dead or alive) of catch that is discarded; information on any technical difficulties (including poor video, no video, unreviewable video, misaligned camera angles, and any other issues that prevent effective video review of catch); information on how technical difficulties were addressed on the vessel and during the video review process; and/or any questions video reviewers may have about whether the vessel's fishing

practices are compliant with applicable regulations. The metadata from all submitted trips and sets must accompany these quarterly reports. As appropriate, NMFS may respond to the questions about fishing practices or possible regulatory violations in order to assist video reviewers and EM vendors in understanding the regulations and the EM program.

(e) Vessel owner and operator requirements. The owner of a vessel with pelagic longline gear on board and fishing with pelagic longline gear in an effective EM Data Review Area and/or Monitoring Area, as described in paragraph (a) of this section, must obtain EM services as described in paragraph (d) of this section from a NMFS-approved EM vendor (see paragraph (c)). For such a trip, the vessel owner and/or operator must:

(1) Declare intent to fish with pelagic longline in an EM Data Review Area or Monitoring Area through hail-out via VMS unit prior to departing on the trip as described in 635.69;

(2) Have EM system components on board as required under paragraph (f) of this section;

(3) Activate the EM system prior to departing on the trip;

(4) Collect video data during hauling activities and sensor data during the duration of the trip via an installed and working EM system;

(5) Have on board and available for inspection an approved VMP pursuant to paragraph (d)(1) of this section;

(6) Ensure that all of the requirements, specifications and protocols outlined in the VMP have been implemented by the date specified in the VMP;

(7) Have on board and available for inspection a Certificate of Installation in accordance with paragraph (d)(2) of this section;

(8) Prior to departing on the trip, ensure the installed EM system has the capacity needed to enable data collection and video recording for the entire trip;

(9) Prior to departing on the trip, test the functionality of the system and contact an approved EM vendor if the system is not functioning properly. If the system is not functioning properly, the vessel is prohibited from deploying pelagic longline sets in any effective EM Data Review Area and/or Monitoring Area as defined in paragraph (a) of this section. The vessel owner and operator must work with the EM vendor pursuant to paragraph (d)(2) of this section to correct this issue;

(10) During the trip, ensure the proper continuous functioning of all aspects of the EM system as required under paragraph (f) of this section, including

that: the EM system must remain powered on for the duration of each fishing trip consistent with paragraph (a) of this section; cameras must be functioning and cleaned routinely; the hydraulic and gear sensors must be operational; the global positioning system (GPS) signal must be functioning; and the EM system components must not be tampered with;

(11) If the EM system stops functioning properly at sea, contact the EM vendor and follow the instructions given. Such instructions may include but are not limited to returning to port until the EM system is repaired. Once in port, an EM system must be functioning properly (*e.g.*, repaired, reinstalled, or replaced) before the vessel may fish with pelagic longline within an effective EM Data Review area;

(12) Ensure that all fish that are caught, even those that are released, are handled in a manner that enables the video system to record such fish, and ensure that interactions occur in accordance with relevant regulations and the operational procedures outlined in the VMP;

(13) Ensure that each retained fish is placed on the standardized reference grid (see paragraph (f)(7) of this section) in view of cameras in accordance with the operational procedures outlined in the VMP;

(14) At the completion of a trip, submit all electronic data, including video, sensor, and metadata, to a prearranged, approved EM vendor, consistent with the agreed upon requirements in the VMP; and,

(15) Monitor and maintain the EM system in working condition and ensure the proper continuous functioning of the EM system as required under paragraph (f) of this section. The vessel owner and operator must work with the EM vendor to ensure the EM system is maintained and working properly (see paragraph (d)(2) of this section).

(f) EM System Components. The EM system installed must be comprised of video camera(s), recording equipment, and other related equipment, and must have the following components and capabilities:

(1) Video camera(s).

(i) Video cameras must be mounted and placed to provide clear, unobstructed views of the area(s) where the pelagic longline gear is retrieved and of catch being removed from hooks prior to being placed in the hold or discarded. There must be lighting sufficient to clearly illuminate individual fish.

(ii) Video camera(s) must be in sufficient numbers (a minimum of two), with sufficient resolution (no less than 720p (1280 × 720)) for the NMFS-

approved vendor, NMFS, the USCG, and their authorized officers and designees to determine the number and species of fish harvested. To obtain the views required in paragraph (f)(1)(i) of this section, at least one camera must be mounted to record close-up images of fish being retained on the deck at the haulback station, and at least one camera must be mounted to provide views of the area from the rail to the water surface, where the gear and fish are hauled out of the water. The NMFS-approved vendor will determine the number and placement of cameras needed to achieve the required views, based on the operation and physical layout of the vessel.

(iii) The EM system must be capable of initiating video recording at the time gear retrieval starts. It must record all periods of time from when the gear is being retrieved and catch is removed from the hooks until it is placed in the hold or discarded.

(2) GPS receiver. A GPS receiver is required to produce output, which includes location coordinates, velocity, and heading data, and is directly logged continuously by the control box. The GPS receiver must be installed and remain in a location where it receives a strong signal continuously.

(3) Hydraulic and drum rotation sensors. Hydraulic sensors are required to continuously monitor the hydraulic pressure and a drum rotation sensor must continuously monitor drum rotations.

(4) EM control box. The system must include a control box that receives and stores the raw data provided by the sensors and cameras and must be adequate for the entire length of the trip.

(5) EM systems monitor. A wheelhouse monitor must provide a graphical user interface for the harvester to monitor the state and performance of the control box and provide information on the current date and time synchronized via GPS, GPS coordinates, current hydraulic pressure reading, presence of a data disk, percentage used of the data disk, and video recording status.

(6) EM software. The EM system must have software that enables the system to be tested for functionality and that records the outcome of the tests.

(7) Standardized reference grid. The vessel must have a standardized grid on deck in view of the haulback station camera(s) in such a way that the video recording includes an image of each fish on the grid in order to provide a size reference. The standardized grid may be on a removable mat or carpet that is placed on the deck before the fish are brought on board, or may be painted

directly on the deck. The standardized reference grid must have accurate dimensions and grid line intervals as instructed and specified in the vessel's VMP by the NMFS-approved EM vendor. The vessel owner and operator are responsible for ensuring compliance with the provided instructions and specifications and for ensuring accurate, straight, clear and complete grid lines with no missing, incomplete, blurry or smudged lines.

(g) Data maintenance, storage, and viewing. The EM system must have the capacity to allow the vessel owner and operator, the approved EM vendor, NMFS and their authorized officers and designees, and consistent with 16 U.S.C. 1881a(b)(1) (confidentiality of information), the USCG and their authorized officers and designees and state law enforcement officers, to observe the live video on the EM systems monitor (see paragraph (f)(5) of this section). The vessel owner and operator must provide access to the system, including the data, upon request. The EM vendor must provide access to stored data upon request by NMFS, its agents, or authorized officers.

(h) Handling NMFS-owned EM systems and components. Vessel owner and operators may continue to use NMFS equipment currently installed as long as it functions properly as required under these regulations. Any replacement or repair of equipment or system components is the financial responsibility of the vessel owner pursuant to the contract with an EM vendor. Equipment or components that are no longer operational or useful must be surrendered or disposed of consistent with Federal property laws and requirements.

■ 4. Amend § 635.21 by:

- a. Removing paragraph (a)(3);
- b. Redesignating paragraph (a)(4) as (a)(3);
- c. Removing paragraph (b)(2);
- d. Redesignating paragraphs (b)(3) and (4) as (b)(2) and (3);
- e. Revising paragraphs (c)(1)(i) and (c)(2);
- f. Removing paragraph (c)(3);
- g. Redesignating paragraphs (c)(4) through (6) as paragraphs (c)(3) through (5);
- h. Removing paragraph (d)(1);
- i. Redesignating paragraphs (d)(2) through (5) as (d)(1) through (4); and
- j. Revising newly redesignated paragraph (d)(2).

The revisions read as follows:

§ 635.21 Gear operation and deployment restrictions.

* * * *

(c) * * *

(1) * * *

(i) Has bottom longline gear on board and is in a Restricted Area or gear restricted area designated under § 635.35(c)(1) and (2) or is in a monitoring area designated under § 635.35(c)(3) and (4) that has been closed, the vessel may not, at any time, possess or land any pelagic species listed in Table 2 of Appendix A to this part in excess of 5 percent, by weight, of the total weight of pelagic and demersal species possessed or landed, that are listed in Tables 2 and 3 of Appendix A to this part.

* * * *

(2) If pelagic longline gear is on board a vessel issued or required to be issued a LAP under this part, persons aboard that vessel may not fish or deploy any type of fishing gear in the NED at any time unless, the vessel complies with paragraphs (i) through (iii) and also paragraph (5) of this section:

(i) The vessel is limited to possessing on board and/or using only 18/0 or larger circle hooks with an offset not to exceed 10 degrees. The outer diameter of the circle hook at its widest point must be no smaller than 2.16 inches (55 mm) when measured with the eye on the hook on the vertical axis (y-axis) and perpendicular to the horizontal axis (x-axis), and the distance between the circle hook point and the shank (*i.e.*, the gap) must be no larger than 1.13 inches (28.8 mm). The allowable offset is measured from the barbed end of the hook and is relative to the parallel plane of the eyed-end, or shank, of the hook when laid on its side. The only allowable offset circle hooks are those that are offset by the hook manufacturer. If green-stick gear, as defined at § 635.2, is on board, a vessel may possess up to 20 J-hooks. J-hooks may be used only with green-stick gear, and no more than 10 hooks may be used at one time with each green-stick gear. J-hooks used with green-stick gear may be no smaller than 1.5 inch (38.1 mm) when measured in a straight line over the longest distance from the eye to any other part of the hook; and,

(ii) The vessel is limited, at all times, to possessing on board and/or using only whole Atlantic mackerel and/or squid bait, except that artificial bait may be possessed and used only with green-stick gear, as defined at § 635.2, if green-stick gear is on board; and,

(iii) Vessels must possess, inside the wheelhouse, a document provided by NMFS entitled, "Careful Release Protocols for Sea Turtle Release with Minimal Injury," and must post, inside

the wheelhouse, sea turtle handling and release guidelines provided by NMFS.

* * * *

(d) * * *

(2) If a vessel issued or required to be issued a permit under this part is in a Restricted Area or closed area designated under § 635.35(d)(1) and has pelagic longline gear on board, the vessel may not, at any time, possess or land any demersal species listed in Table 3 of Appendix A to this part in excess of 5 percent, by weight, of the total weight of pelagic and demersal species possessed or landed, that are listed in Tables 2 and 3 of Appendix A to this part.

* * * *

■ 5. In § 635.24, revise the introductory text to read as follows:

§ 635.24 Commercial retention limits for sharks, swordfish, and BAYS tunas.

The retention limits in this section are subject to the quotas and closure provisions in §§ 635.27 and 635.28, and the gear operation and deployment restrictions in §§ 635.21 and 635.35.

* * * *

■ 6. In § 635.32, revise paragraph (c)(1) and adding paragraphs (c)(2) and (h)(6) to read as follows:

§ 635.32 Specifically authorized activities.

* * * *

(c) * * *

(1) For activities consistent with the purposes of this section and § 600.745(b)(1) of this chapter, other than scientific research conducted from a scientific research vessel, NMFS may issue EFPs.

(2) NMFS may issue EFPs to conduct research and collect information specifically regarding the spatial management areas described in § 635.35. In addition to all of the information required under § 600.745(b)(2) of this chapter, an application for an EFP to conduct research and collect information regarding the spatial management areas should include the objective of the research; a description of how the researchers intend to verify that the catch and all of the terms and conditions of the EFP are being met (*e.g.*, via a working EM system, authorized researchers, NMFS-approved observers); and a description of how the research is being conducted. As with other EFPs, any EFP provides authorization only for the time and area, retention limits, and gear specified in the permit, and based upon the terms and conditions set forth in the permit and as acknowledged and agreed to by the permit holder under § 600.745(b)(4) of this chapter. The terms and

conditions for a spatial management area EFP may require reporting more frequently than is described in paragraph (h)(1) of this section.

* * * * *

(h) * * *

(6) EFPs, scientific research permits, display permits, chartering permits, and shark research permits may be revoked, suspended, or modified at any time, do not confer any right to engage in activities beyond those authorized by the permit, and do not confer any right of compensation to the holder.

* * * * *

■ 7. In § 635.34, revise paragraphs (a), (b), and (d) to read as follows:

§ 635.34 Adjustment of management measures.

(a) NMFS may adjust the IBQ shares or resultant allocations for bluefin tuna, as specified in § 635.15; catch limits for bluefin tuna, as specified in § 635.23; the overall, regional, and/or sub-regional quotas for bluefin tuna, sharks, swordfish, and northern albacore tuna as specified in § 635.27; the retention limits for sharks, as specified at § 635.24; the regional retention limits for Swordfish General Commercial permit holders, as specified at § 635.24; the marlin landing limit, as specified in § 635.27(d); the minimum sizes for Atlantic blue marlin, white marlin, and roundscale spearfish as specified in § 635.20, the EM Data Review Area definitions as specified in § 635.9(a); and the annual effort cap thresholds in the monitoring areas as specified in § 635.35(c)(3) and (4).

(b) In accordance with the framework procedures in the 2006 Consolidated HMS FMP, NMFS may establish or modify for species or species groups of Atlantic HMS the following management measures: Maximum sustainable yield or optimum yield based on the latest stock assessment or updates in the SAFE report; domestic quotas; recreational and commercial retention limits, including target catch requirements; size limits; fishing years or fishing seasons; shark fishing regions, or regional and/or sub-regional quotas; species in the management unit and the specification of the species groups to which they belong; species in the prohibited shark species group; classification system within shark species groups; permitting and reporting requirements; workshop requirements; the IBQ shares or resultant allocations for bluefin tuna; administration of the IBQ program (including but not limited to requirements pertaining to leasing of IBQ allocations, regional or minimum IBQ share requirements, IBQ share caps (individual or by category), permanent

sale of shares, NED IBQ rules, *etc.*); *de minimis* bluefin tuna quota set-aside for new entrants and associated requirements, process and conditions; spatial management restrictions; allocations among user groups; gear prohibitions, modifications, or use restriction; effort restrictions; observer coverage requirements; EM requirements and administration of the EM program; essential fish habitat; and actions to implement ICCAT recommendations, as appropriate.

* * * * *

(d) Consistent with the Magnuson-Stevens Act, the FMP, and other applicable law, when considering a framework adjustment to add, change, or modify the spatial management restrictions, NMFS will consider, but is not limited to, the following: any Endangered Species Act related issues, concerns, or requirements, including applicable BiOps; bycatch rates of protected species, prohibited HMS, or non-target species both within the specified or potential closure area(s) and throughout the fishery; bycatch rates and post-release mortality rates of bycatch species associated with different gear types; new or updated landings, bycatch, and fishing effort data; evidence or research indicating that changes to fishing gear and/or fishing practices can significantly reduce bycatch; social and economic impacts; and the practicability of implementing new or modified closures compared to other bycatch reduction options. If the species is an ICCAT managed species, NMFS will also consider the overall effect of the U.S.' catch on that species. Additionally, NMFS may also consider the factors listed at § 635.35(e).

■ 8. Add § 635.35 to Subpart C to read as follows:

§ 635.35 Spatial management area restrictions.

(a) General Restrictions. If a vessel issued or required to be issued a LAP under this part has pelagic or bottom longline gear on board and is in a closed area (see paragraph (d) of this section), gear restricted area (see paragraphs (b) and (c) of this section), or a monitoring area (see paragraphs (b) and (c) of this section) that has been closed, it is a rebuttable presumption that any fish on board such a vessel were taken with pelagic or bottom longline gear in the area except where such possession is aboard a vessel transiting such an area with all fishing gear stowed appropriately. Longline gear is stowed appropriately if all gangions and hooks are disconnected from the mainline and are stowed on or below deck, hooks are

not baited, and all buoys and weights are disconnected from the mainline and drum (buoys may remain on deck). Coordinates for gear restricted areas and monitoring areas are set forth in the definitions under § 635.2.

(b) Bottom Longline restrictions. If bottom longline gear is on board a vessel issued or required to be issued a permit under this part, persons aboard that vessel may not fish or deploy any type of fishing gear in the Mid-Atlantic Bottom Longline Restricted Area from November 1 through May 31 each calendar year, unless persons on board the vessel are authorized to conduct research under a shark research fishery permit as specified at § 635.32.

(c) Pelagic longline restrictions. If pelagic longline gear is on board a vessel issued or required to be issued a permit under this part:

(1) In the South Atlantic Pelagic Longline Restricted Area and the DeSoto Canyon Restricted Area, persons aboard that vessel may not fish or deploy any type of fishing gear at any time, unless persons aboard the vessel are authorized to conduct research under an EFP as specified at § 635.32.

(2) In the NED, persons aboard that vessel may not fish or deploy any type of fishing gear at any time unless they comply with the requirements under § 635.21(c)(2) and (5).

(3) In the Charleston Bump Monitoring Area from February 1 through April 30, persons aboard that vessel may deploy fishing gear until the annual effort cap of 69 pelagic longline sets has been reached or is projected to be reached. When the effort cap is reached, or is projected to be reached, NMFS will file for publication with the Office of the Federal Register a closure for the Monitoring Area, which will be effective no fewer than five days from date of filing. From the effective date and time of the closure until May 1, vessels issued or required to be issued a LAP under this part and that have pelagic longline gear on board are prohibited from deploying pelagic longline gear within the boundaries of the Charleston Bump Monitoring Area. Vessels fishing within the Charleston Bump Monitoring Area from February 1 through April 30 are required to comply with all EM requirements in § 635.9 and VMS requirements in § 635.69. From May 1 through January 31, vessels issued or required to be issued a LAP under this part and that have pelagic longline gear on board are authorized to deploy pelagic longline gear within the boundaries of the Charleston Bump Monitoring Area. NMFS may file for publication with the Office of the Federal Register a closure of the

monitoring area before the effort cap is reached and/or an action to not reopen the monitoring area on February 1, if warranted by conservation and management concerns raised by unexpectedly high bycatch, high fishing effort, fishing effort that is overly clustered temporally or spatially, or other relevant considerations.

(4) In the East Florida Coast Monitoring Area, year-round, persons aboard that vessel may deploy fishing gear until the annual effort cap of 124 pelagic longline sets has been reached or is projected to be reached. When the effort cap is reached, or is projected to be reached, NMFS will file for publication with the Office of the Federal Register a closure for the Monitoring Area, which will be effective no fewer than five days from date of filing. From the effective date and time of the closure forward, vessels issued or required to be issued a LAP under this part and that have pelagic longline gear on board are prohibited from deploying pelagic longline gear within the boundaries of the East Florida Coast Monitoring Area until January 1 of the following year. Vessels fishing within the East Florida Coast Monitoring Area at any time are required to comply with all EM requirements in § 635.9 and VMS requirements in § 635.69. NMFS may file for publication with the Office of the Federal Register a closure of the monitoring area before the effort cap is reached and/or an action to not reopen the monitoring area on January 1, if warranted by conservation and management concerns raised by unexpectedly high bycatch, high fishing effort, fishing effort that is overly clustered temporally or spatially, or other relevant considerations.

(d) Other area restrictions applicable to HMS permitted vessels.

(1) In addition to the area restrictions listed above, vessels that have been issued or are required to be issued a permit under this part, may not fish for, catch, possess, or retain any Atlantic HMS in the following spatial management times and areas:

(i) As specified at § 622.34(a)(1)(iii) and (3) of this chapter, within the Edges from January through April of each year.

(ii) As specified at § 622.34(a)(1)(i) and (ii) of this chapter, within the Madison and Swanson and the Steamboat Lumps sites:

(A) From November through April of each year, no vessel issued or required to be issued a permit under this part may fish or deploy any type of fishing gear.

(B) From May through October of each year, no vessel issued or required to be issued a permit under this part may fish

or deploy any type of fishing gear except for surface trolling. For the purposes of this section, surface trolling is defined as fishing with lines trailing behind a vessel that is in constant motion at speeds in excess of four knots with a visible wake. Such trolling may not involve the use of down riggers, wire lines, planers, or similar devices.

(iii) Within the areas of the Gulf coral Habitat Areas of Particular Concern (HAPCs), as specified in § 622.74 of this chapter, no person may bottom anchor a fishing vessel or deploy unauthorized fishing gear. For purposes of this provision, fishing gear is deployed if any part of the gear is in contact with the water.

(2) If bottom longline gear is on board a vessel issued or required to be issued a permit under this part, persons aboard that vessel may not fish or deploy any type of fishing gear in the following areas:

(i) In the Caribbean, the areas designated at §§ 622.439(a)(1) through (2), 622.479(a)(1) through (2), and 622.514(a)(1) of this chapter, year-round; and

(ii) In the South Atlantic, the areas designated at § 622.183(a)(1)(i)(A) through (H) of this chapter, year-round.

(e) Review of spatial management measures. NMFS will regularly review HMS spatial management areas (not NMFS regional areas under paragraph (d) of this section) to determine if adjustments are needed to add, change, or modify an area or any applicable requirements for an area. After reviewing an area, NMFS may consider changes or modifications to the area or its management measures, as appropriate, through framework adjustments as specified at § 635.34. When reviewing a spatial management area, NMFS may consider, but is not limited to consideration of, the following relevant factors:

(i) Fishery metrics such as landings, discards, catch rates, and effort.

(ii) The usefulness of information from catches for biological sampling and monitoring status of target and non-target species.

(iii) Fishery social and economic data regarding fishing vessels and shoreside business, including revenue, costs, and profitability.

(iv) Effects of catch rates on target and non-target species in other regions or on fishing opportunities in other regions or fisheries.

(vii) Fishing practices, including tactics, strategy, and gear.

(viii) Biological, ecological, and life history data and research on primary bycatch and target species.

(ix) Variations in seasonal distribution, abundance, or migration patterns of the relevant species.

(x) Resilience to climate change impacts, including changes in species distribution, fishing effort location, and vulnerable fishing communities.

(xi) Oceanographic data and research including sea surface temperature, chlorophyll a concentrations and bathymetry.

(xii) Variations in oceanographic features such as currents, fronts, and sea surface temperature.

(xiii) Other design and technical considerations such as ecosystem modeling parameters (e.g., ocean currents, bottom topography), safety, enforceability (e.g., regular shapes), gear conflicts, timing of evaluation, access to the area for data collection, conservation and management objectives, environmental justice, state or other jurisdictional boundaries, efficiency in the size of area (given the highly variable and mobile nature of the HMS fisheries), and non-fishery activity (e.g., transportation, energy production).

(xiv) Other considerations as may be applicable to the specific management goals of any particular spatial management area.

■ 9. Amend § 635.69 by:

■ a. Revising paragraphs (a)(2) and (e)(2);

■ b. Redesignating paragraph (e)(5) as paragraph (e)(6); and

■ c. Adding new paragraph (e)(5).

The revision and addition read as follows:

§ 635.69 Vessel monitoring systems.

(a) * * *

(2) Whenever a vessel issued a directed shark LAP has bottom longline gear on board, is located between 33°00' N lat. and 36°30' N lat., and the Mid-Atlantic Bottom Longline Restricted Area is closed as specified in § 635.35(b); or

* * * * *

(e) * * *

(2) Hailing out. Prior to departure for each trip, a vessel owner and/or operator must submit a pre-trip hail out to NMFS declaring any highly migratory species the vessel will target on that trip and the specific type(s) of fishing gear that will be on board the vessel, using NMFS-defined gear codes. If the vessel owner and/or operator participates in multiple HMS fisheries, or possesses multiple fishing gears on board the vessel, the vessel owner and/or operator must submit multiple electronic reports to NMFS. If, during the trip, the vessel switches to a gear type or species group not reported on the initial declaration, another in-trip hail out declaration must

be submitted before fishing begins. This information must be reported to NMFS using an attached VMS terminal or using another method as instructed by NMFS. Additional hailing out declarations for EM Data Review Areas and Monitoring Areas are as follows:

(i) If a vessel owner or operator intends to deploy pelagic longline sets in the Charleston Bump or East Florida Coast Monitoring Areas (§§ 635.35(c)(3), (4) and 635.2), such intent must be declared in the pre-trip or in-trip hail-out. Vessel owners and operators shall not deploy pelagic longline sets in these Monitoring Areas until such declaration is submitted in the pre-trip or in-trip hail-out.

(ii) If a vessel owner or operator intends to deploy pelagic longline sets in an EM Data Review Area (§ 635.9(a)(1) through (4)), such intent must be declared in the pre-trip or in-trip hail-out. Vessel owners and operators shall not deploy pelagic longline sets in an EM Data Review Area until such declaration is submitted in the pre-trip or in-trip hail-out.

* * * * *

(5) The vessel owner and/or operator of a vessel fishing with pelagic longline gear within the boundaries of the Monitoring Areas (§§ 635.35(c)(3) and (4) and 635.2) must report to NMFS using the attached VMS terminal, or using an alternative method specified by NMFS as follows: For each set, as instructed by NMFS, the date and area of the set, the number of hooks and the actual length of the following species that are retained and approximate

length of these species that are discarded dead or alive must be reported within 12 hours of the completion of each pelagic longline haul-back: bluefin tuna, blue marlin, white marlin, roundscale spearfish, sailfish, leatherback sea turtles, loggerhead sea turtles, and shortfin mako sharks.

* * * * *

■ 10. Amend § 635.71 by:

■ a. Revising paragraphs (a)(30), (31), (39), (57), and (58);

■ b. Adding paragraphs (a)(63) through (67);

■ c. Removing paragraph (b)(46); and

■ d. Redesignating paragraphs (b)(47) through (59) as (b)(46) through (58).

The revisions and additions read as follows:

§ 635.71 Prohibitions.

* * * * *

(a) * * *

(30) Deploy or fish with any fishing gear from a vessel, or anchor a fishing vessel, permitted or required to be permitted under this part, in any spatial management area contrary to the requirements specified and defined at § 635.35.

(31) Deploy or fish with any fishing gear from a vessel with a pelagic longline on board in any spatial management areas during the time periods specified at § 635.35(c).

* * * * *

(39) Deploy or fish with any fishing gear from a vessel with a bottom longline on board, in any spatial

management area during the time periods specified at § 635.35(d).

* * * * *

(57) Fail to appropriately stow longline gear when transiting a spatial management area that has been closed, as specified in § 635.35(a).

(58) Deploy or fish with any fishing gear from a vessel with a pelagic longline gear on board in a Monitoring Area that has been closed as specified in § 635.35(c)(3) through (5).

(63) Fail to comply with the EM vendor responsibilities as specified in § 635.9.

(64) Fail to comply with the vessel owner and/or operator operational requirements as specified in § 635.9.

(65) Fail to comply with the EM requirements when fishing with pelagic longline gear within the EM Data Review Areas as specified at § 635.9(a)(1) through (4) and the spatial management areas as specified at § 635.34(c)(3) and (4).

(66) Fail to report the catch of species through VMS as required when fishing with pelagic longline gear within spatial management areas as specified at § 635.69(e)(5).

(67) Fish with pelagic longline gear in the EM Data Review Areas as specified at § 635.9(a)(1) through (4) and the spatial management areas as specified at § 635.34(c)(3) and (4) without submitting a hail out declaration through VMS as specified at § 635.69(e)(2).

* * * * *

[FR Doc. 2023-08782 Filed 5-1-23; 8:45 am]

BILLING CODE 3510-22-P

Notices

Federal Register

Vol. 88, No. 87

Friday, May 5, 2023

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Submission for OMB Review; Comment Request

The Department of Agriculture will submit the following information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1995, Public Law 104–13 on or after the date of publication of this notice. Comments are requested regarding: (1) whether the collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (2) the accuracy of the agency's estimate of burden including the validity of the methodology and assumptions used; (3) ways to enhance the quality, utility and clarity of the information to be collected; and (4) ways to minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

Comments regarding these information collections are best assured of having their full effect if received by June 5, 2023. Written comments and recommendations for the proposed information collection should be submitted within 30 days of the publication of this notice on the following website www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under 30-day Review—Open for Public Comments" or by using the search function.

An agency may not conduct or sponsor a collection of information unless the collection of information displays a currently valid OMB control number and the agency informs potential persons who are to respond to the collection of information that such persons are not required to respond to

the collection of information unless it displays a currently valid OMB control number.

National Agricultural Statistics Service

Title: Aquaculture Survey.

OMB Control Number: 0535–0150.

Summary of Collection: The primary objective of the National Agricultural Statistics Service is to prepare and issue State and national estimates of crop and livestock production, prices, and disposition. The Aquaculture Surveys program produces estimates at the national level on both trout and catfish. Survey results are used by government agencies and others in planning farm programs.

The trout survey includes sales (dollars, pounds, and quantities), percent of product sold by outlet at the point of first sale, distribution (dollars, pounds, and quantities) of fish raised for release into open waters, and losses. The catfish surveys include inventory counts, water surface acreage used for production and sales (dollars, pounds, and quantities).

Need and Use of the Information: Survey results are used by members of the Cooperative Extension System and the National Sea Grant College Program who research and work in aquaculture. The information is used to analyze changing trends in the number of commercial operations and production levels by State, as well as to demonstrate the growing importance of aquaculture to officials of federal and State government agencies who manage and direct policy for programs in agriculture and natural resources. Extension specialists use the data to demonstrate the impact of educational programs and other efforts to assist in developing economically viable aquaculture operations. The type of information collected and reported provides extension educators and research scientists with data that indicate important areas that require special educational and/or research efforts, such as causes for fish loss and pond inventories of fish of various sizes.

Description of Respondents: Farms; business or other for-profit.

Number of Respondents: 2,950.

Frequency of Responses: Reporting: on occasion; annually.

Total Burden Hours: 551.

Levi S. Harrell,

Departmental Information Collection Clearance Officer.

[FR Doc. 2023–09625 Filed 5–4–23; 8:45 am]

BILLING CODE 3410–20–P

DEPARTMENT OF AGRICULTURE

Food Safety and Inspection Service

[Docket No. FSIS–2022–0011]

Availability of FSIS Ready-To-Eat Fermented, Salt-Cured, and Dried Products Guideline

AGENCY: Food Safety and Inspection Service (FSIS), U.S. Department of Agriculture (USDA).

ACTION: Notice of availability and request for comments.

SUMMARY: FSIS is announcing the availability of and requesting comments on a guidance document for small and very small meat and poultry establishments manufacturing ready-to-eat (RTE), shelf-stable, fermented, salt-cured, and dried meat and poultry products, that do not use cooking as the primary lethality step. This guideline addresses many commonly asked questions concerning the food safety hazards associated with these products and the key steps in each process needed to ensure safety. This guideline replaces and expands upon information previously found in other guidance documents addressing the safe production of RTE fermented meat and poultry products.

DATES: Submit Comments on or before July 5, 2023.

ADDRESSES: A downloadable version of the guideline is available to view and print at <https://www.fsis.usda.gov/policy/fsis-guidelines>. No hard copies of the guideline have been published.

FSIS invites interested persons to submit comments on this guideline. Comments may be submitted by one of the following methods:

- *Federal eRulemaking Portal:* This website provides the ability to type short comments directly into the comment field on this web page or attach a file for lengthier comments. Go to <https://www.regulations.gov>. Follow the online instructions at that site for submitting comments.

• *Mail*: Send to Docket Clerk, U.S. Department of Agriculture, Food Safety and Inspection Service, 1400 Independence Avenue SW, Mailstop 3758, Washington, DC 20250–3700.

• *Hand- or courier-delivered submittals*: Deliver to 1400 Independence Avenue SW, Jamie L. Whitten Building, Room 350-E, Washington, DC 20250–3700.

Instructions: All items submitted by mail or electronic mail must include the Agency name and docket number FSIS–2022–0011. Comments received in response to this docket will be made available for public inspection and posted without change, including any personal information, to <https://www.regulations.gov>.

Docket: For access to background documents or comments received, call (202) 937–4272 to schedule a time to visit the FSIS Docket Room at 1400 Independence Avenue SW, Washington, DC 20250–3700.

FOR FURTHER INFORMATION CONTACT: Rachel Edelstein, Assistant Administrator, Office of Policy and Program Development; Telephone: (202) 937–4272.

SUPPLEMENTARY INFORMATION:

Background

FSIS is announcing the availability of a guidance document that addresses the safe production of products that rely on multiple hurdles, other than cooking alone, to achieve lethality and shelf-stability, and provides an overview of the scientific support available for these processes. For these types of products, no single step, such as cooking, is responsible for achieving adequate lethality of pathogens. Rather, a combination of processing steps such as fermentation, salt-curing, and drying are used to kill bacteria and prevent their outgrowth during storage. Many of these processing steps use a combination of factors or hurdles, such as reduction of pH, a high brine or salt concentration, or reduction of water activity (also referred to as a_w) over time.

FSIS addressed fermentation and drying previously in *Food Safety Lessons Learned from the Lebanon Bologna Outbreak*. This document addressed problems FSIS identified through an investigation of a 2011 foodborne illness outbreak of *E. coli* O157:H7 associated with Lebanon bologna. FSIS is removing that document from its web page and has incorporated information from that document into this guideline because information from the earlier document can be applied to other semi-dry fermented products.

FSIS has also incorporated into the new guideline additional information related to drying. This information addresses the production of other fermented products, such as salami that is fermented and dried and salt-cured and dried products, as well as those products that rely on drying alone such as biltong.

This guideline also provides information on which fermented, salt-cured, and dried products are considered RTE. FSIS considers a product to be RTE if there is a standard of identity in 9 CFR part 319, defining it as fully cooked (e.g., hotdogs or barbecue meats) or if it meets the definition for a RTE product in 9 CFR 430.1, that is, one that is edible without further preparation for safety.

Not all products described in this guideline are RTE when the traditional production process is followed. Often additional hurdles, such as antimicrobial interventions or a low-temperature heat step, need to be applied along with compliance with the requirements in 9 CFR part 430 to make the product safe for consumption without further preparation. Many of the products described in this guideline (e.g., pepperoni, salami, bresaola, biltong, and droëwors) while not required by standard of identity to be RTE, are typically considered to have an intended use of RTE because marketing materials and recipes commonly identify them to consumers as RTE. Other products such as basturma and country cured ham may be classified as RTE or not-ready-to-eat (NRTE) by the establishment. As the guidance explains, if an establishment identifies the intended use as NRTE for products such as pepperoni, salami, bresaola, biltong, and droëwors where the intended use is typically RTE, the establishment must have on-file documentation supporting their decisions (9 CFR 417.5(a)(1)). This support must address how the establishment can ensure the consumer will properly cook the product (9 CFR 417.5(a)(1)), particularly if there is evidence such as marketing materials or recipes commonly indicating the product is RTE. For example, if an establishment produces biltong as NRTE then it must demonstrate how it ensures consumers will safely prepare the product, given it is sometimes marketed as a teething toy for babies and as an on-the-go snack.

This guideline reiterates FSIS' recommendations that the lethality treatment of RTE shelf-stable meat and poultry products should achieve at least a 5.0-log₁₀ reduction of *Salmonella* and at least a 5.0-log₁₀ reduction for Shiga

Toxin-producing *Escherichia coli* (STEC) (including *E. coli* O157:H7) for products containing beef as recommended in the *Cooking Guideline for Meat and Poultry Products (Revised Appendix A)*.¹ In addition to *Salmonella*, FSIS recommends the lethality treatment of RTE shelf-stable meat and poultry products should achieve at least a 3.0-log₁₀ reduction in *Listeria Monocytogenes* (*Lm*), although a 5.0-log₁₀ reduction or greater is desirable for providing an even greater safety margin for ensuring that *Lm* does not grow to detectable levels during storage, as also recommended in the *FSIS Compliance Guideline for Meat and Poultry Jerky Produced by Small and Very Small Establishments*.²

Establishments may use scientific support to demonstrate that the lethality treatment of fermented/acidified, salt-cured, and dried RTE products achieve at least a 5.0-log₁₀ reduction in *Salmonella* without demonstrating specific reductions in STEC (for products containing beef) and *Lm*, as indicated in the FSIS Hazard Analysis and Critical Control Point (HACCP) Systems Validation Guideline.³ However, research has shown that STEC (including *E. coli* O157:H7) and *Lm* are more tolerant than *Salmonella* during the fermentation and drying steps of dry/semi-dry fermented sausages,⁴ and *Lm* is more tolerant than *Salmonella* during the drying step of dried and salt-cured meat and poultry products.⁵ Therefore, if an establishment's scientific support is only based on reductions in *Salmonella* and the establishment has a STEC or *Lm* positive either through its own testing or FSIS' testing or is associated with an outbreak of these pathogens, the Agency would require the establishment, as part of its corrective actions, to validate that its food safety system effectively addresses STEC and *Lm* as intended, unless it can support the cause of the positive was post-lethality contamination.

The guideline also addresses contributing factors in two *Salmonella* outbreaks involving RTE, fermented, and dried Italian-style meat products that occurred in 2021. The products were produced using multiple interventions (i.e., fermentation and drying) to control *Salmonella*. FSIS

¹ See: <https://www.fsis.usda.gov/guidelines/2021-0014>.

² See: <https://www.fsis.usda.gov/guidelines/2014-0010>.

³ See: <https://www.fsis.usda.gov/guidelines/2015-0011>.

⁴ See: Hussein, et al., 2022; Ihnot et al., 1998; Porto-Fett et al., 2010; McKinney, 2019.

⁵ Porto-Fett et al., 2010; Reynolds et al., 2001.

found that while the outbreak establishments used several processing controls (degree hours parameters for *Staphylococcus aureus* control, a minimum number of drying days for *Trichinella* elimination, and a final water activity level for shelf stability), none of these processing controls were validated individually or in combination to achieve a 5-log reduction in *Salmonella*.⁶

NACMPI Recommendations

Finally, the guideline includes several recommendations made by the National Advisory Committee on Meat and Poultry Inspection (NACMPI) in response to a charge FSIS brought to the committee in 2020 on the Validation of Ready-to-Eat Shelf-Stable Multi-hurdle Lethality Treatments.⁷ Specifically, in response to the committee's recommendations, FSIS included a link to the Niche Meat Processors Assistance Network as a resource in the guidance document. FSIS also included a link to its HACCP Coordinator listing⁸ that the Agency updated in 2021 as NACMPI recommended. In response to another NACMPI recommendation, FSIS included guidance for products such as those that are salt-cured where the initial validation period may extend beyond 90 calendar days due to the nature of the process and the length of time it takes to implement the critical operational parameters that impact lethality. FSIS did not accept NACMPI's recommendations to allow establishments to "Combine the best possible combination of available scientific support documents that may not exactly match" or to "Use scientific support that demonstrates a less than 5.0-log reduction" as these were contributing factors in the 2021 outbreaks.

FSIS Verification Activities

FSIS is aware that some establishments may determine they do not have adequate scientific support for the effectiveness of their HACCP system upon reviewing the recommendations in the guideline. Therefore, before FSIS verifies that establishments have adequately validated their HACCP plans for these products, FSIS is giving establishments time to review the guideline, their hazard analysis, and scientific support to determine if it is adequate or to identify new support.

Additional time will be provided to establishments to update their support unless they have a *Salmonella*, STEC, or *Lm* positive either through their own testing or FSIS' testing or are associated with an outbreak of these pathogens. FSIS will update instructions to inspection program personnel (IPP) and Enforcement, Investigation, and Analysis Officers (EIAOs) on how to verify lethality and stabilization processes at establishments producing RTE shelf-stable fermented, salt-cured, and dried meat and poultry products that do not use cooking as the primary lethality step. The instructions will make IPP and EIAOs aware that establishments will have additional time to update their support if it is not adequate and will also include information for EIAOs when conducting outreach at establishments producing these products to provide technical assistance as part of the compliance assistance they provide.

Additional Public Notification

Public awareness of all segments of rulemaking and policy development is important. Consequently, FSIS will announce this **Federal Register** publication online through the FSIS web page located at: <https://www.fsis.usda.gov/federal-register>. FSIS also will make copies of this publication available through the FSIS *Constituent Update*, which is used to provide information regarding FSIS policies, procedures, regulations, **Federal Register** notices, FSIS public meetings, and other types of information that could affect or would be of interest to our constituents and stakeholders. The *Constituent Update* is available on the FSIS web page. Through the web page, FSIS can provide information to a much broader, more diverse audience. In addition, FSIS offers an email subscription service which provides automatic and customized access to selected food safety news and information. This service is available at: <https://www.fsis.usda.gov/subscribe>. Options range from recalls to export information, regulations, directives, and notices. Customers can add or delete subscriptions themselves and have the option to password protect their accounts.

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To file a program discrimination complaint, a complainant should complete a Form AD-3027, *USDA Program Discrimination Complaint Form*, which can be obtained online at <https://www.usda.gov/forms/electronic-forms>, from any USDA office, by calling (866) 632-9992, or by writing a letter addressed to USDA. The letter must contain the complainant's name, address, telephone number, and a written description of the alleged discriminatory action in sufficient detail to inform the Assistant Secretary for Civil Rights (ASCR) about the nature and date of an alleged civil rights violation.

The completed AD-3027 form or letter must be submitted to USDA by:

(1) *Mail*: U.S. Department of Agriculture Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue SW, Washington, DC 20250-9410;

(2) *Fax*: (833) 256-1665 or (202) 690-7442; or

(3) *Email*: program.intake@usda.gov.

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Paul Kiecker,

Administrator.

[FR Doc. 2023-09614 Filed 5-4-23; 8:45 am]

BILLING CODE 3410-DM-P

⁶ See: https://www.fsis.usda.gov/sites/default/files/media_file/2022-04/FSIS-After-Action-Review-2021-07.pdf.

⁷ See <https://www.fsis.usda.gov/news-events/publications/2020-nacmpi-reports>.

⁸ See <https://www.fsis.usda.gov/contact-us/state-contacts>.

DEPARTMENT OF COMMERCE

Foreign-Trade Zones Board

[B-31-2023]

**Foreign-Trade Zone (FTZ) 147,
Notification of Proposed Production
Activity; PolyVisions Holdings, Inc.;
(Plastic Resin Compounds);
Manchester, Pennsylvania**

PolyVisions Holdings, Inc. submitted a notification of proposed production activity to the FTZ Board (the Board) for its facility in Manchester, Pennsylvania, within FTZ 147. The notification conforming to the requirements of the Board's regulations (15 CFR 400.22) was received on April 28, 2023.

Pursuant to 15 CFR 400.14(b), FTZ production activity would be limited to the specific foreign-status material/component and specific finished product(s) described in the submitted notification (summarized below) and subsequently authorized by the Board. The benefits that may stem from conducting production activity under FTZ procedures are explained in the background section of the Board's website—accessible via www.trade.gov/ftz.

The proposed finished product is recycled polyester polyethylene terephthalate (PET) compound (duty rate is 6.5%).

The proposed foreign-status materials and components include recycled PET resin, recycled PET compound, and polymeric additive (duty rate ranges from 4.2% to 6.5%). The request indicates that the materials/components are subject to duties under section 301 of the Trade Act of 1974 (section 301), depending on the country of origin. The applicable section 301 decisions require subject merchandise to be admitted to FTZs in privileged foreign status (19 CFR 146.41).

Public comment is invited from interested parties. Submissions shall be addressed to the Board's Executive Secretary and sent to: ftz@trade.gov. The closing period for their receipt is June 14, 2023.

A copy of the notification will be available for public inspection in the "Online FTZ Information System" section of the Board's website.

For further information, contact Juanita Chen at juanita.chen@trade.gov.

Dated: May 1, 2023.

Elizabeth Whiteman,
Acting Executive Secretary.

[FR Doc. 2023-09567 Filed 5-4-23; 8:45 am]

BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

**In the Matter of: Lizzette B. Jaimes,
1006 Sunflower Trail, Austin, TX
78745-2783; Order Denying Export
Privileges**

On September 21, 2021, in the U.S. District Court for the Southern District of Texas, Lizzette B. Jaimes ("Jaimes") was convicted of violating 18 U.S.C. 554(a). Specifically, Jaimes was convicted of smuggling and attempting to smuggle various firearms from the United States to Mexico without the required licenses. As a result of her conviction, the Court sentenced Jaimes to 24 months of confinement, two years of supervised release, and a \$200 special assessment.

Pursuant to section 1760(e) of the Export Control Reform Act ("ECRA"),¹ the export privileges of any person who has been convicted of certain offenses, including, but not limited to, 18 U.S.C. 554, may be denied for a period of up to ten (10) years from the date of his/her conviction. 50 U.S.C. 4819(e). In addition, any Bureau of Industry and Security ("BIS") licenses or other authorizations issued under ECRA, in which the person had an interest at the time of the conviction, may be revoked. *Id.*

BIS received notice of Jaimes's conviction for violating 18 U.S.C. 554. As provided in section 766.25 of the Export Administration Regulations ("EAR" or the "Regulations"), BIS provided notice and opportunity for Jaimes to make a written submission to BIS. 15 CFR 766.25.² BIS has not received a written submission from Jaimes.

Based upon my review of the record and consultations with BIS's Office of Exporter Services, including its Director, and the facts available to BIS, I have decided to deny Jaimes's export privileges under the Regulations for a period of seven years from the date of Jaimes's conviction. The Office of Exporter Services has also decided to revoke any BIS-issued licenses in which Jaimes had an interest at the time of her conviction.³

Accordingly, it is hereby *ordered*:

¹ ECRA was enacted on August 13, 2018, as part of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, and as amended is codified at 50 U.S.C. 4801-4852.

² The Regulations are currently codified in the Code of Federal Regulations at 15 CFR parts 730-774 (2022).

³ The Director, Office of Export Enforcement, is the authorizing official for issuance of denial orders pursuant to amendments to the Regulations (85 FR 73411, November 18, 2020).

First, from the date of this Order until September 21, 2028, Lizzette B. Jaimes, with a last known address of 1006 Sunflower Trail, Austin, TX 78745-2783, and when acting for or on her behalf, her successors, assigns, employees, agents or representatives ("the Denied Person"), may not directly or indirectly participate in any way in any transaction involving any commodity, software or technology (hereinafter collectively referred to as "item") exported or to be exported from the United States that is subject to the Regulations, including, but not limited to:

A. Applying for, obtaining, or using any license, license exception, or export control document;

B. Carrying on negotiations concerning, or ordering, buying, receiving, using, selling, delivering, storing, disposing of, forwarding, transporting, financing, or otherwise servicing in any way, any transaction involving any item exported or to be exported from the United States that is subject to the Regulations, or engaging in any other activity subject to the Regulations; or

C. Benefitting in any way from any transaction involving any item exported or to be exported from the United States that is subject to the Regulations, or from any other activity subject to the Regulations.

Second, no person may, directly or indirectly, do any of the following:

A. Export, reexport, or transfer (in-country) to or on behalf of the Denied Person any item subject to the Regulations;

B. Take any action that facilitates the acquisition or attempted acquisition by the Denied Person of the ownership, possession, or control of any item subject to the Regulations that has been or will be exported from the United States, including financing or other support activities related to a transaction whereby the Denied Person acquires or attempts to acquire such ownership, possession or control;

C. Take any action to acquire from or to facilitate the acquisition or attempted acquisition from the Denied Person of any item subject to the Regulations that has been exported from the United States;

D. Obtain from the Denied Person in the United States any item subject to the Regulations with knowledge or reason to know that the item will be, or is intended to be, exported from the United States; or

E. Engage in any transaction to service any item subject to the Regulations that has been or will be exported from the United States and which is owned,

possessed or controlled by the Denied Person, or service any item, of whatever origin, that is owned, possessed or controlled by the Denied Person if such service involves the use of any item subject to the Regulations that has been or will be exported from the United States. For purposes of this paragraph, servicing means installation, maintenance, repair, modification or testing.

Third, pursuant to section 1760(e) of ECRA and sections 766.23 and 766.25 of the Regulations, any other person, firm, corporation, or business organization related to Jaimes by ownership, control, position of responsibility, affiliation, or other connection in the conduct of trade or business may also be made subject to the provisions of this Order in order to prevent evasion of this Order.

Fourth, in accordance with part 756 of the Regulations, Jaimes may file an appeal of this Order with the Under Secretary of Commerce for Industry and Security. The appeal must be filed within 45 days from the date of this Order and must comply with the provisions of part 756 of the Regulations.

Fifth, a copy of this Order shall be delivered to Jaimes and shall be published in the **Federal Register**.

Sixth, this Order is effective immediately and shall remain in effect until September 21, 2028.

John Sonderman,

Director, Office of Export Enforcement.

[FR Doc. 2023-09598 Filed 5-4-23; 8:45 am]

BILLING CODE 3510-DT-P

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

In the Matter of: Andres Morales, Inmate Number: 61387-479, FCI Forrest City Low, Federal Correctional Institution, P.O. Box 9000, Forrest City, AR 72336; Order Denying Export Privileges

On June 28, 2021, in the U.S. District Court for the Southern District of Texas, Andres Morales (“Morales”) was convicted of violating 18 U.S.C. 554(a). Specifically, Morales was convicted of smuggling from United States to Mexico, approximately ten (10) to fifteen (15) Barrett .50 caliber rifles; and ten (10) or more AK-47 assault-style rifles. As a result of his conviction, the Court sentenced Morales to 84 months of confinement, three years of supervised release, and a \$200 assessment.

Pursuant to section 1760(e) of the Export Control Reform Act (“ECRA”),¹ the export privileges of any person who has been convicted of certain offenses, including, but not limited to, 18 U.S.C. 554, may be denied for a period of up to ten (10) years from the date of his/her conviction. 50 U.S.C. 4819(e). In addition, any Bureau of Industry and Security (“BIS”) licenses or other authorizations issued under ECRA, in which the person had an interest at the time of the conviction, may be revoked. *Id.*

BIS received notice of Morales’s conviction for violating 18 U.S.C. 554. As provided in section 766.25 of the Export Administration Regulations (“EAR” or the “Regulations”), BIS provided notice and opportunity for Morales to make a written submission to BIS. 15 CFR 766.25.² BIS has not received a written submission from Morales.

Based upon my review of the record and consultations with BIS’s Office of Exporter Services, including its Director, and the facts available to BIS, I have decided to deny Morales’s export privileges under the Regulations for a period of 10 years from the date of Morales’s conviction. The Office of Exporter Services has also decided to revoke any BIS-issued licenses in which Morales had an interest at the time of his conviction.³

Accordingly, it is hereby *ordered*:

First, from the date of this Order until June 28, 2031, Andres Morales, with a last known address of Inmate Number: 61387-479, FCI Forrest City Low, Federal Correctional Institution, P.O. Box 9000, Forrest City, AR 72336, and when acting for or on his behalf, his successors, assigns, employees, agents or representatives (“the Denied Person”), may not directly or indirectly participate in any way in any transaction involving any commodity, software or technology (hereinafter collectively referred to as “item”) exported or to be exported from the United States that is subject to the Regulations, including, but not limited to:

A. Applying for, obtaining, or using any license, license exception, or export control document;

B. Carrying on negotiations concerning, or ordering, buying, receiving, using, selling, delivering, storing, disposing of, forwarding, transporting, financing, or otherwise servicing in any way, any transaction involving any item exported or to be exported from the United States that is subject to the Regulations, or engaging in any other activity subject to the Regulations; or

C. Benefitting in any way from any transaction involving any item exported or to be exported from the United States that is subject to the Regulations, or from any other activity subject to the Regulations.

Second, no person may, directly or indirectly, do any of the following:

A. Export, reexport, or transfer (in-country) to or on behalf of the Denied Person any item subject to the Regulations;

B. Take any action that facilitates the acquisition or attempted acquisition by the Denied Person of the ownership, possession, or control of any item subject to the Regulations that has been or will be exported from the United States, including financing or other support activities related to a transaction whereby the Denied Person acquires or attempts to acquire such ownership, possession or control;

C. Take any action to acquire from or to facilitate the acquisition or attempted acquisition from the Denied Person of any item subject to the Regulations that has been exported from the United States;

D. Obtain from the Denied Person in the United States any item subject to the Regulations with knowledge or reason to know that the item will be, or is intended to be, exported from the United States; or

E. Engage in any transaction to service any item subject to the Regulations that has been or will be exported from the United States and which is owned, possessed or controlled by the Denied Person, or service any item, of whatever origin, that is owned, possessed or controlled by the Denied Person if such service involves the use of any item subject to the Regulations that has been or will be exported from the United States. For purposes of this paragraph, servicing means installation, maintenance, repair, modification or testing.

Third, pursuant to section 1760(e) of ECRA and sections 766.23 and 766.25 of the Regulations, any other person, firm, corporation, or business organization related to Morales by ownership, control, position of responsibility, affiliation, or other connection in the conduct of trade or business may also be

¹ ECRA was enacted on August 13, 2018, as part of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, and as amended is codified at 50 U.S.C. 4801-4852.

² The Regulations are currently codified in the Code of Federal Regulations at 15 CFR parts 730-774 (2022).

³ The Director, Office of Export Enforcement, is the authorizing official for issuance of denial orders pursuant to amendments to the Regulations (85 FR 73411, November 18, 2020).

made subject to the provisions of this Order in order to prevent evasion of this Order.

Fourth, in accordance with part 756 of the Regulations, Morales may file an appeal of this Order with the Under Secretary of Commerce for Industry and Security. The appeal must be filed within 45 days from the date of this Order and must comply with the provisions of part 756 of the Regulations.

Fifth, a copy of this Order shall be delivered to Morales and shall be published in the **Federal Register**.

Sixth, this Order is effective immediately and shall remain in effect until June 28, 2031.

John Sonderman,

Director, Office of Export Enforcement.

[FR Doc. 2023–09597 Filed 5–4–23; 8:45 am]

BILLING CODE 3510-DT-P

DEPARTMENT OF COMMERCE

International Trade Administration

[A–533–895]

Common Alloy Aluminum Sheet From India: Preliminary Results of Antidumping Duty Administrative Review; 2020–2022

AGENCY: Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) is conducting an administrative review of the antidumping duty (AD) order on common alloy aluminum sheet (aluminum sheet) from India. Commerce preliminarily finds that sales of aluminum sheet from India were not sold in the United States at less than normal value (NV) during the POR. We invite interested parties to comment on these preliminary results. The period of review (POR) is October 15, 2020, through March 31, 2022.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT: Rachel Jennings, AD/CVD Operations, Office V, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482–6274.

SUPPLEMENTARY INFORMATION:

Background

On April 27, 2021, Commerce published the AD order on aluminum sheet from India.¹ On June 9, 2022, Commerce initiated an administrative review of the *Order*, in accordance with section 751(a) of the Tariff Act of 1930, as amended (the Act).² This administrative review covers two producers/exporters of the subject merchandise, Hindalco Industries Limited (Hindalco) and Virgo Aluminum Limited (Virgo).

On December 5, 2022, Commerce extended the deadline for the preliminary results until April 28, 2023.³ For a complete description of the events that followed the initiation of this review, *see* the Preliminary Decision Memorandum.⁴

Scope of the Order

The products covered by this *Order* are common alloy aluminum sheet from India. For a full description of the scope, *see* the Preliminary Decision Memorandum.

Methodology

Commerce is conducting this review in accordance with section 751(a) of the Act. Export price is calculated in accordance with section 772 of the Act. NV is calculated in accordance with section 773 of the Act.

For a full description of the methodology underlying these preliminary results, *see* the Preliminary Decision Memorandum. A list of topics included in the Preliminary Decision Memorandum is included as an appendix to this notice. The Preliminary Decision Memorandum is a public document and is made available to the

¹ *See Common Alloy Aluminum Sheet from Bahrain, Brazil, Croatia, Egypt, Germany, India, Indonesia, Italy, Oman, Romania, Serbia, Slovenia, South Africa, Spain, Taiwan and the Republic of Turkey: Antidumping Duty Orders*, 86 FR 22139 (April 27, 2021) (*Order*).

² *See Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 35165 (June 9, 2022).

³ *See* Memorandum, “Extension of Deadline for Preliminary Results of Antidumping Duty Administrative Review, 2020–2022,” dated December 5, 2022.

⁴ *See* Memorandum, “Decision Memorandum for the Preliminary Results of the Administrative Review of the Antidumping Duty Order on Common Alloy Aluminum Sheet from India; 2020–2022,” dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

public via Enforcement and Compliance’s Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <https://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum is available at <https://access.trade.gov/public/FRNoticesListLayout.aspx>.

Rates for Non-Examined Company

Neither the Act nor Commerce’s regulations address the establishment of a rate to be applied to companies not selected for individual examination when Commerce limits its examination in an administrative review pursuant to section 777A(c)(2) of the Act. Generally, Commerce looks to section 735(c)(5) of the Act, which provides instructions for calculating the all-others rate in a market economy investigation, for guidance when calculating the rate for companies that were not selected for individual examination in an administrative review. Under section 735(c)(5)(A) of the Act, the all-others rate is normally “an amount equal to the weighted-average of the estimated weighted average dumping margins established for exporters and producers individually investigated, excluding any zero or *de minimis* margins, and any margins determined entirely {on the basis of facts available}.”

Where the dumping margin for individually examined respondents are all zero, *de minimis*, or based entirely on facts available, section 735(c)(5)(B) of the Act provides that Commerce may use “any reasonable method to establish the estimated all-others rate for exporters and producers not individually investigated, including averaging the estimated weighted average dumping margins determined for the exporters and producers individually investigated.”

In this review, we calculated a weighted-average dumping margin for Hindalco that is zero and we did not calculate any margins which are not zero, *de minimis*, determined entirely on the basis of facts available. Therefore, consistent with section 735(c)(5)(B) of the Act, we are applying to Virgo, the company not selected for individual examination in this review, a margin of zero percent.

Preliminary Results of Review

We preliminarily determine that the following weighted-average dumping margins exist for the period October 15, 2020, through March 31, 2022:

Exporter/producer	Weighted-average dumping margin (percent)
Hindalco Industries Limited	0.00
Virgo Aluminum Limited	0.00

Assessment Rates

Upon completion of the final results, Commerce shall determine, and U.S. Customs and Border Protection (CBP) shall assess, antidumping duties on all appropriate entries. Pursuant to 19 CFR 351.212(b)(1), if Hindalco's weighted-average dumping margin is not zero or *de minimis* (i.e., less than 0.5 percent) in the final results of this review, we will calculate importer-specific assessment rates based on the ratio of the total amount of dumping calculated for the importer's examined sales to the total entered value of those same sales. If Hindalco's weighted-average dumping margin is zero or *de minimis*, or if an importer-specific assessment rate is zero or *de minimis*, we will instruct CBP to liquidate the appropriate entries without regard to antidumping duties. For Virgo, the company not selected for individual review, we will assign an assessment rate based on the rate for Hindalco, calculated as noted in the "Preliminary Results of Review" section above. The final results of this review shall be the basis for the assessment of antidumping duties on entries of merchandise covered by this review and for future deposits of estimated duties, where applicable.⁵

In accordance with Commerce's "automatic assessment" practice, for entries of subject merchandise during the POR produced by Hindalco for which it did not know that the merchandise was destined for the United States, we will instruct CBP to liquidate those entries at the all-others rate established in the original less-than-fair value (LTFV) investigation (i.e., 44.64 percent)⁶ if there is no rate for the intermediate company(ies) involved in the transaction.⁷

Commerce intends to issue assessment instructions to CBP no earlier than 35 days after the date of

publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a statutory injunction has expired (i.e., within 90 days of publication).

Cash Deposit Requirements

The following cash deposit requirements will be effective for all shipments of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the publication date of the final results of this administrative review, as provided by section 751(a)(2)(C) of the Act: (1) the cash deposit rate for Hindalco and Virgo in the final results of review will be equal to the weighted-average dumping margin established in the final results of this administrative review except if the rate is less than 0.50 percent and, therefore, *de minimis* within the meaning of 19 CFR 351.106(c)(1), in which case the cash deposit rate will be zero; (2) for merchandise exported by a company not covered in this review but covered in a prior segment of the proceeding, the cash deposit rate will continue to be the company-specific rate published for the most recently-completed segment in which they were reviewed; (3) if the exporter is not a firm covered in this review or the original LTFV investigation, but the producer is, then the cash deposit rate will be the rate established for the most recently-completed segment of this proceeding for the producer of the merchandise; (4) the cash deposit rate for all other producers or exporters will continue to be 44.64 percent,⁸ the all-others rate established in the LTFV investigation. These cash deposit requirements, when imposed, shall remain in effect until further notice.

Disclosure and Public Comment

We intend to disclose the calculations performed to parties within five days after public announcement of the preliminary results or, if there is no public announcement, within five days of the date of publication of this notice in accordance with 19 CFR 351.224(b). A timeline for the submission of case and rebuttal briefs and written comments will be provided to interested parties at a later date. Rebuttal briefs, limited to issues raised in the case briefs, may be filed not later than seven days after the date for filing case briefs.⁹

⁸ See Order.

⁹ See 19 CFR 351.309(c)(1)(ii) and 351.309(d)(1); see also Temporary Rule Modifying AD/CVD

Parties who submit case briefs or rebuttal briefs in this proceeding are encouraged to submit with each argument: (1) a statement of the issue; (2) a brief summary of the argument; and (3) a table of authorities.¹⁰ Case and rebuttal briefs should be filed using ACCESS¹¹ and must be served on interested parties.¹² Executive summaries should be limited to five pages total, including footnotes. Note that Commerce has temporarily modified certain of its requirements for serving documents containing business proprietary information, until further notice.¹³

Interested parties who wish to request a hearing must do so within 30 days of publication of these preliminary results by submitting a written request to the Assistant Secretary, filed electronically via ACCESS.¹⁴ Requests should contain the party's name, address, and telephone number, the number of participants, whether any participant is a foreign national, and a list of the issues to be discussed. Issues raised in the hearing will be limited to those raised in the respective case and rebuttal briefs.¹⁵ If a request for a hearing is made, Commerce intends to hold the hearing at a time and date to be determined. Parties should confirm the date and time of the hearing two days before the scheduled date. Parties are reminded that all briefs and hearing requests must be filed electronically using ACCESS and received successfully in their entirety by 5:00 p.m. Eastern Time on the due date.

Final Results of Review

Unless otherwise extended, Commerce intends to issue the final results of this administrative review, including the results of its analysis of the issues raised in any written briefs, not later than 120 days after the date of publication of this notice, pursuant to section 751(a)(3)(A) of the Act and 19 CFR 351.213(h)(1).

Notification to Importers

This notice also serves as a preliminary reminder to importers of their responsibility under 19 CFR 351.402(f)(2) to file a certificate regarding the reimbursement of antidumping duties prior to liquidation of the relevant entries during this POR.

Service Requirements Due to COVID-19; Extension of Effective Period, 85 FR 41363 (July 10, 2020) (Temporary Rule).

¹⁰ See 19 CFR 351.309(c)(2) and (d)(2).

¹¹ See generally 19 CFR 351.303.

¹² See 19 CFR 351.303(f).

¹³ See Temporary Rule.

¹⁴ See 19 CFR 351.310(c).

¹⁵ See 19 CFR 351.310.

⁵ See section 751(a)(2)(C) of the Act.

⁶ See Order.

⁷ For a full discussion of this practice, see *Antidumping and Countervailing Duty Proceedings: Assessment of Antidumping Duties*, 68 FR 23954 (May 6, 2003).

Failure to comply with this requirement could result in Commerce's presumption that reimbursement of antidumping duties occurred and the subsequent assessment of doubled antidumping duties.

Notification to Interested Parties

This administrative review and notice are issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.221(b)(4).

Dated: April 28, 2023.

Lisa W. Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix

List of Topics Discussed in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Scope of the *Order*
- IV. Discussion of the Methodology
- V. Currency Conversion
- VI. Recommendation

[FR Doc. 2023–09569 Filed 5–4–23; 8:45 am]

BILLING CODE 3510–DS–P

DEPARTMENT OF COMMERCE

International Trade Administration

[C–570–107]

Wooden Cabinets and Vanities and Components Thereof From the People's Republic of China: Preliminary Results of Countervailing Duty Administrative Review, Rescission of Administrative Review in Part, and Intent To Rescind in Part; 2021

AGENCY: Enforcement and Compliance, International Trade Administration, Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) preliminarily determines that countervailable subsidies are being provided to producers and exporters of wooden cabinets and vanities and components thereof (wooden cabinets) from the People's Republic of China (China). The period of review (POR) is January 1, 2021, through December 31, 2021. Interested parties are invited to comment on these preliminary results.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT:

Konrad Ptaszynski or Michael Romani, AD/CVD Operations, Office I, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482–6187 or (202) 482–0198, respectively.

SUPPLEMENTARY INFORMATION:

Background

On April 21, 2020, Commerce published in the **Federal Register** the countervailing duty (CVD) order on wooden cabinets from China.¹ On June 9, 2022, Commerce published the notice of initiation of an administrative review of the *Order* for the period January 1, 2021, through December 31, 2021.² On August 16, 2022, Commerce selected The Ancientree Cabinet Co., Ltd. (Ancientree), as the sole mandatory respondent in this administrative review. However, between August 30 and September 7, 2022, multiple respondents timely withdrew their requests for review, including Ancientree.³ As a result, on September 26, 2022, Commerce selected Fujian Dushi Wooden Industry Co. (Dushi) and Jiangsu Sunwell Cabinetry Co., Ltd. (Sunwell) as mandatory respondents in this administrative review.⁴ On December 16, 2022, Commerce exercised its discretion to extend the deadline for the preliminary results of this review by 118 days, until April 28, 2023.⁵

For a complete description of the events that followed the initiation of this review, *see* the Preliminary Decision Memorandum.⁶ A list of topics discussed in the Preliminary Decision Memorandum is included as appendix I to this notice. The Preliminary Decision Memorandum is a public document and

¹ *See* *Wooden Cabinets and Vanities and Components Thereof from the People's Republic of China: Countervailing Duty Order*, 85 FR 22134 (April 21, 2020) (*Order*).

² *See* *Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 35165, 35176 (June 9, 2022). Although we received a request for review from Vivaldi Commercial, LLC d/b/a Superior Granite and Marble by Vivaldi, and Vivaldi Interiors, LLC (collectively, Vivaldi) with respect to Grand Supremacy Sdn. Bhd. (Grand Supremacy) a Malaysian producer and exporter of wooden cabinets, we did not initiate an administrative review of Grand Supremacy because it is located in Malaysia not China, as in the *Order*. *See* Vivaldi's Letter, "Request for Administrative Review," dated May 1, 2022.

³ *See* Ancientree's Letter, "Withdrawal of Requests for Administrative Review," dated August 30, 2022 (Ancientree Companies Withdrawal); *see also* Senke Manufacturing Company's Letter, "Withdrawal of Requests for 2021 Administrative Review," dated September 7, 2022 (Senke Companies Withdrawal).

⁴ *See* Memorandum, "Second Respondent Selection," dated September 26, 2022.

⁵ *See* Memorandum, "Extension of Deadline for Preliminary Results of the Countervailing Duties Administrative Review; 2021," dated December 16, 2022.

⁶ *See* Memorandum, "Decision Memorandum for the Preliminary Results of the Administrative Review of the Countervailing Duty Order on Wooden Cabinets and Vanities and Components Thereof from the People's Republic of China; 2021," dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

is on file electronically via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <http://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum can be accessed directly at <https://access.trade.gov/public/FRNoticesListLayout.aspx>.

Scope of the Order

The product covered by the *Order* is wooden cabinets from China. For a complete description of the scope, *see* the Preliminary Decision Memorandum.

Methodology

Commerce is conducting this administrative review in accordance with section 751(a)(1)(A) of the Tariff Act of 1930, as amended (the Act). For each of the subsidy programs found countervailable, Commerce preliminarily finds that there is a subsidy (*i.e.*, a government-provided financial contribution that gives rise to a benefit to the recipient, and that the subsidy is specific).⁷

In making these findings, Commerce relied, in part, on facts available and, because it finds that one or more respondents, including the Government of China, did not act to the best of their ability to respond to Commerce's requests for information, it drew an adverse inference where appropriate in selecting from among the facts otherwise available.⁸ For further information, *see* "Use of Facts Otherwise Available and Adverse Inferences" in the Preliminary Decision Memorandum.

Rescission of Administrative Review, in Part

Pursuant to 19 CFR 351.213(d)(1), Commerce will rescind an administrative review, in whole or in part, if the parties that requested a review withdraw the request within 90 days of the date of publication of the notice of initiation. Commerce received timely-filed withdrawal of review requests with respect to 12 companies, pursuant to 19 CFR 351.213(d)(1).⁹ Because the withdrawal requests were timely filed and no other parties requested a review of these companies, in accordance with 19 CFR 351.213(d)(1), Commerce is rescinding

⁷ *See* sections 771(5)(B) and (D) of the Act regarding financial contribution; section 771(5)(E) of the Act regarding benefit; and section 771(5A) of the Act regarding specificity.

⁸ *See* sections 776(a) and (b) of the Act.

⁹ *See* Ancientree Companies Withdrawal; *see also* Senke Companies Withdrawal.

this review of the *Order* for the 12 companies listed in appendix II.¹⁰

Intent To Rescind Administrative Review, in Part

It is Commerce's practice to rescind an administrative review of a countervailing duty order, pursuant to 19 CFR 351.213(d)(3), when there are no reviewable entries of subject merchandise during the POR for which liquidation is suspended.¹¹ Normally, upon completion of an administrative review, the suspended entries are liquidated at the countervailing duty assessment rate calculated for the review period.¹² Therefore, for an administrative review of a company to

be conducted, there must be a reviewable, suspended entry that Commerce can instruct U.S. Customs and Border Protection (CBP) to liquidate at the calculated countervailing duty assessment rate calculated for the review period.¹³ According to the CBP import data on the record, there are seven companies, KM Cabinetry Co., Ltd., Shanghai Zifeng International Trading Co., Ltd, Sheen Lead International Trading (Shanghai) Co., Ltd., Shouguang Fushi Wood Co., Ltd., Taishan Oversea Trading Company Ltd., Taizhou Overseas Int'l Ltd., Xiamen Adler Cabinetry Co., Ltd., subject to this review that did not have reviewable

entries of subject merchandise during the POR for which liquidation is suspended. Accordingly, in the absence of reviewable, suspended entries of subject merchandise during the POR, we intend to rescind this administrative review with respect to these seven companies, in accordance with 19 CFR 351.213(d)(3).

Preliminary Results of Administrative Review

As a result of this administrative review, we preliminarily find that the following net countervailable subsidy rates exist for the period January 1, 2021, through December 31, 2021:

Company	Subsidy rate (percent <i>ad valorem</i>)
Fujian Dushi Wooden Industry Co., Ltd	14.60
Jiangsu Sunwell Cabinetry Co., Ltd	7.47

Review-Specific Average Rate Applicable to the Following Companies¹⁴

KM Cabinetry Co, Ltd	12.69
Nantong Aershin Cabinet Co., Ltd	12.69
Shanghai Zifeng International Trading Co., Ltd	12.69
Sheen Lead International Trading (Shanghai) Co. Ltd	12.69
Shouguang Fushi Wood Co., Ltd	12.69
Taishan Oversea Trading Company Ltd	12.69
Taizhou Overseas Int'l Ltd	12.69
Weifang Fuxing Wood Co., Ltd	12.69
Xiamen Adler Cabinetry Co., Ltd	12.69
Yixing Pengjia Technology Co., Ltd	12.69
Yixing Pengjia Cabinetry Co., Ltd	12.69
Zaozhuang New Sharp Import & Export Trading Co., Ltd	12.69
Zhoushan For-strong Wood Co., Ltd	12.69

Preliminary Rate for Non-Selected Companies Under Review

There are 13 companies for which a review was requested and not rescinded, and which were not selected as mandatory respondents or found to be cross-owned with a mandatory respondent. The statute and Commerce's regulations do not directly address the establishment of rates to be applied to companies not selected for individual examination where Commerce limits its examination in an administrative review pursuant to section 777A(e)(2) of the Act. However, Commerce normally determines the

rates for non-selected companies in reviews in a manner that is consistent with section 705(c)(5) of the Act, which provides the basis for calculating the all-others rate in an investigation.

Section 705(c)(5)(A)(i) of the Act instructs Commerce, as a general rule, to calculate an all-others rate equal to the weighted average of the countervailable subsidy rates established for exporters and/or producers individually examined, excluding any rates that are zero, *de minimis*, or based entirely on facts available. In this review, the preliminary rates calculated for Dushi and Sunwell were above *de minimis* and not based entirely on facts

available. Therefore, we are applying to the non-selected companies the average of the net subsidy rates calculated for Dushi and Sunwell, which we calculated using the publicly-ranged sales data submitted by Dushi and Sunwell.¹⁵ This methodology to establish the rate for the non-selected companies uses section 705(c)(5)(A) of the Act, which governs the calculation of the "all-others" rate in an investigation, as guidance. For further information on the calculation of the non-selected respondent rate, refer to the section in the Preliminary Decision Memorandum entitled "Non-Selected Companies Under Review."

¹⁰ See, e.g., *Lightweight Thermal Paper from the People's Republic of China: Notice of Rescission of Countervailing Duty Administrative Review*; 2015, 82 FR 14349 (March 20, 2017); and *Circular Welded Carbon Quality Steel Pipe from the People's Republic of China: Rescission of Countervailing Duty Administrative Review*; 2017, 84 FR 14650 (April 11, 2019).

¹¹ *Id.*

¹² See 19 CFR 351.212(b)(2).

¹³ See 19 CFR 351.213(d)(3).

¹⁴ This rate is based on the rate for the respondents that were selected for individual review, excluding rates that are zero, *de minimis*, or based entirely on facts available. See section 705(c)(5)(A) of the Act.

¹⁵ With two respondents under examination, Commerce normally calculates: (A) a weighted-average of the estimated subsidy rates calculated for the examined respondents; (B) a simple average of the estimated subsidy rates calculated for the examined respondents; and (C) a weighted-average of the estimated subsidy rates calculated for the

examined respondents using each company's publicly-ranged U.S. sale quantities for the merchandise under consideration. Commerce then compares (B) and (C) to (A) and selects the rate closest to (A) as the most appropriate rate for all other producers and exporters. See, e.g., *Ball Bearings and Parts Thereof from France, Germany, Italy, Japan, and the United Kingdom: Final Results of Antidumping Duty Administrative Reviews, Final Results of Changed-Circumstances Review, and Revocation of an Order in Part*, 75 FR 53661, 53663 (September 1, 2010).

Cash Deposit Requirements

Pursuant to section 751(a)(2)(C) of the Act, Commerce intends, upon publication of the final results, to instruct CBP to collect cash deposits of estimated countervailing duties in the amounts calculated in the final results of this review for the respective companies listed above, on shipments of subject merchandise entered, or withdrawn from warehouse, for consumption on or after the date of publication of the final results of this administrative review. If the rate calculated in the final results is zero or *de minimis*, no cash deposit will be required on shipments of the subject merchandise entered or withdrawn from warehouse, for consumption on or after the date of publication of the final results of this review. For all non-reviewed companies, CBP will continue to collect cash deposits of estimated countervailing duties at the all-others rate (*i.e.*, 41.17 percent)¹⁶ or the most recent company-specific rate applicable to the company, as appropriate. These cash deposit requirements, when imposed, shall remain in effect until further notice.

Assessment Rates

In accordance with 19 CFR 351.221(b)(4)(i), we preliminarily assigned subsidy rates in the amounts shown above for the producers/exporters shown above. Consistent with section 751(a)(1) of the Act and 19 CFR 351.212(b)(2), upon issuance of the final results, Commerce shall determine, and CBP shall assess, countervailing duties on all appropriate entries covered by this review. We intend to issue assessment instructions to CBP no earlier than 35 days after the date of publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a statutory injunction has expired (*i.e.*, within 90 days of publication).

For the companies for which this review is rescinded with these preliminary results, we will instruct CBP to assess countervailing duties on all appropriate entries at a rate equal to the cash deposit of estimated countervailing duties required at the time of entry, or withdrawal from warehouse, for consumption, during the period July 13, 2020, through December 31, 2021, in accordance with 19 CFR 351.212(c)(1)(i).

¹⁶ See *Order*, 85 FR at 19928.

Disclosure and Public Comment

We will disclose the calculations performed for these preliminary results to parties in this proceeding within five days after public announcement of the preliminary results in accordance with 19 CFR 351.224(b). Pursuant to 19 CFR 351.309(c), interested parties may submit case briefs no later than 30 days after the date of publication of this notice. Rebuttal briefs, limited to issues raised in the case briefs, may be filed no later than seven days after the date for filing case briefs.¹⁷ Parties who submit case or rebuttal briefs in this proceeding are encouraged to submit with each argument: (1) a statement of the issue, (2) a brief summary of the argument, and (3) a table of authorities.¹⁸ Commerce has temporarily modified certain of its requirements for serving documents containing business proprietary information.¹⁹

Pursuant to 19 CFR 351.310(c), interested parties who wish to request a hearing, limited to issues raised in the case and rebuttal briefs, must submit a written request to the Assistant Secretary for Enforcement and Compliance, filed electronically via ACCESS. An electronically filed document must be received successfully in its entirety by Commerce's electronic records system, ACCESS, by 5:00 p.m. Eastern Time within 30 days after the date of publication of this notice.²⁰ Requests should contain: (1) The party's name, address, and telephone number; (2) the number of participants; and (3) a list of issues to be discussed. If a request for a hearing is made, we will inform parties of the scheduled date and time for the hearing.

Unless extended, we intend to issue the final results of this administrative review, which will include the results of our analysis of the issues raised in case briefs, within 120 days after the date of publication of these preliminary results in the **Federal Register**, pursuant to section 751(a)(3)(A) of the Act and 19 CFR 351.213(h).

Notification to Interested Parties

These preliminary results and notice are issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.213 and 351.221(b)(4).

¹⁷ See 19 CFR 351.309(d).

¹⁸ See 19 CFR 351.309(c)(2) and (d)(2).

¹⁹ See *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID-19*, 85 FR 41363 (July 10, 2020).

²⁰ See 19 CFR 351.310(c).

Dated: April 28, 2023.

Lisa W. Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix I

List of Topics Discussed in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Scope of the *Order*
- IV. Non-Selected Companies Under Review
- V. Intent to Rescind Administrative Review, In Part
- VI. Partial Rescission of Administrative Review
- VII. Diversification of China's Economy
- VIII. Use of Facts Otherwise Available and Application of Adverse Inferences
- IX. Subsidies Valuation
- X. Interest Rate, Discount Rate, Input, Electricity, and Land Benchmarks
- XI. Analysis of Programs
- XII. Recommendation

Appendix II

List of Companies for Which Requests for Review Were Timely Withdrawn

1. Anhui Xinyuanda Cupboard Co., Ltd
2. Guangzhou Nuolande Import and Export Co., Ltd.
3. Jiang Su Rongxin Wood Industry Co., Ltd
4. Jiang Su Rongxin Cabinets Ltd
5. Jiangsu Weisen Houseware Co., Ltd
6. Linyi Bomei Furniture Co., Ltd
7. Linyi Kaipu Furniture Co., Ltd.
8. Qufu Xinyu Furniture Co., Ltd.
9. Senke Manufacturing Company
10. Shandong Longsen Woods Co., Ltd.
11. The Ancientree Cabinet Co., Ltd.
12. Yichun Dongmeng Wood Co., Ltd

[FR Doc. 2023-09571 Filed 5-4-23; 8:45 am]

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DEPARTMENT OF COMMERCE

International Trade Administration

[A-570-106]

Wooden Cabinet and Vanities and Components Thereof From the People's Republic of China: Preliminary Results, Preliminary Determination of No Shipments, and Partial Rescission of the Antidumping Duty Administrative Review; 2021–2022

AGENCY: Enforcement and Compliance, International Trade Administration, Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) preliminarily determines that certain producers and/or exporters made sales of wooden cabinets and vanities and components thereof (cabinets) at less than normal value, and eight companies had no shipments of subject merchandise during the period of review (POR) April

1, 2021, through March 31, 2022. Additionally, Commerce is rescinding this review with respect to Linyi Bomei Furniture Co., Ltd., and Jiangsu Weisen Houseware Co., Ltd. Interested parties are invited to comment on the preliminary results of this review.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT:

Aleksandras Nakutis and Jacob Keller, AD/CVD Operations, Office I, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482-3147 and (202) 482-4849, respectively.

SUPPLEMENTARY INFORMATION:

Background

On April 21, 2020, Commerce published in the **Federal Register** the antidumping duty (AD) order on cabinets from the People's Republic of China (China).¹ On April 1, 2022, Commerce published a notice of opportunity to request an administrative review of the *Order*, covering the POR, pursuant to section 751(a)(1) of the Tariff Act of 1930, as amended (the Act).² On June 9, 2022, based on timely requests for review, Commerce initiated an administrative review of the *Order* covering the POR.³ The administrative review covers 49 companies, including two mandatory respondents, Fujian Dushi Wooden Industry Co., Ltd. and The Ancientree Cabinet Co., Ltd.⁴

Scope of the Order

The products covered by this *Order* are wooden cabinets and vanities that are for permanent installation (including floor mounted, wall mounted, ceiling hung or by attachment of plumbing), and wooden components thereof. A full description of the scope of the *Order* is provided in the Preliminary Decision Memorandum.⁵

¹ See *Wooden Cabinets and Vanities and Components Thereof from the People's Republic of China: Antidumping Duty Order*, 85 FR 22126 (April 21, 2020) (*Order*).

² See *Antidumping or Countervailing Duty Order, Finding, or Suspended Investigation; Opportunity to Request Administrative Review and Join Annual Inquiry Service List*, 87 FR 63 (April 1, 2022).

³ See *Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 111 (June 9, 2022) (*Initiation Notice*).

⁴ See Memorandum, "Respondent Selection," dated September 14, 2022.

⁵ See Memorandum, "Decision Memorandum for the Preliminary Results, Preliminary Determination of No Shipments, and Partial Rescission," dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

Preliminary Determination of No Shipments

Based on information on the record, we preliminarily determine that eight companies subject to this administrative review had no shipments of subject merchandise during the POR.⁶ Consistent with our practice in non-market economy (NME) cases, we are not rescinding this review with respect to these companies but, rather, intend to complete the review and issue appropriate instructions to U.S. Customs and Border Protection (CBP) based on the final results of the review.⁷ For additional information regarding these preliminary determinations, see the Preliminary Decision Memorandum.

Rescission of Review in Part

Pursuant to 19 CFR 351.213(d)(1), Commerce will rescind an administrative review, in whole or in part, if the party that requested a review withdraws its request within 90 days of the date of publication of the notice of initiation. The requests for an administrative review of the two companies listed in appendix II to this notice were withdrawn within 90 days of the date of publication of the Initiation Notice.⁸ As a result, Commerce is rescinding this review with respect to Jiangsu Weisen Houseware Co., Ltd. and Linyi Bomei Furniture Co., Ltd., in accordance with 19 CFR 351.213(d)(1).

Separate Rates

Commerce preliminarily determines that 23 companies, not individually examined and listed in appendix II to this notice, are eligible for separate rates in this administrative review.⁹ The Act and Commerce's regulations do not address the establishment of a separate rate to be applied to companies not selected for individual examination when Commerce limits its examination in an administrative review pursuant to section 777A(c)(2) of the Act. Generally, Commerce looks to section 735(c)(5) of the Act, which provides instructions for calculating the all-others rate in an investigation, for guidance when calculating the rate for separate rate respondents which Commerce did not

⁶ See appendix II.

⁷ See *Non-Market Economy Antidumping Proceedings: Assessment of Antidumping Duties*, 76 FR 65694, 65694-95 (October 24, 2011); see also the "Assessment Rates" section, *infra*.

⁸ See Jiangsu Weisen Houseware Co., Ltd. and Linyi Bomei Furniture Co., Ltd.' Letter, "Withdrawal of Requests for Administrative Review," dated September 7, 2022.

⁹ See appendix II; see also Preliminary Decision Memorandum at the "Separate Rate Determination" section for more details.

examine individually in an administrative review. Section 735(c)(5)(A) of the Act states that the all-others rate should be calculated by averaging the weighted-average dumping margins calculated for individually-examined respondents, excluding dumping margins that are zero, *de minimis*, or based entirely on facts available. For the preliminary results of this review, Commerce determined the estimated dumping margins for Fujian Dushi Wooden Industry Co., Ltd. and The Ancientree Cabinet Co., Ltd. to be 43.00 percent and 7.71 percent, respectively. For the reasons explained in the Preliminary Decision Memorandum, we are assigning the 11.49 percent rate to the 23 non-examined respondents which qualify for a separate rate in this review, consistent with Commerce's practice and section 735(c)(5)(A) of the Act.

China-Wide Entity

Under Commerce's policy regarding the conditional review of the China-wide entity,¹⁰ the China-wide entity will not be under review unless a party specifically requests, or Commerce self-initiates, a review of the entity. Because no party requested a review of the China-wide entity in this review, the entity is not under review, and the entity's rate (*i.e.*, 251.64 percent) is not subject to change.¹¹ Commerce considers the 16 companies for which a review was requested (which did not file a separate rate application or did not demonstrate separate rate eligibility) listed in appendix II to this notice, to be part of the China-wide entity.¹²

Methodology

Commerce is conducting this review in accordance with section 751(a)(1)(B) of the Act. For a full description of the methodology underlying our conclusions, see the Preliminary Decision Memorandum. A list of topics discussed in the Preliminary Decision Memorandum is included as appendix I to this notice. The Preliminary Decision Memorandum is a public document and is on file electronically via Enforcement and Compliance's Antidumping and

¹⁰ See *Antidumping Proceedings: Announcement of Change in Department Practice for Respondent Selection in Antidumping Duty Proceedings and Conditional Review of the Nonmarket Economy Entity in NME Antidumping Duty Proceedings*, 78 FR 65963 (November 4, 2013).

¹¹ See *Order*.

¹² See *Initiation Notice* ("All firms listed below that wish to qualify for separate rate status in the administrative reviews involving NME countries must complete, as appropriate, either a separate rate application or certification, as described below."); see also Appendix II for the list of companies that are subject to this administrative review that are considered to be part of the China-wide entity.

Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <https://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum can be found at <https://access.trade.gov/public/FRNoticesListLayout.aspx>.

Preliminary Results of Review

Commerce preliminarily determines that the following weighted-average dumping margins exists for the administrative review covering the period April 1, 2021, through March 31, 2022:

Exporter	Weighted-average dumping margin (percent)
Fujian Dushi Wooden Industry Co., Ltd	43.00
The Ancientree Cabinet Co., Ltd Non-Selected Companies Under Review Receiving a Separate Rate ¹³	7.71
	11.49

Disclosure

Commerce intends to disclose to parties to the proceeding the calculations performed for these preliminary results of review within five days of the date of publication of this notice in the **Federal Register** in accordance with 19 CFR 351.224(b).

Public Comment

Interested parties will be provided an opportunity to submit written comments (case briefs) at a date to be determined by Commerce. Rebuttal briefs, limited to issues raised in the case briefs, may be filed not later than seven days after the date for filing case briefs.¹⁴ Pursuant to 19 CFR 351.309(d)(2), rebuttal briefs must be limited to issues raised in the case briefs.¹⁵ Commerce modified certain of its requirements for serving documents containing business proprietary information until further notice.¹⁶ Parties who submit case briefs or rebuttal briefs in this proceeding are encouraged to submit with each

argument: (1) a statement of the issue; (2) a brief summary of the argument; and (3) a table of authorities.¹⁷

Pursuant to 19 CFR 351.310(c), interested parties who wish to request a hearing, limited to issues raised in the case and rebuttal briefs, must submit a written request to the Assistant Secretary for Enforcement and Compliance, U.S. Department of Commerce, within 30 days after the publication of this notice. Requests should contain the party's name, address, telephone number, the number of participants, whether any participant is a foreign national, and a list of the issues to be discussed. If a request for a hearing is made, Commerce intends to hold the hearing at a time and date to be determined. Parties should confirm by telephone the date, time, and location of the hearing two days before the scheduled date.

Unless the deadline is extended, Commerce intends to issue the final results of this review, including the results of its analysis of the issues raised in any written briefs, no later than 120 days after the date of publication of this notice, pursuant to section 751(a)(3)(A) of the Act and 19 CFR 351.213(h).

Assessment Rates

Upon issuing the final results, Commerce will determine, and CBP shall assess, antidumping duties on all appropriate entries covered by this review.¹⁸ If the preliminary results are unchanged for the final results, we will instruct CBP to apply an *ad valorem* assessment rate of 251.64 percent to all entries of subject merchandise during the POR which were exported by the companies considered to be a part of the China-wide entity listed in appendix II of this notice. If Commerce determines that an exporter under review had no shipments of the subject merchandise, any suspended entries that entered under that exporter's case number (*i.e.*, at that exporter's rate) will be liquidated at the China-wide rate.¹⁹

Commerce intends to issue assessment instructions to CBP no earlier than 35 days after the date of publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a

statutory injunction has expired (*i.e.*, within 90 days of publication).

Cash Deposit Requirements

The following cash deposit requirements will be effective upon publication of the final results of this review for shipments of the subject merchandise from China entered, or withdrawn from warehouse, for consumption on or after the publication date, as provided by section 751(a)(2)(C) of the Act: (1) for the subject merchandise exported by the company listed above that has a separate rate, the cash deposit rate will be equal to the weighted-average dumping margin established in the final results of this administrative review (except, if the rate is zero or *de minimis*, then zero cash deposit will be required); (2) for previously investigated or reviewed Chinese and non-Chinese exporters not listed above that received a separate rate in a prior segment of this proceeding, the cash deposit rate will continue to be the existing exporter-specific rate; (3) for all Chinese exporters of subject merchandise that have not been found to be entitled to a separate rate, the cash deposit rate will be that for the China-wide entity; and (4) for all non-Chinese exporters of subject merchandise which have not received their own rate, the cash deposit rate will be the rate applicable to the Chinese exporter that supplied that non-Chinese exporter. These deposit requirements, when imposed, shall remain in effect until further notice.

Notification to Importers

This notice serves as a preliminary reminder to importers of their responsibility under 19 CFR 351.402(f)(2) to file a certificate regarding the reimbursement of antidumping and/or countervailing duties prior to liquidation of the relevant entries during these PORs. Failure to comply with this requirement could result in Commerce's presumption that reimbursement of antidumping and/or countervailing duties occurred and the subsequent assessment of double antidumping duties, and/or an increase in the amount of antidumping duties by the amount of the countervailing duties.

Notification to Interested Parties

Commerce is issuing and publishing the preliminary results of this review in accordance with sections 751(a)(1)(B), 751(a)(3) and 777(i) of the Act, and 19 CFR 351.213(d)(4) and 351.221(b)(4).

¹³ See appendix II.

¹⁴ See 19 CFR 351.309(d); see also *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID-19*, 85 FR 17006, 17007 (March 26, 2020) ("To provide adequate time for release of case briefs via ACCESS, E&C intends to schedule the due date for all rebuttal briefs to be 7 days after case briefs are filed (while these modifications remain in effect).").

¹⁵ See 19 CFR 351.309; see also 19 CFR 351.303 (for general filing requirements).

¹⁶ See *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID-19; Extension of Effective Period*, 85 FR 41363 (July 10, 2020).

¹⁷ See 19 CFR 351.309(c)(2) and (d)(2); see also 19 CFR 351.303 (for general filing requirements).

¹⁸ See 19 CFR 351.212(b)(1).

¹⁹ See *Non-Market Economy Antidumping Proceedings: Assessment of Antidumping Duties*, 76 FR 65694, 65695 (October 24, 2011).

Dated: April 28, 2023.

Lisa W. Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix I

List of Topics Discussed in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Partial Rescission of Administrative Review
- IV. Scope of the *Order*
- V. Product Characteristics
- VI. No-Shipment Certifications
- VII. Discussion of the Methodology
- VIII. Currency Conversion
- IX. Adjustment Under Section 777A(f) of the Act
- X. Recommendation

Appendix II

No Shipment Companies

1. Dalian Hualing Wood Co., Ltd.
2. Dalian Meisen Woodworking Co., Ltd.
3. Guangzhou Nuolande Import and Export Co., Ltd.
4. Hangzhou Hoca Kitchen & Bath Products Co., Ltd.
5. Linyi Kaipu Furniture Co., Ltd.
6. Senke Manufacturing Company
7. Shandong Longsen Woods Co., Ltd.
8. Shouguang Fushi Wood Co., Ltd.

Non-Selected Companies Under Review Receiving a Separate Rate

1. Anhui Xinyuanda Cupboard Co., Ltd.
2. Dongguan Ri Sheng Home Furnishing Articles Co., Ltd.
3. Goldenhome Living Co., Ltd.
4. Jiang Su Rongxin Wood Industry Co., Ltd. (Formerly known as Jiang Su Rongxin Cabinets Ltd.)
5. Jiangsu Sunwell Cabinetry Co., Ltd.
6. KM Cabinetry Co., Ltd.
7. Kunshan Baiyulan Furniture Co., Ltd.
8. Morewood Cabinetry Co., Ltd.
9. Nantong Aershin Cabinets Co., Ltd.
10. Quanzhou Ample Furnishings Co., Ltd.
11. Qufu Xinyu Furniture Co., Ltd.
12. Shanghai Beautystar Cabinetry Co., Ltd.
13. Shanghai Zifeng International Trading Co., Ltd.
14. Sheen Lead International Trading (Shanghai) Co., Ltd.
15. Taishan Oversea Trading Co., Ltd.
16. Taizhou Overseas Int'l Ltd.
17. Tech Forest Cabinetry Co., Ltd.
18. Weifang Fuxing Wood Co., Ltd.
19. Xiamen Adler Cabinetry Co., Ltd.
20. Yichun Dongmeng Wood Co., Ltd.
21. Yixing Pengjia Technology Co., Ltd. (Formerly known as Yixing Pengjia Cabinetry Co., Ltd.)
22. Zhongzhou OCA Furniture Co., Ltd.
23. Zhoushan For-strong Wood Co., Ltd.

Companies Considered To Be Part of the China-Wide Entity

1. Deqing Meisheng Import and Export Co., Ltd.
2. Fujian Senyi Kitchen Cabinet Co., Ltd.
3. Fuzhou Hauster Kitchen Cabinet Manufacturing Co., Ltd.
4. Fuzhou Pyrashine Trading Co., Ltd.

5. Jiang Su Rongxin Import and Export Co., Ltd.
6. Linshu Meibang Furniture Co., Ltd.
7. Shanghai Zifeng Industries Development Co., Ltd.
8. Shenzhen Pengchengzhirong Trade Co., Ltd.
9. Suzhou Siemo Wood Import & Export Co., Ltd.
10. Weihai Jarlin Cabinetry Manufacture Co., Ltd.
11. Weisen Houseware Co., Ltd.
12. Xiamen Got Cheer Co., Ltd.
13. Yindu Kitchen Equipment Co., Ltd.
14. Zaozhuang New Sharp Import & Export Trading Co., Ltd.
15. ZBOM Cabinets Co., Ltd.
16. Zhongshan KM Cabinetry Co., Ltd.

Companies Subject to Rescission of Review

1. Jiangsu Weisen Houseware Co., Ltd.
2. Linyi Bomei Furniture Co., Ltd.

[FR Doc. 2023-09572 Filed 5-4-23; 8:45 am]

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DEPARTMENT OF COMMERCE

International Trade Administration

[C-714-001]

Phosphate Fertilizers From the Kingdom of Morocco: Preliminary Results of the Countervailing Duty Administrative Review, 2020–2021

AGENCY: Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) preliminarily determines that countervailable subsidies are being provided to producers and exporters of phosphate fertilizers from the Kingdom of Morocco (Morocco). The period of review (POR) is November 30, 2020, through December 31, 2021.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT: Jaron Moore or Janae Martin, AD/CVD Operations, Office VIII, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482–3640 or (202) 482–0238, respectively.

SUPPLEMENTARY INFORMATION:

Background

On May 2, 2022, we received a request from the petitioner¹ to conduct an administrative review with respect to OCP S.A. (OCP).² On June 9, 2022, Commerce published a notice of

initiation of an administrative review of the countervailing duty (CVD) order on phosphate fertilizers from Morocco.³ On June 28, 2022, Commerce issued its initial questionnaire to OCP and the Government of Morocco as mandatory respondents in this administrative review.⁴ On December 2, 2022, Commerce extended the deadline for the preliminary results of this review.⁵

For a complete description of the events that followed the initiation of this review, see the Preliminary Decision Memorandum.⁶ A list of topics discussed in the Preliminary Decision Memorandum is included at the appendix to this notice. The Preliminary Decision Memorandum is a public document and is on file electronically via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <https://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum can be accessed directly at <https://access.trade.gov/public/FRNoticesListLayout.aspx/>.

Scope of the Order

The merchandise covered by the *Order* is phosphate fertilizers. For a complete description of the scope of the *Order*, see the Preliminary Decision Memorandum.

Methodology

Commerce is conducting this review in accordance with section 751(a)(1)(A) of the Tariff Act of 1930, as amended (the Act). For each of the subsidy programs found countervailable, we preliminarily determine that there is a subsidy, *i.e.*, a financial contribution from an authority that gives rise to a benefit to the recipient, and that the subsidy is specific.⁷ For a full description of the methodology

³ See *Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 35165 (June 9, 2022); see also *Phosphate Fertilizers from the Kingdom of Morocco and the Russian Federation: Countervailing Duty Orders*, 86 FR 18037 (April 7, 2021) (*Order*).

⁴ See Commerce's Letter, "Countervailing Duty Questionnaire," dated June 28, 2022.

⁵ See Memorandum, "Extension of Deadline for Preliminary Results of the 2020–2021 Countervailing Duty Administrative Review," dated December 2, 2022.

⁶ See Memorandum, "Decision Memorandum for the Preliminary Results of the Countervailing Duty Administrative Review; 2020–2021: Phosphate Fertilizers from the Kingdom of Morocco," dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

⁷ See sections 771(5)(B) and (D) of the Act regarding financial contribution; section 771(5)(E) of the Act regarding benefit; and section 771(5A) of the Act regarding specificity.

¹ The Mosaic Company (the petitioner).

² See Petitioner's Letter, "Request for Countervailing Duty Administrative Review," dated May 2, 2022.

underlying our conclusions, *see* the Preliminary Decision Memorandum.

Preliminary Results of Review

As a result of this review, we preliminarily determine the net countervailable subsidy rate to be:

Producer/exporter	Subsidy rate (percent <i>ad valorem</i>)
OCP S.A	14.49

Verification

As provided in section 782(i)(3) of the Act, Commerce intends to verify the information relied upon for its final results.

Disclosure and Public Comment

We intend to disclose to interested parties the calculations performed for these preliminary results within five days of the date of publication of this notice in accordance with 19 CFR 351.224(b). A timeline for the submission of case and rebuttal briefs and written comments will be provided to interested parties at a later date.⁸ Note that Commerce has temporarily modified certain of its requirements for serving documents containing business proprietary information, until further notice.⁹ Pursuant to 19 CFR 351.309(c)(2) and (d)(2), parties who submit case briefs or rebuttal briefs in this review are encouraged to submit with each argument: (1) a statement of the issue; (2) a brief summary of the argument; and (3) a table of authorities.

Pursuant to 19 CFR 351.310(c), interested parties who wish to request a hearing, limited to issues raised in the case and rebuttal briefs, must submit a written request to the Assistant Secretary for Enforcement and Compliance, U.S. Department of Commerce, within 30 days after the date of publication of this notice. Requests should contain the party's name, address, and telephone number, the number of participants, whether any participant is a foreign national, and a list of the issues to be discussed. If a request for a hearing is made, Commerce intends to hold the hearing at a time and date to be determined. Parties should confirm by telephone the date, time, and location of the hearing two days before the scheduled date.

Unless the deadline is extended, we intend to issue the final results of this administrative review, which will

include the results of our analysis of the issues raised in the case briefs, within 120 days of publication of these preliminary results in the **Federal Register**, pursuant to section 751(a)(3)(A) of the Act and 19 CFR 351.213(h).

Assessment Rate

In accordance with 19 CFR 351.221(b)(4)(i), we preliminarily assigned the subsidy rate in the amount shown above for OCP. Upon completion of the administrative review, consistent with section 751(a)(1) of the Act and 19 CFR 351.212(b)(2), Commerce shall determine, and U.S. Customs and Border Protection (CBP) shall assess, countervailing duties on all appropriate entries covered by this review.

We will instruct CBP to assess countervailing duties on all appropriate entries at the subsidy rate calculated in the final results of this review. We intend to issue assessment instructions to CBP no earlier than 35 days after the date of publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a statutory injunction has expired (*i.e.*, within 90 days of publication).

Cash Deposit Requirements

In accordance with section 751(a)(1) of the Act, Commerce intends, upon publication of the final results, to instruct CBP to collect cash deposits of estimated countervailing duties in the amount shown for OCP on shipments of subject merchandise entered, or withdrawn from warehouse, for consumption on or after the date of publication of the final results of this administrative review. The cash deposit requirements, when imposed, shall remain in effect until further notice.

Notification to Interested Parties

These preliminary results are issued and published pursuant to sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.221(b)(4).

Dated: April 28, 2023.

Lisa W. Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix

List of Topics Discussed in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Scope of the Order
- IV. Subsidies Valuation Information
- V. Interest Rate Benchmarks and Benchmarks

for Measuring the Adequacy of Remuneration

VI. Analysis of Programs

VII. Recommendation

[FR Doc. 2023–09594 Filed 5–4–23; 8:45 am]

BILLING CODE 3510–DS–P

DEPARTMENT OF COMMERCE

International Trade Administration

[A–469–820]

Common Alloy Aluminum Sheet From Spain: Preliminary Results of Antidumping Duty Administrative Review; 2020–2022

AGENCY: Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) is conducting an administrative review of the antidumping duty (AD) order on common alloy aluminum sheet (aluminum sheet) from Spain with respect to one exporter/producer of subject merchandise. The period of review (POR) is October 15, 2020, through March 31, 2022. Commerce preliminarily finds that sales of aluminum sheet from Spain were made at less than normal value (NV) during the POR. We invite interested parties to comment on these preliminary results.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT: Whitley Herndon, AD/CVD Operations, Office V, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482–6274.

SUPPLEMENTARY INFORMATION:

Background

On April 27, 2021, Commerce published the AD order on aluminum sheet from Spain.¹ On June 9, 2022, Commerce initiated an administrative review of the *Order*, in accordance with section 751(a) of the Tariff Act of 1930, as amended (the Act).² This administrative review covers one producer/exporter of the subject merchandise, Compania Valenciana de Aluminio Baux, S.L.U./Bancolor Baux, S.L.U. (collectively, Baux).³

¹ See *Common Alloy Aluminum Sheet from Bahrain, Brazil, Croatia, Egypt, Germany, India, Indonesia, Italy, Oman, Romania, Serbia, Slovenia, South Africa, Spain, Taiwan and the Republic of Turkey: Antidumping Duty Orders*, 86 FR 22139 (April 27, 2021) (*Order*).

² See *Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 35165 (June 9, 2022).

³ Commerce previously determined that Baux is a collapsed entity comprised of the following two

⁸ See 19 CFR 351.309(c) and (d).

⁹ See *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID–19; Extension of Effective Period*, 85 FR 41363 (July 10, 2020).

On December 5, 2022, Commerce extended the deadline for the preliminary results until April 28, 2023.⁴ For a complete description of the events that followed the initiation of this review, *see* the Preliminary Decision Memorandum.⁵

Scope of the Order

The products covered by this *Order* are common alloy aluminum sheet from Spain. For a full description of the scope, *see* the Preliminary Decision Memorandum.

Methodology

Commerce is conducting this review in accordance with section 751(a) of the Act. Export price is calculated in accordance with section 772 of the Act. NV is calculated in accordance with section 773 of the Act.

For a full description of the methodology underlying these preliminary results, *see* the Preliminary Decision Memorandum. A list of topics included in the Preliminary Decision Memorandum is included as an appendix to this notice. The Preliminary Decision Memorandum is a public document and is made available to the public via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <https://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum is available at <https://access.trade.gov/public/FRNoticesListLayout.aspx>.

Preliminary Results of Review

We preliminarily determine that the following weighted-average dumping margin exists for the period October 15, 2020, through March 31, 2022:

producers/exporters of subject merchandise: Compania Valenciana de Aluminio Baux, S.L.U. and Bancolor Baux S.L.U. *See Common Alloy Aluminum Sheet from Spain: Preliminary Affirmative Determination of Sales at Less Than Fair Value, Postponement of Final Determination, and Extension of Provisional Measures*, 85 FR 65367 (October 15, 2020), and accompanying Preliminary Decision Memorandum, unchanged in *Common Alloy Aluminum Sheet from Spain: Final Affirmative Determination of Sales at Less Than Fair Value*, 86 FR 13298 (March 8, 2021), and accompanying Issues and Decision Memorandum.

⁴ *See* Memorandum, "Extension of Deadline for Preliminary Results of Antidumping Duty Administrative Review, 2020–2022," dated December 5, 2022.

⁵ *See* Memorandum, "Decision Memorandum for the Preliminary Results of the Administrative Review of the Antidumping Duty Order on Common Alloy Aluminum Sheet from Spain; 2020–2022," dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

Exporter/producer	Weighted-average dumping margin (percent)
Compania Valenciana de Aluminio Baux, S.L.U./ Bancolor Baux, S.L.U.	9.90

Assessment Rates

Upon completion of the final results, Commerce shall determine, and U.S. Customs and Border Protection (CBP) shall assess, antidumping duties on all appropriate entries. Pursuant to 19 CFR 351.212(b)(1), if Baux's weighted-average dumping margin is not zero or *de minimis* (*i.e.*, less than 0.5 percent) in the final results of this review, we will calculate importer-specific assessment rates based on the ratio of the total amount of dumping calculated for the importer's examined sales to the total entered value of those same sales. If Baux's weighted-average dumping margin is zero or *de minimis*, or if an importer-specific assessment rate is zero or *de minimis*, we will instruct CBP to liquidate the appropriate entries without regard to antidumping duties. The final results of this review shall be the basis for the assessment of antidumping duties on entries of merchandise covered by this review and for future deposits of estimated duties, where applicable.⁶

In accordance with Commerce's "automatic assessment" practice, for entries of subject merchandise during the POR produced by Baux for which it did not know that the merchandise was destined for the United States, we will instruct CBP to liquidate those entries at the all-others rate established in the original less-than-fair value (LTFV) investigation (*i.e.*, 3.80 percent)⁷ if there is no rate for the intermediate company(ies) involved in the transaction.⁸

Commerce intends to issue assessment instructions to CBP no earlier than 35 days after the date of publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a statutory injunction has expire (*i.e.*, within 90 days of publication).

⁶ *See* section 751(a)(2)(C) of the Act.

⁷ *See* Order.

⁸ For a full discussion of this practice, *see* *Antidumping and Countervailing Duty Proceedings: Assessment of Antidumping Duties*, 68 FR 23954 (May 6, 2003).

Cash Deposit Requirements

The following cash deposit requirements will be effective for all shipments of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the publication date of the final results of this administrative review, as provided by section 751(a)(2)(C) of the Act: (1) the cash deposit rate for Baux in the final results of review will be equal to the weighted-average dumping margin established in the final results of this administrative review except if the rate is less than 0.50 percent and, therefore, *de minimis* within the meaning of 19 CFR 351.106(c)(1), in which case the cash deposit rate will be zero; (2) for merchandise exported by a company not covered in this review but covered in a prior segment of the proceeding, the cash deposit rate will continue to be the company-specific rate published for the most recently-completed segment in which it was reviewed; (3) if the exporter is not a firm covered in this review or the original LTFV investigation, but the producer is, then the cash deposit rate will be the rate established for the most recently-completed segment of this proceeding for the producer of the merchandise; (4) the cash deposit rate for all other producers or exporters will continue to be 3.80 percent,⁹ the all-others rate established in the LTFV investigation. These cash deposit requirements, when imposed, shall remain in effect until further notice.

Disclosure and Public Comment

We intend to disclose the calculations performed to parties within five days after public announcement of the preliminary results or, if there is no public announcement, within five days of the date of publication of this notice in accordance with 19 CFR 351.224(b). Case briefs or other written comments may be submitted to the Assistant Secretary for Enforcement and Compliance no later than seven days after the date on which the last verification report is issued in this review. Rebuttal briefs, limited to issues raised in the case briefs, may be filed not later than seven days after the date for filing case briefs.¹⁰ Parties who submit case briefs or rebuttal briefs in this proceeding are encouraged to submit with each argument: (1) a statement of the issue; (2) a brief

⁹ *See* Order.

¹⁰ *See* 19 CFR 351.309(c)(1)(ii) and 351.309(d)(1); *see also* *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID-19; Extension of Effective Period*, 85 FR 41363 (July 10, 2020) (*Temporary Rule*).

summary of the argument; and (3) a table of authorities.¹¹ Case and rebuttal briefs should be filed using ACCESS¹² and must be served on interested parties.¹³ Executive summaries should be limited to five pages total, including footnotes. Note that Commerce has temporarily modified certain of its requirements for serving documents containing business proprietary information, until further notice.¹⁴

Interested parties who wish to request a hearing must do so within 30 days of publication of these preliminary results by submitting a written request to the Assistant Secretary, filed electronically via ACCESS.¹⁵ Requests should contain the party's name, address, and telephone number, the number of participants, whether any participant is a foreign national, and a list of the issues to be discussed. Issues raised in the hearing will be limited to those raised in the respective case and rebuttal briefs.¹⁶ If a request for a hearing is made, Commerce intends to hold the hearing at a time and date to be determined. Parties should confirm the date and time of the hearing two days before the scheduled date. Parties are reminded that all briefs and hearing requests must be filed electronically using ACCESS and received successfully in their entirety by 5:00 p.m. Eastern Time on the due date.

Verification

As provided in section 782(i)(3) of the Act, Commerce intends to verify the information relied upon here in advance of the final results of this review.

Final Results of Review

Unless otherwise extended, Commerce intends to issue the final results of this administrative review, including the results of its analysis of the issues raised in any written briefs, not later than 120 days after the date of publication of this notice, pursuant to section 751(a)(3)(A) of the Act and 19 CFR 351.213(h)(1).

Notification to Importers

This notice also serves as a preliminary reminder to importers of their responsibility under 19 CFR 351.402(f)(2) to file a certificate regarding the reimbursement of antidumping duties prior to liquidation of the relevant entries during this POR. Failure to comply with this requirement could result in Commerce's

presumption that reimbursement of antidumping duties occurred and the subsequent assessment of doubled antidumping duties.

Notification to Interested Parties

This administrative review and notice are issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.221(b)(4).

Dated: April 28, 2023.

Lisa W. Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix

List of Topics Discussed in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Scope of the *Order*
- IV. Discussion of the Methodology
- V. Currency Conversion
- VI. Recommendation

[FR Doc. 2023–09570 Filed 5–4–23; 8:45 am]

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DEPARTMENT OF COMMERCE

International Trade Administration

[A–570–053]

Certain Aluminum Foil From People's Republic of China: Preliminary Results of Antidumping Duty Administrative Review, Partial Rescission of Antidumping Duty Administrative Review, and Preliminary Determination of No Shipments; 2021–2022

AGENCY: Enforcement and Compliance, International Trade Administration, Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) preliminarily determines that certain companies under review sold subject merchandise at less than normal value during the period of review (POR), April 1, 2021, through March 31, 2022. Additionally, Commerce is rescinding this administrative review with respect to certain companies. Interested parties are invited to comment on these preliminary results of this review.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT:

Michael J. Heaney, AD/CVD Operations, Office VI, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482–4475.

SUPPLEMENTARY INFORMATION:

Background

On June 9, 2022, in response to review requests from multiple parties,

Commerce published the notice of initiation of an administrative review of the antidumping duty order¹ on certain aluminum foil from the People's Republic of China (China).² On September 7, 2022, all requests for review were withdrawn for certain companies.³ On December 2, 2022, we extended the deadline for these preliminary results of review, until April 28, 2023.⁴

For details regarding the events that occurred subsequent to the initiation of the review, see the Preliminary Decision Memorandum.⁵ A list of topics discussed in the Preliminary Decision Memorandum is included as an appendix to this notice. The Preliminary Decision Memorandum is a public document and is made available to the public via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <https://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum can be found at <https://access.trade.gov/public/FRNoticesListLayout.aspx>.

Scope of the Order

The merchandise covered by the order is certain aluminum foil from China. For a complete description of the scope of the *Order*, see the Preliminary Decision Memorandum.

Methodology

Commerce is conducting this administrative review in accordance with section 751(a)(1)(B) of the Tariff Act of 1930, as amended (the Act). In determining the dumping margins in this review, we calculated export prices in accordance with section 772 of the Act. Because Commerce has determined that China is a non-market economy country,⁶ within the meaning of section

¹ See *Certain Aluminum Foil from the People's Republic of China: Amended Final Determination of Sales at Less Than Fair Value and Antidumping Duty Order*, 83 FR 17362 (April 19, 2018) (*Order*).

² See *Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 35165 (June 9, 2022).

³ See Petitioners' Letter, "Petitioners Partial Withdrawal of Review Requests," dated September 7, 2022.

⁴ See Memorandum, "Extension of Time Limit for Preliminary Results of Antidumping Duty Administrative Review," dated December 2, 2022.

⁵ See Memorandum, "Decision Memorandum for the Preliminary Results of the 2021–2022 Antidumping Duty Administrative Review of Certain Aluminum Foil from the People's Republic of China," dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

⁶ See *Antidumping Duty Investigation of Certain Aluminum Foil from the People's Republic of China: Affirmative Preliminary Determination of*

¹¹ See 19 CFR 351.309(c)(2) and (d)(2).

¹² See, generally, 19 CFR 351.303.

¹³ See 19 CFR 351.303(f).

¹⁴ See *Temporary Rule*.

¹⁵ See 19 CFR 351.310(c).

¹⁶ See 19 CFR 351.310.

771(18) of the Act, Commerce calculated normal value in accordance with section 773(c) of the Act. For a full description of the methodology underlying the preliminary results of this review, *see* the Preliminary Decision Memorandum.

Partial Rescission of Administrative Review

Pursuant to 19 CFR 351.213(d)(1), Commerce will rescind an administrative review, in whole or in part, if all parties that requested a review withdraw their requests within 90 days of the publication date of the notice of initiation of the requested review. On September 7, 2022, the petitioners⁷ withdrew their request for review of the following companies: (1) Anhui Maximum Aluminum Industries Company Ltd.; (2) Alcha International Holdings Limited; (3) Granges Aluminum (Shanghai) Co., Ltd.; (4) Hunan Suntown Marketing Limited; (5) Jiangsu Huafeng Aluminum Industry Co., Ltd.; (6) Jiangsu Zhongji Lamination Materials Co., Ltd.; (7) Jiangsu Zhongji Lamination Materials Co., (HK) Ltd.; (8) Suntown Technology Group Corporation Limited; (9) Xiamen Xiashun Aluminum Foil Co., Ltd.; (10) Yinbang Clad Materials Co., Ltd.; and (11) Walson (HK) Trading Co., Limited.⁸

Because the review requests for each of the 11 companies named above have been timely withdrawn, and because no other party has requested a review of these companies, we are rescinding this review with respect to these 11 companies, in accordance with 19 CFR 351.213(d)(1).

Preliminary Determination of No Shipments

Shanghai Shenyang Packaging Materials Co., Ltd. (Shanghai Shenyang) reported no shipments of subject merchandise to the United States during

the POR.⁹ We confirmed the no-shipment claims by reviewing information obtained from a U.S. Customs and Border Protection (CBP) data query¹⁰ and by contacting CBP to request that it provide any information that contradicted the no-shipment claims of these companies. To date, CBP has not responded to our inquiry with any contrary information, and we have not received any evidence that this company had any shipments of the subject merchandise sold to the United States during the POR.¹¹

Based on its no-shipment certification, our analysis of the results of the CBP data queries, and the fact that CBP identified no information that contradicted the no-shipment claim, we preliminarily determine that Shanghai Shenyang did not have any shipments of subject merchandise to the United States during the POR. Consistent with Commerce's practice in non-market economy cases, we have not rescinded the review with respect to Shanghai Shenyang, but we will continue the review of this company and issue instructions to CBP based on the final results of the review.¹²

Preliminary Affiliation and Single Entity Determination

Consistent with Commerce's treatment of Dingsheng Aluminium Industries (Hong Kong) Trading Co., Limited (Dingsheng Aluminium Industries (Hong Kong) Trading Co., Ltd.); Hangzhou Dingsheng Import&Export Co., Ltd. (Hangzhou Dingsheng Import and Export Co., Ltd.); Hangzhou Five Star Aluminium Co., Ltd.; Hangzhou Teemful Aluminium Co., Ltd.; Inner Mongolia Liansheng New Energy Material Co.; and Inner Mongolia Xinxing New Energy Material Co., Ltd. (collectively, Dingsheng) in a prior segment of this proceeding,¹³ we

have continued to find that these companies are affiliated entities, pursuant to sections 771(33)(E), (F), and (G) of the Act, and that they should be treated as a single entity pursuant to 19 CFR 351.401 (f)(1)–(2). For additional information, *see* the Preliminary Decision Memorandum.

Separate Rates

We have preliminarily determined that the companies within the Dingsheng entity demonstrated their eligibility for a separate rate. We have also preliminarily determined that Shanghai Huafon Aluminium Corporation (Shanghai Huafon) is ineligible for a separate rate because it filed no response to our antidumping questionnaire.¹⁴ For additional information, *see* the Preliminary Decision Memorandum.

China-Wide Entity

In accordance with Commerce's policy, the China-wide entity will not be under review unless a party specifically requests, or Commerce self-initiates, a review of the China-wide entity.¹⁵ Because no party requested a review of the China-wide entity, the China-wide entity is not under review and the weighted-average dumping margin for the China-wide entity is not subject to change (*i.e.*, 105.80 percent).¹⁶ Because Shanghai Huafon did not demonstrate its eligibility for a separate rate, we preliminarily determine Shanghai Huafon to be part of the China-wide entity.

Preliminary Results of Review

We are preliminarily assigning the following dumping margins to the firms listed below for the period April 1, 2021, through March 31, 2022:

Sales at Less Than Fair Value and Postponement of Final Determination and Accompanying Preliminary Decision Memorandum, 82 FR 50858 (November 2, 2017), and accompanying Preliminary Decision Memorandum at 16–18, unchanged in *Certain Aluminum Foil From the People's Republic of China: Final Determination of Sales at Less Than Fair Value*, 83 FR 9282 (March 5, 2018). We find that record evidence supports continuing to treat these companies as a collapsed entity in this review. *See* Memorandum, "Dingsheng Analysis for the Preliminary Results," dated concurrently with this memorandum.

¹⁴ *See* Preliminary Decision Memorandum at 2.

¹⁵ *See* *Antidumping Proceedings: Announcement of Change in Department Practice for Respondent Selection in Antidumping Duty Proceedings and Conditional Review of the Nonmarket Economy Entity in NME Antidumping Duty Proceedings*, 78 FR 65963 (November 4, 2013).

¹⁶ *See* Order.

Sales at Less-Than-Fair Value and Postponement of Final Determination, 82 FR 50858, 50861 (November 2, 2017) (citing Memorandum, "China's Status as a Non-Market Economy," dated October 26, 2017), unchanged in *Certain Aluminum Foil from the People's Republic of China: Final Determination of Sales at Less Than Fair Value*, 83 FR 9282 (March 5, 2018).

⁷ The petitioners are the Aluminum Trade Enforcement Working Group and its individual members, *i.e.*, JW Aluminum Company, Novelis Corporation, and Reynolds Consumer Products, LLC.

⁸ *See* Petitioners' Letter, "Petitioners Partial Withdrawal of Review Requests," dated September 7, 2022.

⁹ *See* Shanghai Shenyang's Letter, "No Sales Certification," dated July 11, 2022 (Shanghai Shenyang No Shipment Certification).

¹⁰ *See* Memorandum, "U.S. Customs and Border Protection Data," dated June 24, 2022, at Attachment 1.

¹¹ CBP responds to Commerce's inquiry only when there are records of shipments from the company in question. *See, e.g., Certain Hot-Rolled Flat-Rolled Carbon Quality Steel Flat Products from Brazil: Notice of Rescission of Antidumping Duty Administrative Review*, 75 FR 65453, 65454 (October 25, 2010).

¹² *See* *Non-Market Economy Antidumping Proceedings: Assessment of Antidumping Duties*, 76 FR 65694 (October 24, 2011).

¹³ *See* *Antidumping Duty Investigation of Certain Aluminum Foil from the People's Republic of China: Affirmative Preliminary Determination of*

Exporter	Weighted-average dumping margin (percent)
Dingsheng Aluminium Industries (Hong Kong) Trading Co., Limited (Dingsheng Aluminium Industries (Hong Kong) Trading Co., Ltd.)/Hangzhou Dingsheng Import & Export Co., Ltd. (Hangzhou Dingsheng Import and Export Co., Ltd.)/Hangzhou Five Star Aluminium Co., Ltd./Hangzhou Teemful Aluminium Co., Ltd./Inner Mongolia Liansheng New Energy Material Co./Inner Mongolia Xinxing New Energy Material Co., Ltd	32.85

Disclosure and Public Comment

Commerce intends to disclose to parties to the proceeding the calculations performed for these preliminary results of review within five days of the date of publication of this notice in the **Federal Register** in accordance with 19 CFR 351.224(b). Interested parties may submit case briefs no later than 30 days after the date of publication of these preliminary results of review in the **Federal Register**.¹⁷ Rebuttal briefs may be filed no later than seven days after case briefs are due and may respond only to arguments raised in the case briefs.¹⁸ A table of contents, list of authorities used, and an executive summary of issues should accompany any briefs submitted to Commerce. The summary should be limited to five pages total, including footnotes.¹⁹

Interested parties who wish to request a hearing must submit a written request to the Assistant Secretary for Enforcement and Compliance, U.S. Department of Commerce, within 30 days after the date of publication of this notice in the **Federal Register**.²⁰ Requests should contain the party's name, address, and telephone number, the number of individuals from the requesting party's firm that will attend the hearing, and a list of the issues the party intends to discuss at the hearing. Oral arguments at the hearing will be limited to issues raised in the briefs. If a request for a hearing is made, Commerce intends to hold the hearing at a date and time to be determined.²¹ Parties should confirm by telephone the date and time of the hearing two days before the scheduled date of the hearing.

All submissions must be filed electronically using ACCESS.²² An electronically filed document must be received successfully in its entirety by Commerce's electronic records system, ACCESS, by 5 p.m. Eastern Time on the due date.²³ Note that Commerce has

temporarily modified certain of its requirements for serving documents containing business proprietary information, until further notice.²⁴

Unless otherwise extended, Commerce intends to issue the final results of this administrative review, which will include the results of its analysis of issues raised in any briefs, within 120 days of publication of these preliminary results of review in the **Federal Register**, pursuant to section 751(a)(3)(A) of the Act.

Assessment Rates

Upon issuance of the final results of this review, Commerce will determine, and U.S. Customs and Border Protection (CBP) shall assess, antidumping duties on all appropriate entries covered by this review.²⁵ Commerce intends to issue assessment instructions to CBP no earlier than 35 days after date of publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a statutory injunction has expired (*i.e.*, within 90 days of publication).

For each individually examined respondent in this review whose weighted-average dumping margin in the final results of review is not zero or *de minimis* (*i.e.*, less than 0.5 percent), Commerce intends to calculate importer/customer-specific assessment rates.²⁶ Where the respondent reported reliable entered values, Commerce intends to calculate importer/customer-specific *ad valorem* assessment rates by aggregating the amount of dumping calculated for all U.S. sales to the importer/customer and dividing this amount by the total entered value of the merchandise sold to the importer/customer.²⁷ Where the respondent did not report entered values, Commerce will calculate importer/customer-

specific assessment rates by dividing the amount of dumping for reviewed sales to the importer/customer by the total quantity of those sales. Commerce will calculate an estimated *ad valorem* importer/customer-specific assessment rate to determine whether the per-unit assessment rate is *de minimis*; however, Commerce will use the per-unit assessment rate where entered values were not reported.²⁸ Where an importer/customer-specific *ad valorem* assessment rate is not zero or *de minimis*, Commerce will instruct CBP to collect the appropriate duties at the time of liquidation. Where either the respondent's weighted average dumping margin is zero or *de minimis*, or an importer/customer-specific *ad valorem* assessment rate is zero or *de minimis*, Commerce will instruct CBP to liquidate appropriate entries without regard to antidumping duties.²⁹

Pursuant to Commerce's refinement to its practice, for sales that were not reported in the U.S. sales database submitted by an exporter individually examined during this review, Commerce will instruct CBP to liquidate the entry of such merchandise at the dumping margin for the China-wide entity.³⁰ Additionally, where Commerce determines that an exporter under review had no shipments of subject merchandise to the United States during the POR, any suspended entries of subject merchandise that entered under that exporter's CBP case number during the POR will be liquidated at the dumping margin for the China-wide entity.

In accordance with section 751(a)(2)(C) of the Act, the final results of this review shall be the basis for the assessment of antidumping duties on entries of merchandise covered by the final results of this review and for future deposits of estimated antidumping duties, where applicable.

²⁸ *Id.*

²⁹ See *Antidumping Proceedings: Calculation of the Weighted-Average Dumping Margin and Assessment Rate in Certain Antidumping Duty Proceedings; Final Modification*, 77 FR 8101 (February 14, 2012).

³⁰ See *Non-Market Economy Antidumping Proceedings: Assessment of Antidumping Duties*, 76 FR 65694 (October 24, 2011), for a full discussion of this practice.

¹⁷ See 19 CFR 351.309(c)(ii).

¹⁸ See 19 CFR 351.309(d).

¹⁹ See 19 CFR 351.309(c)(2), (d)(2).

²⁰ See 19 CFR 351.310(c).

²¹ See 19 CFR 351.310(d).

²² See generally 19 CFR 351.303.

²³ See 19 CFR 351.303 (for general filing requirements); see also *Antidumping and Countervailing Duty Proceedings: Electronic Filing*

Procedures; Administrative Protective Order Procedures, 76 FR 39263 (July 6, 2011).

²⁴ See *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID-19; Extension of Effective Period*, 85 FR 41363 (July 10, 2020).

²⁵ See 19 CFR 351.212(b)(1).

²⁶ See 19 CFR 351.212(b)(1).

²⁷ See 19 CFR 351.212(b)(1).

Cash Deposit Requirements

Commerce will instruct CBP to require a cash deposit for antidumping duties equal to the weighted-average amount by which the normal value exceeds U.S. price. The following cash deposit requirements will be effective for shipments of the subject merchandise from China entered, or withdrawn from warehouse, for consumption on or after the publication date of this notice in the **Federal Register**, as provided by section 751(a)(2)(C) of the Act: (1) for the exporters listed in the table above, the cash deposit rate will be equal to the weighted-average dumping margin established in the final results of this review for the exporter (except, if the dumping margin is *de minimis* (*i.e.*, less than 0.5 percent), then the cash deposit rate will be zero for that exporter); (2) for previously investigated or reviewed Chinese and non-Chinese exporters that are not listed in the table above but that have separate rates, the cash deposit rate will continue to be the exporter-specific rate established in the most recently completed segment of this proceeding; (3) for all Chinese exporters of subject merchandise which have not been found to be entitled to a separate rate, the cash deposit rate will be the rate for the China-wide entity (*i.e.*, 105.80 percent)³¹ and (4) for all non-Chinese exporters of subject merchandise that have not received their own rate, the cash deposit rate will be the rate applicable to the China exporter that supplied that non-Chinese exporter. These cash deposit requirements, when imposed, shall remain in effect until further notice.

Notification to Importers

This notice also serves as a preliminary reminder to importers of their responsibility under 19 CFR 351.402(f)(2) to file a certificate regarding the reimbursement of antidumping and/or countervailing duties prior to liquidation of the relevant entries during this POR. Failure to comply with this requirement could result in Commerce's presumption that reimbursement of antidumping and/or countervailing duties has occurred, and the subsequent assessment of double antidumping duties and/or an increase in the amount of antidumping duties by the amount of the countervailing duties.

Notification to Interested Parties

We are issuing and publishing these results in accordance with sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.213 and 351.221(b)(4).

Dated: April 28, 2023.

Lisa W. Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix

List of Sections in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Scope of the Order
- IV. Rescission of Review, In Part
- V. Preliminary Determination of No Shipments
- VI. Discussion of the Methodology
- VII. Adjustment Under Section 777A of the Act
- VIII. Currency Conversion
- IX. Recommendation

[FR Doc. 2023–09568 Filed 5–4–23; 8:45 am]

BILLING CODE 3510–DS–P

DEPARTMENT OF COMMERCE

International Trade Administration

[C–570–017]

Certain Passenger Vehicle and Light Truck Tires From the People's Republic of China: Preliminary Results of Countervailing Duty Administrative Review, Rescission of Administrative Review in Part; and Intent To Rescind in Part; 2021

AGENCY: Enforcement and Compliance, International Trade Administration, Department of Commerce.

SUMMARY: The U.S. Department of Commerce (Commerce) preliminarily determines that countervailable subsidies are being provided to producers and exporters of certain passenger vehicle and light truck tires from the People's Republic of China (China) during the period of review (POR), January 1, 2021, through December 31, 2021. We are rescinding the review with respect to fifteen companies and announcing our preliminary intent to rescind this review with respect to four companies. Interested parties are invited to comment on these preliminary results.

DATES: Applicable May 5, 2023.

FOR FURTHER INFORMATION CONTACT: Richard Roberts, AD/CVD Operations, Office I, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: 202–482–2631.

SUPPLEMENTARY INFORMATION:

Background

On August 10, 2015, Commerce published in the **Federal Register** the countervailing duty order on certain

passenger vehicle and light truck tires from China.¹ On October 11, 2022, Commerce published in the **Federal Register** the notice of initiation of an administrative review of the Order for the period January 1, 2021, through December 31, 2021.² On December 22, 2022, Commerce selected Qingdao Keter International Co., Limited (Keter) and Shandong Haohua Tire Co., Ltd. (Haohua) as the mandatory respondents; however, on December 23, 2022 and January 3, 2023, Keter and Haohua timely withdrew their requests for an administrative review, respectively.³ As a result, on January 12, 2023, Commerce selected Shandong Province Sanli Tire Manufactured Co., Ltd. (Sanli) as a mandatory respondent.⁴

On January 13, 2023, Sanli attempted to withdraw its request for an administrative review,⁵ but we rejected it as untimely.⁶ On January 23, 2023, we issued an initial questionnaire to the Government of China (GOC) requesting information on programs which may constitute subsidies under U.S. law that were used by the respondent, Sanli.⁷ On February 6, 2023, Sanli provided a notice of intent not to participate in this review.⁸ On February 6, 2023, in response to Sanli's notice, Commerce selected Zhongce Rubber Group Co., Ltd. (Zhongce) as an additional mandatory respondent.⁹ On February 7, 2023, Commerce requested that the GOC forward the initial questionnaire to Zhongce.¹⁰ On February 10, 2023, Zhongce provided a notice of intent not

¹ See *Certain Passenger Vehicle and Light Truck Tires from the People's Republic of China: Amended Final Affirmative Antidumping Duty Determination and Antidumping Duty Order; and Amended Final Affirmative Countervailing Duty Determination and Countervailing Duty Order*, 80 FR 47902 (August 10, 2015) (*Order*).

² See *Initiation of Antidumping and Countervailing Duty Administrative Reviews*, 87 FR 61278 (October 11, 2022) (*Initiation Notice*).

³ See Keter's Letter, "Withdrawal of Request for Administrative Review," dated December 23, 2022; and Haohua's Letter, "Withdrawal of Request for Administrative Review," dated January 3, 2023.

⁴ See Memorandum, "Second Respondent Selection," dated January 12, 2023.

⁵ See Sanli's Letter, "Second Respondent Selection," dated January 13, 2023.

⁶ See Memorandum, "Denial of a Late Withdrawal of Review Request," dated January 20, 2023.

⁷ See Commerce's Letter, "2021 Countervailing Duty Administrative Review of Passenger Vehicle and Light Truck Tires from the People's Republic of China: Selection of Additional Mandatory Respondent," dated February 7, 2023.

⁸ See Sanli's Letter, "Notice of Intent Not to Participate," dated February 6, 2023.

⁹ See Memorandum, "Selection of Zhongce Rubber Group Co., Ltd. as Additional Mandatory Respondent," dated February 6, 2023.

¹⁰ See Commerce's Letter "Selection of Additional Mandatory Respondent," dated February 7, 2023.

³¹ See *Order*.

to participate in this review.¹¹ We received no response from the GOC to Commerce's initial questionnaire.

For a complete description of the events that followed the initiation of this review, see the Preliminary Decision Memorandum.¹² A list of topics discussed in the Preliminary Decision Memorandum is included as the appendix to this notice. The Preliminary Decision Memorandum is a public document and is on file electronically via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at <https://access.trade.gov>. In addition, a complete version of the Preliminary Decision Memorandum can be accessed directly at <https://access.trade.gov/public/FRNoticesListLayout.aspx>.

Scope of the Order

The products covered by the *Order* are certain passenger vehicle and light truck tires from China. For a complete description of the scope, see the Preliminary Decision Memorandum.¹³

Methodology

Commerce is conducting this administrative review in accordance with section 751(a)(1)(A) of the Tariff Act of 1930, as amended (the Act). For each subsidy program found countervailable, we preliminarily find that there is a subsidy, (*i.e.*, a government-provided financial contribution that gives rise to a benefit to the recipient, and that the subsidy is specific).¹⁴ For a full description of the methodology underlying our conclusions, including our reliance, in part, on adverse facts available (AFA) pursuant to sections 776(a) and (b) of the Act, see the Preliminary Decision Memorandum.

Rescission of Administrative Review, in Part

Pursuant to 19 CFR 351.213(d)(1), Commerce will rescind an administrative review, in whole or in part, if the parties that requested a

review withdraw the request within 90 days of the date of publication of the notice of initiation. Commerce received timely-filed withdrawal requests with respect to the fourteen following companies: (1) Sumitomo Rubber (Hunan) Co., Ltd; and (2) Sumitomo Rubber (Changshu) Co., Ltd, (collectively, Sumitomo);¹⁵ (3) Giti Tire Global Trading Pte. Ltd; (4) Giti Radial Tire (Anhui) Company Ltd; and (5) Giti Tire (Fujian) Company Ltd., (collectively, Giti Companies);¹⁶ (6) Roadclaw Tyre (Hong Kong) Limited (Roadclaw); (7) Winrun Tyre Co., Ltd (Winrun);¹⁷ (8) Hankook Tire China Co., Ltd; and (9) Jiangsu Hankook Tire Co., Ltd, (collectively, Hankook);¹⁸ (10) Qingdao Keter International Co., Limited;¹⁹ (11) Qingdao Lakesea Tyre Co., Ltd.; (12) Shandong Haohua Tyre Co., Ltd.; and (13) Zhaoqing Junhong Co., Ltd;²⁰ and (14) Mayrun Tyre (Hong Kong) Limited (Mayrun),²¹ pursuant to 19 CFR 351.213(d)(1).²² Because the withdrawal requests were timely filed, and no other parties requested a review of these companies, in accordance with 19 CFR 351.213(d)(1), Commerce is rescinding this review of the *Order* with respect to these fourteen companies noted above.

Intent To Rescind Administrative Review, in Part

It is Commerce's practice to rescind an administrative review of a countervailing duty order, pursuant to 19 CFR 351.213(d)(3), when there are no reviewable entries of subject merchandise during the POR for which liquidation is suspended.²³ Normally, upon completion of an administrative review, the suspended entries are liquidated at the countervailing duty assessment rate calculated for the review period.²⁴ Therefore, for an

administrative review of a company to be conducted, there must be a reviewable, suspended entry that Commerce can instruct U.S. Customs and Border Protection (CBP) to liquidate at the calculated countervailing duty assessment rate calculated for the review period.²⁵

According to the CBP import data on the record, there are four companies subject to this review that did not have reviewable entries of subject merchandise during the POR for which liquidation is suspended: (1) Qingdao Fullrun Tyre Corp., Ltd.; (2) Shandong Changfeng Tyres Co., Ltd.; (3) Shandong Duratti Rubber Corporation Co., Ltd.; and (4) Shandong Transtone Tyre Co., Ltd. Accordingly, in the absence of reviewable, suspended entries of subject merchandise during the POR, we intend to rescind this administrative review with respect to these four companies, in accordance with 19 CFR 351.213(d)(3).

Preliminary Results of Review

As a result of this administrative review, we preliminarily find that the following net countervailable subsidy rates exist for the period January 1, 2021, through December 31, 2021:

Producer/exporter	Subsidy rate (percent <i>ad valorem</i>)
Shandong Province Sanli Tire Manufactured Co., Ltd	125.50
Zhongce Rubber Group Co., Ltd	125.50

Cash Deposit Requirements

Pursuant to section 751(a)(2)(C) of the Act, Commerce intends, upon publication of the final results, to instruct CBP to collect cash deposits of estimated countervailing duties in the amounts shown for each of the respondents listed above on shipments of subject merchandise entered, or withdrawn from warehouse, for consumption on or after the date of publication of the final results of this administrative review. If the rate calculated in the final results is zero or *de minimis*, no cash deposit will be required on shipments of the subject merchandise entered or withdrawn from warehouse, for consumption on or after the date of publication of the final results of this review.

For all non-reviewed firms, CBP will continue to collect cash deposits of estimated countervailing duties at the all-others rate or the most recent company-specific rate applicable to the company, as appropriate. These cash

¹¹ See Zhongce's Letter, "Notice of Intent Not to Participate & Withdraw as Counsel," dated February 10, 2023.

¹² See Memorandum, "Decision Memorandum for the Preliminary Results of Countervailing Duty Administrative Review, Recission in Part, and Preliminary Intent to Rescind in Part; 2021: Certain Passenger Vehicles and Light Truck Tires from the People's Republic of China," dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

¹³ *Id.*

¹⁴ See sections 771(5)(B) and (D) of the Act regarding financial contribution; section 771(5)(E) of the Act regarding benefit; and section 771(5A) of the Act regarding specificity.

¹⁵ In the *Initiation Notice*, Sumitomo Rubber Industries, Ltd. was inadvertently listed as a company for which a review was requested, however, a review was only requested with respect to its subsidiaries, Sumitomo Rubber (Hunan) Co., Ltd and Sumitomo Rubber (Changshu) Co., Ltd.

¹⁶ See Giti Companies' Letter, "Withdrawal of Request for Review," dated October 26, 2022.

¹⁷ See Roadclaw and Winrun's Letter, "Withdrawal of Request for Administrative Review," dated November 15, 2022.

¹⁸ See Hankook's Letter, "Withdrawal of Request for Administrative Review," dated December 16, 2022.

¹⁹ See Keter's Letter, "Withdrawal of Request for Administrative Review," dated December 23, 2022.

²⁰ See Lakesea, Haohua, and Zhaoqing's Letter, "Withdrawal of Request for Administrative Review," dated January 3, 2023.

²¹ See Mayrun's Letter, "Withdrawal of Request for Administrative Review," dated January 9, 2023.

²² See Preliminary Decision Memorandum at "Partial Rescission of Administrative Review."

²³ *Id.*

²⁴ See 19 CFR 351.212(b)(2).

²⁵ See 19 CFR 351.213(d)(3).

deposit requirements, when imposed, shall remain in effect until further notice.

Assessment Rates

In accordance with 19 CFR 351.221(b)(4)(i), we preliminarily assigned subsidy rates in the amounts for the producer/exporters shown above. Consistent with section 751(a)(1) of the Act and 19 CFR 351.212(b)(2), upon issuance of the final results, Commerce shall determine, and CBP shall assess, countervailing duties on all appropriate entries covered by this review. We intend to issue assessment instructions to CBP no earlier than 35 days after the date of publication of the final results of this review in the **Federal Register**. If a timely summons is filed at the U.S. Court of International Trade, the assessment instructions will direct CBP not to liquidate relevant entries until the time for parties to file a request for a statutory injunction has expired (*i.e.*, within 90 days of publication).

For the companies for which this review is rescinded with these preliminary results, we will instruct CBP to assess countervailing duties on all appropriate entries at a rate equal to the cash deposit of estimated countervailing duties required at the time of entry, or withdrawal from warehouse, for consumption, during the period July 13, 2020, through December 31, 2021, in accordance with 19 CFR 351.212(c)(1)(i).

Disclosure

Normally, Commerce discloses its calculations and analysis performed in connection with the preliminary results to interested parties within five days of its public announcement, or if there is no public announcement, within five days of the date of publication of this notice, in accordance with 19 CFR 351.224(b). However, because Commerce preliminarily applied total AFA in the calculation of the benefit for Sanli and Zhongce, and the applied AFA rates are based on rates calculated in prior segments of the proceeding, there are no calculations to disclose.

Public Comment

Case briefs or other written comments may be submitted to the Assistant Secretary for Enforcement and Compliance no later than 30 days after the publication of these preliminary results of review in the **Federal Register**.²⁶ Rebuttal comments, limited to issues raised in case briefs, may be submitted no later than seven days after

the deadline for filing case briefs.²⁷ Parties who submit case or rebuttal briefs in this administrative review are encouraged to submit with each argument: (1) a statement of the issue; (2) a brief summary of the argument; and (3) a table of authorities.²⁸ Case and rebuttal briefs must be filed using ACCESS.²⁹ An electronically filed document must be received successfully in its entirety by ACCESS by 5:00 p.m. Eastern Time on the established deadline. Note that Commerce has temporarily modified certain of its requirements for serving documents containing business proprietary information, until further notice.³⁰

Pursuant to 19 CFR 351.310(c), interested parties who wish to request a hearing, limited to issues raised in the case and rebuttal briefs, must submit a written request to the Assistant Secretary for Enforcement and Compliance, U.S. Department of Commerce, filed electronically using ACCESS. An electronically-filed request must be received successfully, and in its entirety, by ACCESS by 5:00 p.m. Eastern Time, within 30 days after the date of publication of this notice. Hearing requests should contain: (1) the party's name, address, and telephone number; (2) the number of participants; and (3) a list of the issues to be discussed. If a request for a hearing is made, parties will be notified of the date and time for the hearing to be determined.

Unless extended, we intend to issue the final results of this administrative review, which will include the results of our analysis of the issues raised in the case briefs, within 120 days of publication of these preliminary results in the **Federal Register**, pursuant to section 751(a)(3)(A) of the Act.

Notification to Interested Parties

These preliminary results and notice are issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.213 and 19 CFR 351.221(b)(4).

Dated: May 1, 2023.

Lisa Wang,

Assistant Secretary for Enforcement and Compliance.

Appendix

List of Topics Discussed in the Preliminary Decision Memorandum

- I. Summary
- II. Background
- III. Scope of the Order
- IV. Partial Rescission of Administrative Review
- V. Intent to Rescind Administrative Review, In Part
- VI. Diversification of China's Economy
- VII. Use of Faces Otherwise Available and Application of Adverse Inferences
- IX. Recommendation

[FR Doc. 2023-09636 Filed 5-4-23; 8:45 am]

BILLING CODE 3510-DS-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XC974]

Marine Fisheries Advisory Committee Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of open public meeting.

SUMMARY: This notice sets forth the proposed schedule and agenda of a forthcoming meeting of the Marine Fisheries Advisory Committee (MAFAC). The members will discuss and provide advice on issues outlined under **SUPPLEMENTARY INFORMATION** below.

DATES: The meeting will be May 31, from 9 a.m. to 5:30 p.m., June 1, from 8:30 a.m. to 5 p.m., and June 2, 2023 from 8 a.m. to 2 p.m. Pacific Time.

ADDRESSES: The meeting will be held at the Westgate Hotel, 1055 Second Avenue, San Diego, CA 92101; 619-238-1818. Meeting will also be by webinar and teleconference.

FOR FURTHER INFORMATION CONTACT: Katie Denman, MAFAC Assistant; 301-427-8038; email: Katie.denman@noaa.gov.

SUPPLEMENTARY INFORMATION: As required by section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. app. 2, notice is hereby given of a meeting of MAFAC. The MAFAC was established by the Secretary of Commerce (Secretary) and, since 1971, advises the Secretary on all living marine resource matters that are the responsibility of the Department of

²⁷ See 19 CFR 351.309(d).

²⁸ See 19 CFR 351.309(c)(2) and 351.309(d)(2).

²⁹ See 19 CFR 351.303.

³⁰ See 19 CFR 351.309; 19 CFR 351.303 (for general filing requirements); and *Temporary Rule Modifying AD/CVD Service Requirements Due to COVID-19; Extension of Effective Period*, 85 FR 41363 (July 10, 2020).

²⁶ See 19 CFR 351.309(c)(1)(ii).

Commerce. The complete charter and summaries of prior meetings are located online at <https://www.fisheries.noaa.gov/topic/partners/marine-fisheries-advisory-committee>.

Matters To Be Considered

This meeting time and agenda are subject to change. The meeting is convened to hear presentations and discuss policies and guidance on the following topics: climate science to management for climate-ready fisheries, NOAA National Seafood Strategy, NOAA Fisheries Equity and Environmental Justice Strategy, new habitat restoration and coastal resilience funding opportunities, budget outlook, recreational fisheries, and other program updates. MAFAC will discuss various administrative and organizational matters, and meetings of subcommittees and working groups will be convened.

Time and Date

The meeting will be May 31, from 9 a.m. to 5:30 p.m., June 1, from 8:30 a.m. to 5 p.m., June 2, 2023 from 8 a.m. to 2 p.m. Pacific Time, and will be accessible by webinar and teleconference. Access information for the public will be posted at <https://www.fisheries.noaa.gov/national/partners/marine-fisheries-advisory-committee-meeting-materials-and-summaries> by May 15, 2023.

Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Katie Denman, MAFAC Assistant, at (301) 427-8038, at least 5 days prior to the meeting date.

Dated: May 1, 2023.

Jennifer Lukens,

Director for the Office of Policy, National Marine Fisheries Service.

[FR Doc. 2023-09549 Filed 5-4-23; 8:45 am]

BILLING CODE 3510-22-P

COMMITTEE FOR PURCHASE FROM PEOPLE WHO ARE BLIND OR SEVERELY DISABLED

Procurement List; Proposed Deletions

AGENCY: Committee for Purchase From People Who Are Blind or Severely Disabled.

ACTION: Proposed deletions from the Procurement List.

SUMMARY: The Committee is proposing to delete product(s) and service(s) from the Procurement List that were furnished by nonprofit agencies

employing persons who are blind or have other severe disabilities.

DATES: Comments must be received on or before: June 4, 2023.

ADDRESSES: Committee for Purchase From People Who Are Blind or Severely Disabled, 355 E Street SW, Suite 325, Washington, DC 20024.

FOR FURTHER INFORMATION CONTACT: For further information or to submit comments contact: Michael R. Jurkowski, Telephone: (703) 785-6404, or email CMTEFedReg@AbilityOne.gov.

SUPPLEMENTARY INFORMATION: This notice is published pursuant to 41 U.S.C. 8503 (a)(2) and 41 CFR 51-2.3. Its purpose is to provide interested persons an opportunity to submit comments on the proposed actions.

Deletions

The following product(s) and service(s) are proposed for deletion from the Procurement List:

Product(s)

NSN(s)—Product Name(s):

7490-01-687-1136—Label Printer, Thermal, Extra Large, Black

Designated Source of Supply: Goodwill Vision Enterprises, Rochester, NY

Contracting Activity: GSA/FAS ADMIN SVCS ACQUISITION BR(2, NEW YORK, NY

NSN(s)—Product Name(s):

7045-01-321-7456—Wipes, Alcohol, TX806 Isopropyl

Designated Source of Supply: North Central Sight Services, Inc., Williamsport, PA

Contracting Activity: DLA TROOP SUPPORT, PHILADELPHIA, PA

Service(s)

Service Type: Custodial service

Mandatory for: USDA Forest Service, Bridger-Teton National Forest Supervisor's Office, Jackson Ranger District & Teton Interagency Helibase, 340 N. Cache Street and 1260 E. Airport Road, Jackson, WY

Designated Source of Supply: Development Workshop, Inc., Idaho Falls, ID

Contracting Activity: FOREST SERVICE, USDA FOREST SERVICE

Service Type: Janitorial/Custodial

Mandatory for: US Department of Energy, Energy Drive Facility, Idaho National Laboratory, Bldg. IF-609, 850 Energy Drive, Idaho Falls, ID

Designated Source of Supply: Development Workshop, Inc., Idaho Falls, ID

Contracting Activity: ENERGY, DEPARTMENT OF, IDAHO OPERATIONS OFFICE

Michael R. Jurkowski,

Acting Director, Business Operations.

[FR Doc. 2023-09646 Filed 5-4-23; 8:45 am]

BILLING CODE 6353-01-P

COMMITTEE FOR PURCHASE FROM PEOPLE WHO ARE BLIND OR SEVERELY DISABLED

Procurement List; Notice

AGENCY: Committee for Purchase From People Who Are Blind or Severely Disabled.

ACTION: Notice of dispute.

SUMMARY: This action provides public notice of a dispute over a Procurement List product that is furnished by a nonprofit agency employing persons who are blind or have significant disabilities.

DATES: Comments must be received on or before: June 5, 2023.

ADDRESSES: Committee for Purchase From People Who Are Blind or Severely Disabled, 355 E Street SW, Suite 325, Washington, DC 20024.

FOR FURTHER INFORMATION CONTACT: Michael R. Jurkowski, Telephone: (703) 785-6404, or email CMTEFedReg@AbilityOne.gov.

SUPPLEMENTARY INFORMATION:

Notice

If the Committee determines during the adjudication process that appropriate resolution to this dispute is an amendment to this Procurement List product, the Committee will publish a Final Notice in the **Federal Register** reflecting the change.

Regulatory Flexibility Act Certification

I certify that the following action will not have a significant impact on any small entities. The major factors considered for this certification were:

1. The action did not result in any additional reporting, recordkeeping, or other compliance requirements for small entities other than the nonprofit agency furnishing the product to the Government.

2. The action did result in authorizing nonprofit agencies to furnish the products to the Government.

3. There were no known regulatory alternatives which would have accomplished the objectives of the Javits-Wagner-O'Day Act (41 U.S.C. 8501-8506) in connection with the products added to the Procurement List.

End of Certification

The following Procurement List product(s) have been referred to the Commission for dispute resolution.

Product(s)

Cap, Garrison, Unisex, U.S. Navy, NSN 8405-01-539-5868 (+17 additional sizes)

NPA: Goodwill Industries of South Florida, Inc., Miami, FL
Contracting Activity: Defense Logistics Agency (formerly Defense Supply Center)

The Committee for Purchase From People Who Are Blind or Severely Disabled (operating as the U.S. AbilityOne Commission) advises that on March 30, 2023, a dispute over the Navy Garrison Cap, Unisex, was referred to the Commission by the Defense Logistics Agency. After an initial review of relevant information, this dispute was referred to the Deciding Official for adjudication in accordance with the Javits-Wagner-O'Day Act (41 U.S.C. 8501–8506), the Commission's regulations at 41 CFR chapter 51, and Commission policies and procedures. In resolving this dispute, the Commission could leave the product on the Procurement List as originally added or may amend the Procurement List to reflect the Commission's determination on the product's continued suitability. Because adjudication could require an amendment to the Procurement List, this notice provides interested parties the opportunity to provide comments to the Commission about the dispute generally and serves as the Commission's public notice on potential Procurement List changes. The Commission requests all comments be sent no later than June 5, 2023, to Cassandra Assefa, Regulatory and Policy Attorney, Office of General Counsel, U.S. AbilityOne Commission; email: disputes@abilityone.gov.

Michael R. Jurkowski,
Acting Director, Business Operations.
 [FR Doc. 2023–09643 Filed 5–4–23; 8:45 am]
BILLING CODE 6353–01–P

COMMITTEE FOR PURCHASE FROM PEOPLE WHO ARE BLIND OR SEVERELY DISABLED

Procurement List; Additions

AGENCY: Committee for Purchase From People Who Are Blind or Severely Disabled.

ACTION: Additions to the Procurement List.

SUMMARY: This action adds service(s) to the Procurement List that will be furnished by nonprofit agencies employing persons who are blind or have other severe disabilities.

DATES: *Date added to the Procurement List:* June 04, 2023.

ADDRESSES: Committee for Purchase From People Who Are Blind or Severely

Disabled, 355 E Street SW, Suite 325, Washington DC 20024.

FOR FURTHER INFORMATION CONTACT:
 Michael R. Jurkowski, Telephone: (703) 785–6404, or email CMTEFedReg@AbilityOne.gov.

SUPPLEMENTARY INFORMATION:

Additions

On 3/3/2023 the Committee for Purchase From People Who Are Blind or Severely Disabled published notice of proposed additions to the Procurement List. This notice is published pursuant to 41 U.S.C. 8503 (a)(2) and 41 CFR 51–2.3.

After consideration of the material presented to it concerning capability of qualified nonprofit agencies to provide the product(s) and service(s) and impact of the additions on the current or most recent contractors, the Committee has determined that the product(s) and service(s) listed below are suitable for procurement by the Federal Government under 41 U.S.C. 8501–8506 and 41 CFR 51–2.4.

Regulatory Flexibility Act Certification

I certify that the following action will not have a significant impact on a substantial number of small entities. The major factors considered for this certification were:

1. The action will not result in any additional reporting, recordkeeping or other compliance requirements for small entities other than the small organizations that will furnish the product(s) and service(s) to the Government.
2. The action will result in authorizing small entities to furnish the product(s) and service(s) to the Government.
3. There are no known regulatory alternatives which would accomplish the objectives of the Javits-Wagner-O'Day Act (41 U.S.C. 8501–8506) in connection with the product(s) and service(s) proposed for addition to the Procurement List.

End of Certification

Accordingly, the following service(s) are added to the Procurement List:

Service(s)

Service Type: Warehouse Services
Mandatory for: Naval Air War Center Air Division, Naval Air Systems Command, Granite City, IL
Designated Source of Supply: Professional Contract Services, Inc., Austin, TX
Contracting Activity: DEPT OF THE NAVY, NAVAL AIR WARFARE CENTER AIR DIV

The Committee finds good cause to dispense with the 30-day delay in the

effective date normally required by the Administrative Procedure Act. See 5 U.S.C. 553(d). This addition to the Committee's Procurement List is effectuated because of the expiration of the Naval Air Warfare Center Air Division, Warehouse Management Services, Granite City, IL contract. The Federal customer contacted and has worked diligently with the AbilityOne Program to fulfill this service need under the AbilityOne Program. To avoid performance disruption, and the possibility that the Naval Air Warfare Center Air Division will refer its business elsewhere, this addition must be effective on 5/28/2023, ensuring timely execution for a 6/1/2023 start date while still allowing 23 days for comment. The Committee also published a notice of proposed Procurement List addition in the **Federal Register** on 3/3/2023 and did not receive any comments from any interested persons. This addition will not create a public hardship and has limited effect on the public at large, but, rather, will create new jobs for other affected parties—people with significant disabilities in the AbilityOne program who otherwise face challenges locating employment. Moreover, this addition will enable Federal customer operations to continue without interruption.

Michael R. Jurkowski,
Acting Director, Business Operations.
 [FR Doc. 2023–09645 Filed 5–4–23; 8:45 am]
BILLING CODE 6353–01–P

COMMITTEE FOR PURCHASE FROM PEOPLE WHO ARE BLIND OR SEVERELY DISABLED

Procurement List; Amendment

AGENCY: Committee for Purchase From People Who Are Blind or Severely Disabled.

ACTION: Amendment to the Procurement List.

SUMMARY: This action amends one (1) product addition to the Procurement List that is furnished by a nonprofit agency employing persons who are blind or have other severe disabilities.
DATES: *Date added to and deleted from the Procurement List:* April 28, 2019.

ADDRESSES: Committee for Purchase From People Who Are Blind or Severely Disabled, 355 E Street SW, Washington, DC 20024.

FOR FURTHER INFORMATION CONTACT:
 Michael R. Jurkowski, Telephone: (703) 785–6404, or email CMTEFedReg@AbilityOne.gov.

SUPPLEMENTARY INFORMATION:

Additions

On February 8, 2019 (84 FR 2823), the Committee for Purchase From People Who Are Blind or Severely Disabled, operating as the U.S. AbilityOne Commission (Commission) published notice of its intent to add the Airborne Tactical Assault Panel (A-TAP) to the Procurement List for 50% of the U.S. Army's A-TAP requirement. In accordance with 41 CFR 51-2.4 and 51-5.3, the Commission subsequently determined 50% of the U.S. Army's A-TAP requirement was suitable for addition and published a notice of product addition on March 29, 2019 (84 FR 11935). However, the March 29, 2019 notice inadvertently omitted that only 50% of the U.S. Army's ATAP requirement was suitable for addition. The Commission issued a correction to the 2019 **Federal Register** notice on February 7, 2023 (88 FR 7967).

Shortly following the Commission's issued correction, the U.S. Court of Federal Claims, by decision issued March 13, 2023, enjoined the Commission to update the status of Southeastern Kentucky Rehabilitation Services, Inc. (SEKRI) on the Procurement List to reflect that SEKRI is the mandatory source of supply for 100% of the requirement. *SEKRI, Inc. v. U.S.*, 2023 WL 2473533 *19 (Fed.Cl. 2023). The Commission herein amends and updates the Procurement List.

Regulatory Flexibility Act Certification

I certify that the following action did not have a significant impact on a substantial number of small entities. The major factors considered for this certification were:

1. The action did not result in any additional reporting, recordkeeping or other compliance requirements for small entities other than the nonprofit agencies furnishing the products to the Government.

2. The action did result in authorizing nonprofit agencies to furnish the products to the Government.

3. There were no known regulatory alternatives which would have accomplished the objectives of the Javits-Wagner-O'Day Act (41 U.S.C. 8501-8506) in connection with the products added to the Procurement List.

End of Certification

Accordingly, the following is an update for the products listed below:

Product(s)

NSN(s)—Product Name(s): 8465-01-F05-2045—Airborne Tactical Assault Panel (A-TAP)

Designated Source of Supply: Southeastern Kentucky Rehabilitation Industries, Inc.,

Corbin, KY
Contracting Activity: DEPT OF THE ARMY,
W6QK ACC-APG NATICK/Defense
Logistics Agency
Mandatory For: 100% of the requirement for
the Department of Defense

Michael R. Jurkowski,

Acting Director, Business Operations.

[FR Doc. 2023-09642 Filed 5-4-23; 8:45 am]

BILLING CODE 6353-01-P

COMMODITY FUTURES TRADING COMMISSION

Agency Information Collection Activities Under OMB Review

AGENCY: Commodity Futures Trading Commission.

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act of 1995 ("PRA"), this notice announces that the Information Collection Request ("ICR") abstracted below has been forwarded to the Office of Information and Regulatory Affairs ("OIRA"), of the Office of Management and Budget ("OMB"), for review and comment. The ICR describes the nature of the information collection and its expected costs and burden. A **Federal Register** Notice with a 60-day comment period soliciting comments on the ICR was published on May 17, 2022.

DATES: Comments must be submitted on or before June 5, 2023.

ADDRESSES: Written comments and recommendations for the proposed information collection should be submitted within 30 days of this notice's publication to OIRA, at <https://www.reginfo.gov/public/do/PRAMain>. Please find this particular information collection by selecting "Currently under 30-day Review—Open for Public Comments" or by using the website's search function. Comments can be entered electronically by clicking on the "comment" button next to the information collection on the "OIRA Information Collections Under Review" page, or the "View ICR—Agency Submission" page. A copy of the supporting statement for the collection of information discussed herein may be obtained by visiting <https://www.reginfo.gov/public/do/PRAMain>.

In addition to the submission of comments to <https://Reginfo.gov> as indicated above, a copy of all comments submitted to OIRA may also be submitted to the Commodity Futures Trading Commission (the "Commission" or "CFTC") by clicking on the "Submit Comment" box next to the descriptive entry for "Qualification Information for Candidates to Advisory

Committees and Subcommittees," at <https://comments.cftc.gov/FederalRegister/PublicInfo.aspx>.

Or by either of the following methods:

- **Mail:** Christopher Kirkpatrick, Secretary of the Commission, Commodity Futures Trading Commission, Three Lafayette Centre, 1155 21st Street NW, Washington, DC 20581.

- **Hand Delivery/Courier:** Same as Mail above.

All comments must be submitted in English, or if not, accompanied by an English translation. Comments submitted to the Commission should include only information that you wish to make available publicly. If you wish the Commission to consider information that you believe is exempt from disclosure under the Freedom of Information Act, a petition for confidential treatment of the exempt information may be submitted according to the procedures established in § 145.9 of the Commission's regulations.¹ The Commission reserves the right, but shall have no obligation, to review, pre-screen, filter, redact, refuse or remove any or all of your submission from <https://www.cftc.gov> that it may deem to be inappropriate for publication, such as obscene language. All submissions that have been redacted or removed that contain comments on the merits of the ICR will be retained in the public comment file and will be considered as required under the Administrative Procedure Act and other applicable laws, and may be accessible under the Freedom of Information Act.

FOR FURTHER INFORMATION CONTACT:

Michelle Ghim, Assistant General Counsel, Commodity Futures Trading Commission, 202-418-5000. Three Lafayette Centre, 1155 21st Street NW, Washington, DC 20581; email: faca@cftc.gov.

SUPPLEMENTARY INFORMATION:

Title: Qualification Information for Candidates to Advisory Committees and Subcommittees. This is a request for a new information collection.

Abstract: The CFTC's advisory committees were created to provide input and make recommendations to the Commission on a variety of regulatory and market issues that affect the integrity and competitiveness of U.S. derivatives markets. The committees facilitate communication between the Commission and U.S. derivatives markets, trading firms, market participants, and end users. The CFTC currently has five advisory committees. The Energy and Environmental Markets

¹ 17 CFR 145.9.

Advisory Committee was established by the Dodd-Frank Wall Street Reform and Consumer Protection Act, Public Law 111–203, and subsequently codified in the Commodity Exchange Act, 7 U.S.C. 1 *et seq.*, at 7 U.S.C. 2(a)(15), and is not subject to the Federal Advisory Committee Act (FACA), 5 U.S.C. 1001 *et seq.* The Agricultural Advisory Committee, Global Markets Advisory Committee, Market Risk Advisory Committee, and the Technology Advisory Committee are discretionary committees under the FACA. The Commission also establishes subcommittees that report to advisory committees as needed. Advisory committee and subcommittee members are generally representatives, but depending on the issues to be addressed, the Commission will appoint special government employees and officials from other federal agencies from time to time. Representatives provide the viewpoints of entities or recognizable groups, and they are expected to represent a particular and known bias. On the other hand, special government employees are expected to provide their own independent judgment in committee deliberations and are expected to discuss and deliberate in a manner that is free from conflicts of interest.² Advisory committee and subcommittee members generally serve 2, 3 or 4-year terms, and appointments are made following the establishment of a new subcommittee or as committee or subcommittee vacancies arise.

The CFTC identifies candidates for advisory committee and subcommittee membership through a variety of methods, including public requests for nominations; recommendations from existing advisory committee members; consultations with knowledgeable persons outside the CFTC (industry, consumer groups, other state or federal government agencies, academia, etc.); requests to be represented received from individuals and organizations; and Commissioners' and CFTC staff's professional knowledge of those experienced in the derivatives and underlying commodities markets. Following the identification process, the CFTC develops a list of proposed members with the relevant points of view needed to ensure membership balance. The Commission then votes to appoint individuals, or specified organizations, to serve.³

The collection of information is necessary to support the CFTC Advisory Committee Program which includes committees, most of which are governed by the FACA, and subcommittees that report directly to the CFTC FACA committees, as noted above. Pursuant to the FACA, an agency must ensure that a committee is balanced with respect to the viewpoints represented and the functions to be performed by that committee. Consistent with this, in order to select individuals for potential membership on an advisory committee, the CFTC must determine that potential members are qualified to serve on an advisory committee and that the viewpoints are properly balanced on the committee. The CFTC is also required to ensure that committee members are properly designated as special government employees or representatives.⁴ While CFTC subcommittees are not subject to the FACA, the selection process for subcommittee members who are not already serving on the parent committee is similar to that of new committee members. Additionally, the agency follows similar member selection procedures for the agency's non-FACA committee.

CFTC staff would use the information collected to determine the experience and expertise of potential advisory committee and subcommittee members, ensure that the membership on a committee or subcommittee is balanced, and ensure that committee and subcommittee members are properly designated as representatives or special government employees.

The CFTC seeks to collect the following information: Information that supports an individual's experience and expertise to serve on an advisory committee or subcommittee, including letters of interest, recommendation letters, nomination letters (including self-nominations), resumes, curriculum vitae or other similar biographical information document. Additionally, information that ensures membership balance (*e.g.*, represented viewpoint category) and appropriate designation of an individual as either a representative or special government employee.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.⁵ On May 17, 2022, the Commission published in the **Federal Register** a notice of a proposed

information collection and provided 60 days for public comment on the proposed extension, 87 FR 29855 ("60-Day Notice"). The Commission did not receive any relevant comments on the 60-Day Notice.

Burden Statement: The respondent burden for this collection is estimated to be as follows:

Estimated Number of Respondents: 91.

Estimated Average Burden Hours per Respondent: 1.

Estimated Total Annual Burden Hours: 91.

Frequency of Collection: As needed.

There are no capital costs or operating and maintenance costs associated with this collection.

(Authority: 44 U.S.C. 3501 *et seq.*)

Dated: May 2, 2023.

Robert Sidman,

Deputy Secretary of the Commission.

[FR Doc. 2023–09630 Filed 5–4–23; 8:45 am]

BILLING CODE 6351–01–P

DEPARTMENT OF DEFENSE

Department of the Army

[Docket ID: USA–2023–HQ–0009]

Submission for OMB Review; Comment Request

AGENCY: Department of the Army, Department of Defense (DoD).

ACTION: 30-Day information collection notice.

SUMMARY: The DoD has submitted to the Office of Management and Budget (OMB) for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act.

DATES: Consideration will be given to all comments received by June 5, 2023.

ADDRESSES: Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice to www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under 30-day Review—Open for Public Comments" or by using the search function.

FOR FURTHER INFORMATION CONTACT: Angela Duncan, 571–372–7574, whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil.

SUPPLEMENTARY INFORMATION:

Title: *Associated Form; and OMB Number:* Understanding Soldiers' Experiences with Sexual Harassment and Gender Discrimination; DoD-wide

² 18 U.S.C. 202(a).

³ Appendix A to subpart C of 41 CFR 102–3, the Federal Advisory Committee Management Final Rule notes that the FACA does not specify the manner in which advisory committee members must be appointed.

⁴ See, OGE DO–04X9, DO–04–022, and DO–05–012.

⁵ 44 U.S.C. 3512, 5 CFR 1320.5(b)(2)(i) and 1320.8(b)(3)(vi).

Data Collection and Analysis for the Department of Defense Qualitative and Quantitative Data Collection in Support of the Independent Review Commission on Sexual Assault Recommendations; OMB Control Number 0704-0644.

Type of Request: New.

Junior Focus Groups

Number of Respondents: 500.

Responses per Respondent: 1.

Annual Responses: 500.

Average Burden per Response: 60 minutes.

Annual Burden Hours: 500.

Mid-Level Focus Groups

Number of Respondents: 500.

Responses per Respondent: 1.

Annual Responses: 500.

Average Burden per Response: 60 minutes.

Annual Burden Hours: 500.

Senior Focus Groups

Number of Respondents: 320.

Responses per Respondent: 1.

Annual Responses: 320.

Average Burden per Response: 60 minutes.

Annual Burden Hours: 320.

Installation Commander Focus Groups

Number of Respondents: 6.

Responses per Respondent: 1.

Annual Responses: 6.

Average Burden per Response: 30 minutes.

Annual Burden Hours: 3.

Total

Number of Respondents: 1,326.

Annual Responses: 1,326.

Annual Burden Hours: 1,323.

Needs and Uses: This study will use focus groups discussions with Soldiers and leaders (*i.e.*, Soldiers in command positions) to gain a deeper understanding of what Soldiers actually experience during sexual harassment (SH) and gender discrimination (GD) events than can be gleaned from quantitative survey data. Focus group discussions will focus on environmental factors that contribute to SH/GD, including the general climate and culture in Army units that may contribute to or prevent these behaviors from occurring. Results of this study will help the Army to identify critical gaps in current prevention training efforts and materials from a diverse range of perspectives (*i.e.*, inclusive of differing rank/grade levels, by gender).

Analysis of qualitative data collected through focus group discussions will produce foundational knowledge to enable evidence-based implementation of the Independent Revision

Commission on Sexual Assault in the Military (IRC) Recommendations 2.3 (“Implement community-level prevention strategies unique to Service members’ environments.”) and 2.3a (“The Services and the National Guard Bureau should resource and implement prevention strategies at organizational and community levels,” under POAM milestones 7–15) in the Army. Study findings are also directly related to a number of additional IRC recommendations, including Recommendations 2.1c/2.4/3.2/3.5/3.5a/3.5b/3.6/4.4c/4.4d.

Qualitative data will be collected via focus groups of active-duty Soldiers (under the rank of flag officer) across six CONUS installations. These focus groups cover a number of topics including unit members’ understanding of what behaviors constitute SH and GD; factors that contribute to the climate for SH and GD (*i.e.*, risk and protective factors); reporting and intervention by unit members and leaders; and recommendations for what Army prevention training should include. Focus groups will be conducted separately for men and women, officers and enlisted, and by rank (junior, mid-level, and senior). There are a total of six focus group protocols: junior enlisted/officer (E1–E4/O1–O2), mid-level enlisted/officer (E5–E6/O3–O4), and senior enlisted/officer (E7–E9/O5–O6). These focus groups are intended to be 60 minutes. A 30-minute discussion protocol tailored to installation commanders (generally at the O6 level) is also included.

Affected Public: Individuals or households.

Frequency: Once.

Respondent’s Obligation: Voluntary.

OMB Desk Officer: Ms. Jasmeet Seehra.

You may also submit comments and recommendations, identified by Docket ID number and title, by the following method:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

Instructions: All submissions received must include the agency name, Docket ID number, and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

DOD Clearance Officer: Ms. Angela Duncan.

Requests for copies of the information collection proposal should be sent to Ms. Duncan at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil.

Dated: April 27, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09638 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Defense Acquisition Regulations System

[Docket No. DARS-2023-0019]

Acquisition of Items for Which Federal Prison Industries Has a Significant Market Share

AGENCY: Defense Acquisition Regulations System, Department of Defense (DoD).

ACTION: Notice.

SUMMARY: DoD is publishing the updated annual list of product categories for which the Federal Prison Industries’ share of the DoD market is greater than five percent.

DATES: May 25, 2023.

FOR FURTHER INFORMATION CONTACT: William Granfield, 978-799-0906.

SUPPLEMENTARY INFORMATION: On November 19, 2009, a final rule was published in the **Federal Register** at 74 FR 59914, which amended the Defense Federal Acquisition Regulation Supplement (DFARS) subpart 208.6 to implement section 827 of the National Defense Authorization Act for Fiscal Year 2008 (Pub. L. 110-181). Section 827 changed DoD competition requirements for purchases from Federal Prison Industries, Inc. (FPI) by requiring DoD to publish an annual list of product categories for which FPI’s share of the DoD market was greater than five percent, based on the most recent fiscal year data available. Product categories on the current list, and the products within each identified product category, must be procured using competitive or fair opportunity procedures in accordance with DFARS 208.602-70.

The Principal Director, Defense Pricing and Contracting (DPC), issued a memorandum dated April 25, 2023, that provided the current list of product categories for which FPI’s share of the DoD market is greater than five percent based on fiscal year 2022 data from the Federal Procurement Data System. The product categories to be competed effective May 25, 2023, are the following:

- 7125 (Cabinets, Lockers, Bins, and Shelving)
- 7210 (Household Furnishings)
- 8405 (Outerwear, Men's)
- 8410 (Outerwear, Women's)
- 8415 (Clothing, Special Purpose)
- 8420 (Underwear and Nightwear, Men's)
- 8465 (Individual Equipment)
- 9905 (Signs, Advertising, Displays, and Identification Plates)

The DPC memorandum with the current list of product categories for which FPI has a significant market share is posted at <https://www.acq.osd.mil/dpap/policy/policyvault/USA000257-23-DPC.pdf>.

The statute, as implemented, also requires DoD to—

(1) Include FPI in the solicitation process for these items. A timely offer from FPI must be considered and award procedures must be followed in accordance with existing policy at Federal Acquisition Regulation (FAR) 8.602(a)(4)(ii) through (v);

(2) Continue to conduct acquisitions, in accordance with FAR subpart 8.6, for items from product categories for which FPI does not have a significant market share. FAR 8.602 requires agencies to conduct market research and make a written comparability determination, at the discretion of the contracting officer. Competitive (or fair opportunity) procedures are appropriate if the FPI product is not comparable in terms of price, quality, or time of delivery; and

(3) Modify the published list if DoD subsequently determines that new data requires adding or omitting a product category from the list.

Jennifer D. Johnson,

Editor/Publisher, Defense Acquisition Regulations System.

[FR Doc. 2023-09605 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Docket ID: DoD-2023-OS-0037]

Proposed Collection; Comment Request

AGENCY: Office of the Under Secretary of Defense for Personnel and Readiness (OUSD(P&R)), Department of Defense (DoD).

ACTION: 60-Day information collection notice.

SUMMARY: In compliance with the *Paperwork Reduction Act of 1995*, the OUSD(P&R) announces a proposed public information collection and seeks

public comment on the provisions thereof. Comments are invited on: whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the agency's estimate of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by July 5, 2023.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

Mail: Department of Defense, Office of the Assistant to the Secretary of Defense for Privacy, Civil Liberties, and Transparency, 4800 Mark Center Drive, Mailbox #24, Suite 08D09, Alexandria, VA 22350-1700.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

FOR FURTHER INFORMATION CONTACT: To request more information on this proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to Defense Human Resources Activity, 4800 Mark Center Drive, Suite 08F05, Alexandria, VA 22350, LaTarsha Yeargins, 571-372-2089.

SUPPLEMENTARY INFORMATION:

Title; Associated Form; and OMB Number: Active Duty Spouse Survey; OMB Control Number 0704-0604.

Needs and Uses: The Active Duty Spouse Survey (ADSS) is the primary source for reliable and generalizable survey data on the effects of military life on military spouses and their families and the effectiveness of current programs and policies. This scientific survey is designed to enhance understanding of how spouse and family resilience impact force readiness and retention and inform the

effectiveness of programs and policies under the purview of DoD's Military Community and Family Policy (MC&FP) Department. The ADSS provides unique, ongoing, reliable data to equip policymakers with the information they need to make strategic, data-driven decisions on a vital component of the total force—military spouses and families. All active duty spouses who want to share their experiences but were not selected as part of the larger scientific survey will be able to complete a shorter survey hosted online during the same field period.

Affected Public: Individuals or households.

Annual Burden Hours: 2,875.

Number of Respondents: 11,500.

Responses per Respondent: 1.

Annual Responses: 11,500.

Average Burden per Response: 15 minutes.

Frequency: Once.

The Office of People Analytics (OPA) will administer the Active Duty Spouse Survey (ADSS) to active duty spouses of Army, Navy, Marine Corps, and Air Force members who are below flag rank. Only spouses selected as part of the random sample will be asked to complete the survey. The ADSS includes a paper survey option and postal notifications will include a respondent-specific QR code, enabling spouses to quickly access their survey via mobile platforms. To reduce respondent burden, web-based surveys use “smart skip” technology to ensure respondents only answer questions that are applicable to them. Respondents may access the survey via the web on a device they select. Respondents may return to the survey to continue/complete the questionnaire anytime during the survey period. Because the ADSS contains questions on sensitive topics, consent information will inform sample members that the survey is voluntary, that they may decline or skip questions they do not wish to answer, and identify any potential risks and benefits of participation. The web survey will be administered on proprietary software developed by OPA's operations contractor, Data Recognition Corporation (DRC). Digitally signed emails, electronic files, and web-based technology will be used for respondent communications and for data collection. OPA uses a sampling tool developed by the Research Triangle Institute (RTI) to determine the sample size needed to achieve 95% confidence and an associated precision of 5% or less on each reporting category domain. OPA uses Service, paygrade, gender, and family status to define the initial strata. We collapse these strata when

there are fewer than 200 individuals in the stratum. OPA weights the eligible respondents in order to make inferences about the entire population of active duty spouses. The weighting methodology utilizes standard weighting processes.

Dated: April 27, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09623 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Docket ID: DoD-2023-OS-0038]

Proposed Collection; Comment Request

AGENCY: Office of the Under Secretary of Defense for Personnel and Readiness (OUSDP&R), Department of Defense (DoD).

ACTION: 60-Day information collection notice.

SUMMARY: In compliance with the *Paperwork Reduction Act of 1995*, the OUSDP&R announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the agency's estimate of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by July 5, 2023.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

Mail: Department of Defense, Office of the Assistant to the Secretary of Defense for Privacy, Civil Liberties, and Transparency, 4800 Mark Center Drive, Mailbox #24, Suite 08D09, Alexandria, VA 22350-1700.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy

for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

FOR FURTHER INFORMATION CONTACT: To request more information on this proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to the Office of the Deputy Assistant Secretary for Defense for Military Personnel Policy, Office of Military Compensation Policy, ATTN: Mr. Ronald Garner, Pentagon, Washington, DC 20301-1500, or call (703) 693-1059.

SUPPLEMENTARY INFORMATION:

Title; Associated Form; and OMB Number: Data for Payment of Retired Personnel; DD Form 2656; OMB Control Number 0704-0569.

Needs and Uses: The information collection requirement is necessary to obtain applicable retirement information from Uniformed Service members and allow those members to make certain retired pay and survivor annuity elections prior to retirement from service or prior to reaching eligibility to receive retired pay. The form will also allow eligible members covered by the Blended Retirement System to make a voluntary election of a partial lump sum of retired pay, as required by section 1415 of title 10, United States Code.

Affected Public: Individuals or households.

Annual Burden Hours: 31,988.

Number of Respondents: 127,950.

Responses per Respondent: 1.

Annual Responses: 127,950.

Average Burden per Response: 15 minutes.

Frequency: As required.

Every member of the Uniformed Services who retires or reaches the age of eligibility to begin receiving retired pay, in the case of members of the Reserves and National Guard, will voluntarily complete this form to request retired pay, designate beneficiaries, and make a Survivor Benefit Plan election. In an average calendar year, approximately 127,950 members of the Uniformed Service will complete this form. The spouses of retiring members of the Uniformed Services are only required to complete part V of this form if the Service member declines or reduces his or her level of under the Survivor Benefit Plan.

Dated: April 27, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09627 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Office of the Secretary

Notice of Intent To Prepare an Environmental Impact Statement for an Enhanced Integrated Air and Missile Defense System on Guam

AGENCY: Missile Defense Agency (MDA), Department of Defense (DoD).

ACTION: Notice of intent.

SUMMARY: The MDA is issuing this notice of intent to prepare an Environmental Impact Statement (EIS) to assess the potential environmental impacts associated with an Enhanced Integrated Air and Missile Defense (EIAMD) system for the defense of Guam. The EIS will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA; MDA's NEPA Implementing Procedures; U.S. Department of the Army's (Army) NEPA Implementing Procedures; U.S. Department of the Navy's (DoN) Environmental Readiness Program; U.S. Department of the Air Force's (DAF) Environmental Impact Analysis Process; and Federal Aviation Administration's (FAA) NEPA Policies and Procedures. The EIS will evaluate the potential environmental impacts from the proposed deployment and operation of missile defense radars and sensors, missile interceptor launchers, and command and control systems; construction and operation of associated support facilities and infrastructure; and management of associated airspace (hereafter called "Proposed Action"). The MDA is initiating a public scoping period to receive comments on the scope of the EIS including identification of potential alternatives, information, and analyses relevant to the Proposed Action, and the Proposed Action's potential to affect historic properties pursuant to section 106 of the National Historic Preservation Act (NHPA) of 1966.

DATES: The MDA invites comments during the public scoping period beginning with publication of this notice in the **Federal Register**. Comments must be postmarked or

received on or before June 27, 2023 to ensure consideration in the Draft EIS.

ADDRESSES: Written comments should be sent via email to info@EIAMD-EIS.com; via the website comment submission form on www.EIAMD-EIS.com; or by United States (U.S.) Postal Service to: ManTech International Corporation, Attention: EIAMD EIS Project Support, PMB 403, 1270 N Marine Corps Drive, Suite 101, Tamuning, Guam 96913-4331. Comments will also be accepted at the public scoping meetings. All comments, including names and addresses, will be included in the administrative record, but personal information will be kept confidential unless release is required by law.

FOR FURTHER INFORMATION CONTACT: Mr. Mark Wright, MDA Public Affairs, at 571-231-8212 or by email to mda.info@mda.mil. Additional information on the Proposed Action can be found at the MDA website: <https://www.mda.mil/system/eiamd.html>.

SUPPLEMENTARY INFORMATION: Within the context of homeland defense, Guam is a key strategic location for sustaining and maintaining U.S. influence, deterring adversaries, responding to crises, and maintaining a free and open Indo-Pacific. An attack on Guam would be considered a direct attack on the United States and would be met with an appropriate response. Current U.S. forces are capable of defending Guam against regional ballistic missile threats. However, regional missile threats to Guam continue to increase and advance technologically. The U.S. Indo-Pacific Command has identified a requirement for a 360-degree EIAMD capability on Guam as soon as possible to address the rapid evolution of adversary missile threats. The purpose of the EIAMD is to support the defense of Guam from cruise, ballistic and hypersonic missile threats. The EIAMD is necessary to meet requirements as directed in the fiscal year (FY) 2022 and FY 2023 National Defense Authorization Acts and to protect Guam as described in this notice.

The MDA, in coordination with Army, DoN, DAF, and FAA as cooperating agencies, is preparing an EIS to evaluate the potential environmental impacts associated with the Proposed Action and a No Action alternative.

The Proposed Action includes the deployment and operation of a combination of components from the MDA, Army, and DoN that would be integrated for air and missile defense. These proposed components include missile defense radars and sensors,

missile interceptor launchers, and command and control systems. The MDA and Army need to strategically locate and integrate the system components at multiple sites around Guam. In the event where DoD property is not available to strategically locate the components on DoD properties or where buffer and safety zone arcs encroach on non-Federal properties, acquisition of appropriate real estate interests on non-Federal property may be needed in a few areas. Site selection is evolving and additional sites may be considered. Additionally, MDA anticipates airspace modification may be necessary at sites where radars would be located. Airspace issues would be coordinated with the FAA.

Associated support facilities and infrastructure (e.g., power plants, fuel storage facilities, and water storage facilities), and life support facilities (e.g., family housing, fire stations, and dining facilities) would also be constructed and operated on these sites to support proposed EIAMD components and accommodate personnel associated with the proposed EIAMD system.

The MDA and Army have conducted extensive siting studies to confirm alternative site selection, optimize system performance, and optimize facility planning and design. The proposed EIAMD components, support facilities and infrastructure, and life support facilities would be distributed across the candidate sites.

The environmental issues and resource areas the MDA would assess in the EIS include, but are not limited to, the following: airspace, air quality, biological resources, cultural resources, environmental justice and protection of children, geological resources, public health and safety, infrastructure and utilities, land use, noise and vibration, socioeconomics, transportation, recreation, visual resources, and water resources. The analysis will include an evaluation of direct and indirect impacts, and will account for cumulative impacts from other relevant activities in the area of Guam.

This public scoping effort also supports compliance with section 106 of the NHPA and its implementing regulations at 36 CFR part 800. As such, the MDA will consult with government officials and other interested parties regarding historic and cultural resources under section 106 of the NHPA, as appropriate. Additionally, the MDA will undertake any other consultations and permitting required by applicable laws or regulations.

The MDA will conduct three in-person open house scoping meetings on

Guam in June 2023. Notification of the meeting locations, dates, and times will be published and announced in local news media to encourage public participation. Access to meeting information can also be found on the MDA website at <https://www.mda.mil/system/eiamd.html>.

The MDA encourages elected officials, government agencies, non-governmental organizations, and interested individuals to participate in the public scoping process for the preparation of this EIS. The public scoping process assists in determining the scope of the EIS including identification of potential alternatives, information, and analyses relevant to the Proposed Action, and the Proposed Action's potential to affect historic properties.

Additional opportunities for public comment will occur after the release of the Draft EIS. The MDA intends to publish the Draft EIS in spring 2024, publish the Final EIS in early 2025, and sign a Record of Decision following the 30-day Final EIS review period.

Dated: May 2, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09609 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Docket ID: DoD-2023-OS-0039]

Proposed Collection; Comment Request

AGENCY: Office of the Under Secretary of Defense for Acquisition and Sustainment, Department of Defense (DoD).

ACTION: 60-Day information collection notice.

SUMMARY: In compliance with the *Paperwork Reduction Act of 1995*, the Defense Contract Management Agency announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the agency's estimate of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the information collection on respondents, including through the use

of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by July 5, 2023.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

Federal Rulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

Mail: Department of Defense, Office of the Assistant to the Secretary of Defense for Privacy, Civil Liberties, and Transparency, 4800 Mark Center Drive, Mailbox #24, Suite 08D09, Alexandria, VA 22350-1700.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

FOR FURTHER INFORMATION CONTACT: To request more information on this proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to Defense Contract Management Agency HQ, 6090 Strathmore Rd., Richmond, VA 23237, ATTN: Mr. Michael Fludovich, or call 804-279-4318.

SUPPLEMENTARY INFORMATION:

Title; Associated Form; and OMB Number: Contractor Flight Operations Forms; DD Forms 1821, 2627, 2628, 3062; OMB Control Number 0704-0347.

Needs and Uses: The information collection requirement supported by these DD Forms support contractor requirements to have government approval of contract flight crewmembers and contract flights as specified in Defense Contract Management Command Instruction (DCMA INST) 8210.1, Contractor's Ground and Flight Operations. The contractor provides information on contractor personnel to the government. The government approves the contractor's request for aircrew training and eventually, approval for contractor personnel to operate and fly government aircraft. The government also approves all flights under contract.

The DD Form 2627 is used by contractors to request qualification training for contractor crewmembers. The contractor provides a personal history, verifies the crewmember's records, and requests government approval for training in a particular type

of government aircraft. The 2627 and supporting documentation can be provided in hard or soft copy.

The DD Form 1821 is used by contractors to provide a succinct summary of a crewmember's flight history. This form is submitted along with DD Form 2627 as part of the supporting documentation for the request for qualification training.

The DD Form 2628 is used by contractors to request aircrew qualification for contractor crewmembers. The contractor verifies the crewmember's training completion and requests government approval for specific aircrew qualification in a particular type of government aircraft. The 2628 and supporting documentation can be provided in hard or soft copy.

The DD Form 3062 is used by contractors to request approval of flights under contract. The 3062 can be provided in hard or soft copy. Without the approval from the government, the contractor cannot fly under the liability coverage provided by DFARS 252.228-7001, Ground and Flight Risk.

Affected Public: Individuals or households.

DD Forms 1821, 2637, and 2628

Annual Burden Hours: 150.

Number of Respondents: 50.

Responses per Respondent: 6.

Annual Responses: 300.

Average Burden per Response: 30 minutes.

DD Form 3026

Annual Burden Hours: 1,300.

Number of Respondents: 100.

Responses per Respondent: 52.

Annual Responses: 5,200.

Average Burden per Response: 15 minutes.

Total

Annual Burden Hours: 1,450.

Number of Respondents: 150.

Annual Responses: 5,500.

Frequency: DD Forms 1821, 2627, and 2628 are completed once to verify a contractor's aircrew qualification. DD Form 3062 is completed as needed to request approval of flights under contract.

Dated: April 27, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09626 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Docket ID: DoD-2023-OS-0040]

Proposed Collection; Comment Request

AGENCY: Office of the Under Secretary of Defense for Personnel and Readiness (OUSD(P&R)), Department of Defense (DoD).

ACTION: 60-Day information collection notice.

SUMMARY: In compliance with the *Paperwork Reduction Act of 1995*, the OUSD(P&R) announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the agency's estimate of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by July 5, 2023.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

Mail: Department of Defense, Office of the Assistant to the Secretary of Defense for Privacy, Civil Liberties, and Transparency, 4800 Mark Center Drive, Mailbox #24, Suite 08D09, Alexandria, VA 22350-1700.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

FOR FURTHER INFORMATION CONTACT: To request more information on this proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to the Office of the Under Secretary of Defense (Personnel and

Readiness) (Military Personnel Policy)/ Accession Policy, 4000 Defense Pentagon, Washington, DC 20301, Attn.: LTC Joel Parker, or call (703) 695-5527.

SUPPLEMENTARY INFORMATION:

Title; Associated Form; and OMB

Number: Request for Verification of Birth; DD Form 372; OMB Control Number 0704-0006.

Needs and Uses: Title 10, U.S.C. 505, 532, 3253, and 8253, require applicants meet minimum and maximum age and citizenship requirements for enlistment into the Armed Forces (including the Coast Guard). If an applicant is unable to provide a birth certificate, the recruiter will forward a DD Form 372, "Request for Verification of Birth," to a state or local agency requesting verification of the applicant's birth date. This verification of the birth date ensures that the applicant does not fall outside the age limitations, and the applicant's place of birth supports the citizenship status claimed by the applicant.

Affected Public: State, local, or Tribal government.

Annual Burden Hours: 12,500.

Number of Respondents: 150,000.

Responses per Respondent: 1.

Annual Responses: 150,000.

Average Burden per Response: 5 minutes.

Frequency: On occasion.

Dated: April 27, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09624 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Office of the Secretary

[Docket ID: DoD-2023-OS-0036]

Proposed Collection; Comment Request

AGENCY: Office of the Under Secretary of Defense for Acquisition and Sustainment, Department of Defense (DoD).

ACTION: 60-Day information collection notice.

SUMMARY: In compliance with the *Paperwork Reduction Act of 1995*, the Defense Logistics Agency announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including

whether the information shall have practical utility; the accuracy of the agency's estimate of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by July 5, 2023.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

Federal Rulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

Mail: Department of Defense, Office of the Assistant to the Secretary of Defense for Privacy, Civil Liberties, and Transparency, 4800 Mark Center Drive, Mailbox #24, Suite 08D09, Alexandria, VA 22350-1700.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

FOR FURTHER INFORMATION CONTACT: To request more information on this proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to Defense Logistics Agency (J62C), John J. Kingman Road, Ft. Belvoir, VA 22060-6221, ATTN: Ms. Patricia Pearce, or call (804) 279-2884.

SUPPLEMENTARY INFORMATION:

Title; Associated Form; and OMB

Number: DoD DLA Desktop Browse Survey; OMB Control Number 0704-DDBS.

Needs and Uses: The Defense Logistics Agency is an organization with a public-facing website used to inform and work with its customers in the military services; Federal, State, and local governments; industry and small business; and the general public. Measurement and feedback through surveying is needed to better meet the needs of the agency's audiences and provide both overall goals for improvement and to address specific issues presented by website visitors. DLA Public Affairs uses the feedback to address immediate concerns and set both short and long-term goals for improving the agency's website.

Actionable survey comments are addressed with DLA offices who manage the corresponding website content for quick, specific, and direct content improvements. Short-term actions include fixing broken links, adding or updating page content, restructuring, or altering page layouts to make content easier to browse, and creating new resources to meet previously unknown customer needs. Combined data and trends inform DLA Public Affairs strategy for larger-scale website improvement projects and are summarized for DLA senior leader awareness and long-term planning. Larger efforts include changes to sitewide navigation, homepage redesigns, and aggregating previously dispersed similar sitewide resources to central, prominent places.

Affected Public: Individuals or households.

Annual Burden Hours: 93.3.

Number of Respondents: 1,600.

Responses per Respondent: 1.

Annual Responses: 1,600.

Average Burden per Response: 3.5 minutes.

Frequency: On occasion.

Dated: April 27, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2023-09628 Filed 5-4-23; 8:45 am]

BILLING CODE 5001-06-P

DEPARTMENT OF DEFENSE

Department of the Army; Army Corps of Engineers

Notice of Solicitation of Applications for Stakeholder Representative Members of the Missouri River Recovery Implementation Committee

AGENCY: U.S. Army Corps of Engineers, Department of the Army, DoD.

ACTION: Notice of solicitation of applications for vacant stakeholder representative member positions on the Missouri River Recovery Implementation Committee.

SUMMARY: The Commander of the Northwestern Division of the U.S. Army Corps of Engineers (Corps) is soliciting applications to fill vacant stakeholder representative member positions on the Missouri River Recovery Implementation Committee (MRRIC). Members are sought to fill vacancies on a committee to represent various categories of interests within the Missouri River basin. The MRRIC was formed to advise the Corps on a study of the Missouri River and its tributaries

and to provide guidance to the Corps with respect to the Missouri River recovery and mitigation activities currently underway. The Corps established the MRRIC as required by the U.S. Congress through the Water Resources Development Act of 2007 (WRDA), section 5018.

DATES: The agency must receive completed applications and endorsement letters no later than May 31, 2023.

ADDRESSES: Mail completed applications and endorsement letters to U.S. Army Corps of Engineers, Omaha District (Attn: MRRIC), 1616 Capitol Avenue, Omaha, NE 68102-4901, or email completed applications to mrric@usace.army.mil. Please put "MRRIC" in the subject line.

FOR FURTHER INFORMATION CONTACT: Shelly McPherron, 402-803-0073.

SUPPLEMENTARY INFORMATION: The operation of the MRRIC is in the public interest and provides support to the Corps in performing its duties and responsibilities under Authority: 16 U.S.C. 1531 *et seq.*; Authority: Sec. 601(a), Pub. L. 99-662, 100 Stat. 4082; Sec. 334(a), Pub. L. 106-53, 113 Stat. 269; and Sec. 5018, Pub. L. 110-114, 121 Stat. 1041. Authority: 5 U.S.C. app. 2, does not apply to the MRRIC.

A Charter for the MRRIC has been developed and should be reviewed prior to applying for a stakeholder representative membership position on the Committee. The Charter, operating procedures, and stakeholder application forms are available electronically at www.MRRIC.org.

Purpose and Scope of the Committee.

1. The primary purpose of the MRRIC is to provide guidance to the Corps and U.S. Fish and Wildlife Service with respect to the Missouri River recovery and mitigation plan currently in existence, including recommendations relating to changes to the implementation strategy from the use of adaptive management; coordination of the development of consistent policies, strategies, plans, programs, projects, activities, and priorities for the Missouri River recovery and mitigation plan. Information about the Missouri River Recovery Program is available at www.MoRiverRecovery.org.

2. Other duties of MRRIC include exchange of information regarding programs, projects, and activities of the agencies and entities represented on the Committee to promote the goals of the Missouri River recovery and mitigation plan; establishment of such working groups as the Committee determines to be necessary to assist in carrying out the duties of the Committee, including

duties relating to public policy and scientific issues; facilitating the resolution of interagency and intergovernmental conflicts between entities represented on the Committee associated with the Missouri River recovery and mitigation plan; coordination of scientific and other research associated with the Missouri River recovery and mitigation plan; and annual preparation of a work plan and associated budget requests.

Administrative Support. To the extent authorized by law and subject to the availability of appropriations, the Corps provides funding and administrative support for the Committee.

Committee Membership. Federal agencies with programs affecting the Missouri River may be members of the MRRIC through a separate process with the Corps. States and Federally recognized Native American Indian tribes, as described in the Charter, are eligible for Committee membership through an appointment process. Interested State and Tribal government representatives should contact the Corps for information about the appointment process.

This Notice is for individuals interested in serving as a stakeholder member on the Committee. Members and their alternates must be able to demonstrate that they meet the definition of "stakeholder" found in the Charter of the MRRIC. Applications are currently being accepted for representation in the stakeholder interest categories listed below:

- a. Agriculture;
- b. At Large;
- c. Conservation Districts;
- d. Fish & Wildlife;
- e. Flood Control;
- f. Irrigation;
- g. Navigation;
- h. Recreation;
- i. Water Supply.

Terms of stakeholder representative members of the MRRIC are three years. There is no limit to the number of terms a member may serve. Incumbent Committee members seeking reappointment do not need to re-submit an application. However, renewal requests are not guaranteed re-selection and they must submit a renewal request letter and related materials as outlined in the "Streamlined Process for Existing Members" portion of the document *Process for Filling MRRIC Stakeholder Vacancies* (www.MRRIC.org).

Members and alternates of the Committee will not receive any compensation from the federal government for carrying out the duties of the MRRIC. Travel expenses incurred by members of the Committee are

currently reimbursed by the federal government.

Application for Stakeholder Membership. Persons who believe that they are or will be affected by the Missouri River recovery and mitigation activities may apply for stakeholder membership on the MRRIC. Committee members are obligated to avoid and disclose any individual ethical, legal, financial, or other conflicts of interest they may have involving MRRIC. Applicants must disclose on their application if they are directly employed by a government agency or program (the term "government" encompasses state, tribal, and federal agencies and/or programs).

Applications for stakeholder membership may be obtained electronically at www.MRRIC.org. Applications may be emailed or mailed to the location listed (see **ADDRESSES**). In order to be considered, each application must include:

1. The name of the applicant and the primary stakeholder interest category that person is qualified to represent;
2. A written statement describing the applicant's area of expertise and why the applicant believes he or she should be appointed to represent that area of expertise on the MRRIC;
3. A written statement describing how the applicant's participation as a Stakeholder Representative will fulfill the roles and responsibilities of MRRIC;
4. A written description of the applicant's past experience(s) working collaboratively with a group of individuals representing varied interests towards achieving a mutual goal, and the outcome of the effort(s);
5. A written description of the communication network that the applicant plans to use to inform his or her constituents and to gather their feedback, and
6. A written endorsement letter from an organization, local government body, or formal constituency, which demonstrates that the applicant represents an interest group(s) in the Missouri River basin.

To be considered, the application must be complete and received by the close of business on May 31, 2023, at the location indicated (see **ADDRESSES**). Applications must include an endorsement letter to be considered complete. Full consideration will be given to all complete applications received by the specified due date.

Application Review Process. Committee stakeholder applications will be forwarded to the current members of the MRRIC. The MRRIC will provide membership recommendations to the Corps as described in Attachment A of

the *Process for Filling MRRIC Stakeholder Vacancies* document (www.MRRIC.org). The Corps is responsible for appointing stakeholder members. The Corps will consider applications using the following criteria:

- Ability to commit the time required.
- Commitment to make a good faith (as defined in the Charter) effort to seek balanced solutions that address multiple interests and concerns.

- Agreement to support and adhere to the approved MRRIC Charter and Operating Procedures.

- Demonstration of a formal designation or endorsement by an organization, local government, or constituency as its preferred representative.

- Demonstration of an established communication network to keep constituents informed and efficiently seek their input when needed.

- Agreement to participate in collaboration training as a condition of membership.

All applicants will be notified in writing as to the final decision about their application.

Certification. I hereby certify that the establishment of the MRRIC is necessary and in the public interest in connection with the performance of duties imposed on the Corps by the Endangered Species Act and other statutes.

Geoffrey R. Van Epps,

Brigadier General, USA, Commanding.

[FR Doc. 2023-09639 Filed 5-4-23; 8:45 am]

BILLING CODE 3720-58-P

DEPARTMENT OF DEFENSE

Department of the Army, Corps of Engineers

Proposals by Non-Federal Interests for Feasibility Studies, Proposed Modifications to Authorized Water Resources Development Projects and Feasibility Studies, and Proposed Modifications for an Environmental Infrastructure Program for Inclusion in the Annual Report to Congress on Future Water Resources Development

AGENCY: U.S. Army Corps of Engineers, DoD.

ACTION: Notice.

SUMMARY: Section 7001 of the Water Resources Reform and Development Act (WRRDA) of 2014, as amended, requires that the Secretary of the Army annually submit to the Congress a report (Annual Report) that identifies feasibility reports, proposed feasibility studies submitted by non-Federal interests, proposed modifications to authorized water

resources development projects or feasibility studies, and proposed modifications to environmental infrastructure program authorities that meet certain criteria. The Annual Report is to be based, in part, upon requests for proposals submitted by non-Federal interests.

DATES: Proposals must be submitted by 28 August 2023.

ADDRESSES: Submit proposals by emailing the completed proposal form to WRRDA7001Proposal@usace.army.mil. The proposal form can be found at <https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/WRRDA-7001-Proposals/>. If a different method of submission is required, use the further information below to arrange an alternative submission process.

FOR FURTHER INFORMATION CONTACT:

Send an email to the help desk at WRRDA7001Proposal@usace.army.mil or call Stuart McLean, Planning and Policy Division, Headquarters, USACE, Washington, DC at 202-761-4931.

SUPPLEMENTARY INFORMATION: Section 7001 of WRRDA 2014 (33 U.S.C. 2282d), as amended, requires the publication of a notice in the **Federal Register** annually to request proposals by non-Federal interests for feasibility studies, modifications to authorized USACE water resources development projects or feasibility studies, and modifications to environmental infrastructure program authorities. Project feasibility reports that have signed Chief's Reports but have not been authorized will be included in the Annual Report table by the Secretary of the Army and these proposals do not need to be submitted in response to this notice.

Proposals by non-Federal interests must be emailed and require the following information:

1. The name of the non-Federal interest, or all non-Federal interests in the case of a modification to an environmental infrastructure program authority, including any non-Federal interest that has contributed to or is expected to contribute toward the non-Federal share of the proposed feasibility study, project modification or environmental infrastructure program.

2. State if this proposal is for authorization of a feasibility study, a modification to an authorized USACE water resources development project, a modification to an authorized USACE water resources feasibility study, or a modification to a USACE environmental infrastructure program authority. If a modification of an existing authority, specify the authorized water resources development project, study, or

environmental infrastructure program authority that is proposed for modification.

3. State the specific project purpose(s) of the proposed study or modification.

4. Provide an estimate, to the extent practicable, of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

5. Describe, to the extent applicable and practicable, an estimate of the anticipated monetary and non-monetary benefits of the proposal with regard to benefits to the protection of human life and property; improvement to transportation; the national, regional, or local economy; the environment; or the national security interests of the United States.

6. Proposals for modifications to environmental infrastructure program authorities must also include a description of assistance provided to date and the total Federal cost of assistance provided to date.

7. Proposals for modifications to the maximum federal cost of a project being carried out pursuant to a continuing authorities program.. Proposals must include a justification of why the modification is necessary, total time and cost to complete the project, and indication of support by the non-Federal interest for the project and its cost-share requirements.

8. State if the non-Federal interest has the financial ability to provide the required cost share, reference Engineer Regulation 1105-2-100, Planning Guidance Notebook.

9. Describe if local support exists for the proposal.

10. Attach a letter or statement of support for the proposal from each associated non-Federal interest.

All provided information may be included in the Annual Report to Congress on Future Water Resources Development. Therefore, information that is Confidential Business Information, information that should not be disclosed because of statutory restrictions, or other information that a non-Federal interest would not want to appear in the Annual Report should not be included.

Process: Proposals received within the time frame set forth in this notice will be reviewed by the Army and will be presented in one of two tables. The first table will be in the Annual Report itself, and the second table will be in an appendix. To be included in the Annual Report table, the proposals must meet the following five criteria:

1. Are related to the missions and authorities of the USACE; involve a

proposed or existing USACE water resources project or effort whose primary purpose is flood and storm damage reduction, commercial navigation, or aquatic ecosystem restoration, municipal or agricultural water supply. Following long-standing USACE practice, related proposals such as for recreation or hydropower, are eligible for inclusion if undertaken in conjunction with such a project or effort.

2. Require specific congressional authorization, including by an Act of Congress:

a. Requires Construction Authorization:

- Feasibility reports that have successfully passed the Tentatively Selected Plan Milestone in the USACE plan formulation process.
- Non-Federal feasibility reports submitted to the Secretary of the Army under section 203 of WRDA 1986, as amended, under Administration review.
- Proposed modifications to a specifically authorized water resources development projects requested by non-Federal interests.

- Proposed modification to the maximum cost of a project being carried out pursuant to a continuing authority program, if the proposed modification will result in completion of construction of the project and the justification for the modification is not the result of a change in the scope of the project.

- *Note:* reports that have signed Chief's Reports, but have not been authorized, will be included in the Annual Report table and these proposals do not need to be submitted in response to this notice.

b. Seeking Study Authorization:

- New feasibility studies proposed by non-Federal interests through the section 7001 of WRRDA 2014 process will be evaluated by the USACE to determine whether or not there is existing study authority, and
- Proposed modifications to studies requested by non-Federal interests through the section 7001 of WRRDA 2014 process will be evaluated by the USACE to determine whether or not there is existing study authority.

c. The following cases are NOT ELIGIBLE to be included in the Annual Report and will be included in the appendix for transparency:

- Proposals for modifications to non-Federal projects under program authorities where USACE has provided previous technical assistance. Authorization to provide technical assistance does not provide authorization of a water resources development project.

- Proposals for construction of a new water resources development project that is not the subject of a currently authorized USACE project or a complete or ongoing feasibility study.

- Proposals that do not include a request for a potential future water resources development project through completed feasibility reports, proposed feasibility studies, and proposed modifications to authorized projects or studies.

3. Have not been congressionally authorized;

4. Have not been included in the Annual Report table of any previous Annual Report to Congress on Future Water Resources Development; and

- If the proposal was included in the Annual Report table in a previous Report to Congress on Future Water Resources Development, then the proposal is not eligible to be included in the Annual Report table. If a proposal was previously included in an appendix, it may be re-submitted.

5. If authorized, could be carried out by the USACE.

- Whether following the USACE Chief's Report process or section 7001 of WRRDA 2014, a proposal for a project or a project modification would need a current decision document to provide updated information on the scope of the potential project and demonstrate a clear Federal interest. This determination would include an assessment of whether the proposal is:

- Technically sound, economically viable and environmentally acceptable.
- Compliant with environmental and other laws including, but not limited to, National Environmental Policy Act, Endangered Species Act, Coastal Zone Management Act, and the National Historic Preservation Act.
- Compliant with statutes and regulations related to water resources development including various water resources provisions related to the authorized cost of projects, level of detail, separable elements, fish and wildlife mitigation, project justification, matters to be addressed in planning, and the 1958 Water Supply Act.

Environmental infrastructure proposals are an exception to the criteria. To be included in the table within the Annual Report the proposal must be a modification to a project that was authorized pursuant to section 219 of WRDA 1992, as amended or must identify a programmatic modification to an environmental infrastructure assistance program and it has not been included in any previous annual report.

Feasibility study proposals submitted by non-Federal interests are for study authorization only. If Congressional authorization of a feasibility study results from inclusion in the Annual Report, it is anticipated that such authorization would be for the study, not for construction. Once a decision document is completed in accordance with Executive Branch policies and procedures, the Secretary will determine whether to recommend the project for authorization.

All USACE water resources development projects must meet certain requirements before proceeding to construction. These requirements include: (1) That the project is authorized for construction by Congress; (2) that the Secretary, or other appropriate official, has approved a current decision document; and (3) that the funds for project construction have been appropriated and are available.

Section 902 of WRDA 1986, as amended, (33 U.S.C. 2280) establishes a maximum authorized cost for projects (902 limit). A Post Authorization Change Report (PACR) is required to be completed to support potential modifications, updates to project costs, and an increase to the 902 limit. Authority to undertake a 902 study is inherent in the project authority, so no additional authority is required to proceed with the study. Since these PACRs support project modifications, they may be considered for inclusion in the Annual Report if a report's recommendation requires Congressional authorization.

The Secretary shall include in the Annual Report to Congress on Future Water Resources Development a certification stating that each feasibility report, proposed feasibility study, and proposed modification to an authorized water resources development project, feasibility study, or proposed modifications to an environmental infrastructure program authority included in the Annual Report meets the criteria established in section 7001 of WRRDA 2014, as amended.

Please contact the appropriate district office or use the contact information above for assistance in researching and identifying existing authorizations and existing USACE decision documents. Those proposals that do not meet the criteria will be included in an appendix table included in the Annual Report to Congress on Future Water Resources Development. Proposals in the appendix table will include a description of why

those proposals did not meet the criteria.

Michael Connor,

Assistant Secretary of the Army (Civil Works).

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BILLING CODE 3720-58-P

DEPARTMENT OF EDUCATION

Applications for New Awards; Personnel Development To Improve Services and Results for Children With Disabilities—Personnel Preparation of Special Education, Early Intervention, and Related Services Personnel at Historically Black Colleges and Universities, Tribally Controlled Colleges and Universities, and Other Minority Serving Institutions

AGENCY: Office of Special Education and Rehabilitative Services, Department of Education.

ACTION: Notice.

SUMMARY: The Department of Education (Department) is issuing a notice inviting applications for new awards for fiscal year (FY) 2023 for Personnel Development to Improve Services and Results for Children with Disabilities—Personnel Preparation of Special Education, Early Intervention, and Related Services Personnel at Historically Black Colleges and Universities, Tribally Controlled Colleges and Universities, and Other Minority Serving Institutions, Assistance Listing Number (ALN) 84.325M. This notice relates to the approved information collection under OMB control number 1820-0028.

DATES:

Applications Available: May 5, 2023.

Deadline for Transmittal of

Applications: July 14, 2023.

Deadline for Intergovernmental Review: September 12, 2023.

Pre-Application Webinar Information: No later than May 10, 2023, the Office of Special Education and Rehabilitative Services will post details on pre-recorded informational webinars designed to provide technical assistance to interested applicants. Links to the webinars may be found at <https://www2.ed.gov/fund/grant/apply/osep/new-osep-grants.html>.

ADDRESSES: For the addresses for obtaining and submitting an application, please refer to our Common Instructions for Applicants to Department of Education Discretionary Grant Programs, published in the **Federal Register** on December 7, 2022 (87 FR 75045) and available at www.federalregister.gov/documents/

2022/12/07/2022-26554/common-instructions-for-applicants-to-department-of-education-discretionary-grant-programs. Please note that these Common Instructions supersede the version published on December 27, 2021.

FOR FURTHER INFORMATION CONTACT:

Tracie Dickson, U.S. Department of Education, 400 Maryland Avenue SW, Room 5013, Potomac Center Plaza, Washington, DC 20202-5076. Telephone: 202-245-7844. Email: Tracie.Dickson@ed.gov.

If you are deaf, hard of hearing, or have a speech disability and wish to access telecommunications relay services, please dial 7-1-1.

SUPPLEMENTARY INFORMATION:

Full Text of Announcement

I. Funding Opportunity Description

Purpose of Program: The purposes of this program are to (1) help address State-identified needs for personnel preparation in special education, early intervention, related services, and regular education to work with children, including infants, toddlers, and youth with disabilities; and (2) ensure that those personnel have the necessary skills and knowledge, derived from practices that have been determined through scientifically based research, to be successful in serving those children.

Priority: This competition includes one absolute priority and, within that absolute priority, one competitive preference priority. In accordance with 34 CFR 75.105(b)(2)(v), the absolute priority is from allowable activities specified in the statute (see sections 662 and 681 of the Individuals with Disabilities Education Act (IDEA) (20 U.S.C. 1462 and 1481)).

Absolute Priority: For FY 2023 and any subsequent year in which we make awards from the list of unfunded applications from this competition, this priority is an absolute priority. Under 34 CFR 75.105(c)(3), we consider only applications that meet this priority.

This priority is:

Personnel Preparation of Special Education, Early Intervention, and Related Services Personnel at Historically Black Colleges and Universities, Tribally Controlled Colleges and Universities, and other Minority Serving Institutions.

Background:

The purpose of this priority is to prepare scholars who are fully credentialed to serve children, including infants, toddlers, and youth, with disabilities (children with disabilities). The Department is committed to promoting equity for

children with disabilities in accessing educational resources and opportunities. The Department also places a high priority on increasing the number of personnel, including increasing personnel from racially and ethnically diverse backgrounds and personnel who are multilingual, who provide services to children with disabilities. To support these goals, under this absolute priority, the Department will fund projects within Historically Black Colleges and Universities (HBCUs),¹ Tribally Controlled Colleges and Universities (TCCUs),² and other Minority Serving Institutions (MSIs)³ that prepare special education, early intervention, and related services personnel at the bachelor's degree, certification, master's degree, educational specialist degree, or clinical doctoral degree levels to serve in a variety of settings, including natural environments (the home and community settings in which children with and without disabilities participate), early learning programs, child care, classrooms, schools, and distance learning.

Over time, the population of children receiving services under the IDEA are increasingly racially and ethnically diverse. In 2021, approximately 50 percent of infants and toddlers with disabilities, ages birth through two, were children of color; approximately 49 percent of preschool children with disabilities, ages three through five (not in kindergarten), were from racially and ethnically diverse backgrounds; while approximately 54 percent of students with disabilities, ages five (in kindergarten) through 21, were from racially and ethnically diverse backgrounds (U.S. Department of Education, 2022a).

Despite the fact that children of color make up approximately 54 percent of public school enrollment (National Center for Education Statistics, 2022), and greater than 50 percent of children receiving early intervention and special education services, results from the 2020–2021 National Teacher and

¹ For purposes of this priority, “Historically Black Colleges and Universities” means colleges and universities that meet the criteria set out in 34 CFR 608.2.

² For purposes of this priority, “Tribally Controlled Colleges and Universities” has the meaning ascribed to it in section 316(b)(3) of the Higher Education Act of 1965 (HEA).

³ For purposes of this priority, “Minority-Serving Institution” means an institution that is eligible to receive assistance under sections 316 through 320 of part A of title III, under part B of title III, or under title V of the HEA. For purposes of this priority, the Department will use the FY 2022 Eligibility Matrix to determine MSI eligibility (see <https://www2.ed.gov/about/offices/list/ope/ides/eligibility.html>).

Principal Survey (U.S. Department of Education, 2022b) show that about 80 percent of all public K–12 school teachers were non-Hispanic White.

Moreover, the demographics of personnel entering the early intervention and special education fields are not aligned with the demographics of the children and families served under IDEA, though IDEA specifically authorizes grants to recruit and prepare personnel, especially from groups that are underrepresented in the teaching profession. The U.S. Department of Education Office of Special Education Program's (OSEP's) Personnel Development Program Data Collection System data reveals that scholars supported under this program are predominantly White. Specifically, the race/ethnicity of scholars obtaining a graduate degree to serve children with disabilities in FY 2020 was 65.8 percent White, 14.5 percent Hispanic, 11.5 percent Black, 3.9 percent Asian, 0.7 percent American Indian or Alaska Native, 1.4 percent Native Hawaiian or Other Pacific Islander, and 2.2 percent Two or More Races. Similarly, data from related services professional organizations reveal that the majority of those enrolled in related service personnel preparation programs are White (American Occupational Therapy Association, 2022; American Speech-Language Hearing Association, 2021; Data USA, 2022).

The data demonstrates that there is insufficient ethnic and racial diversity among special education, early intervention, and related service personnel (Ondrasek et al., 2020; Carver-Thomas, 2018; Sutchter et al., 2016). This lack of diversity is of concern, as research indicates that increasing the racial, ethnic, and linguistic diversity of personnel can have positive impacts on all children. Children of color and children who are multilingual, with and without disabilities, demonstrate improved academic achievement and behavioral and social-emotional development when they are taught by teachers who are from racially and ethnically diverse backgrounds and multilingual teachers (Bryan, 2021; Carver-Thomas, 2018, April). States and policymakers are also highlighting the need to address the lack of racial and ethnic diversity of those working in early intervention and special education and are recognizing the need to develop career pathways and comprehensive strategies to recruit, prepare, develop, and retain educators from racially and ethnically diverse backgrounds (Carver-Thomas, 2018;

Colorado Department of Higher Education, 2022; Gardner et al., 2019).

Priority:

The purpose of this priority is to prepare and increase the number of personnel, including personnel from racially and ethnically diverse backgrounds and personnel who are multilingual, who are fully credentialed to serve children with disabilities. Under this absolute priority, the Department will fund projects within HBCUs,⁴ TCCUs,⁵ and other MSIs⁶ that prepare scholars⁷ in special education, early intervention, and related services⁸ at the bachelor's degree, certification,⁹ master's degree, educational specialist degree, or clinical doctoral degree levels to serve in a variety of settings, including natural environments (the home and community settings in which children with and without disabilities participate), early learning programs, child care, classrooms, schools, and distance learning. This priority will provide support to help address

⁴ For purposes of this priority, "Historically Black Colleges and Universities" means colleges and universities that meet the criteria set out in 34 CFR 608.2.

⁵ For purposes of this priority, "Tribally Controlled Colleges and Universities" has the meaning ascribed to it in section 316(b)(3) of the HEA of 1965.

⁶ For purposes of this priority, "Minority-Serving Institution" means an institution that is eligible to receive assistance under sections 316 through 320 of part A of title III, under part B of title III, or under title V of the HEA. For purposes of this priority, the Department will use the FY 2022 Eligibility Matrix to determine MSI eligibility (see <https://www2.ed.gov/about/offices/list/ope/ides/eligibility.html>).

⁷ For the purposes of this priority, "scholar" is limited to an individual who: (a) is pursuing a bachelor's, certification, master's, educational specialist degree, or clinical doctoral degree in special education, early intervention, or related services (as defined in this notice); (b) receives scholarship assistance as authorized under section 662 of IDEA (34 CFR 304.3(g)); (c) will be eligible for a license, endorsement, or certification from a State or national credentialing authority following completion of the degree program identified in the application; and (d) will be able to be employed in a position that serves children with disabilities for a minimum of 51 percent of their time or case load. Individuals pursuing degrees in general education or early childhood education do not qualify as "scholars" eligible for scholarship assistance.

⁸ For the purposes of this priority, "related services" includes the following: speech-language pathology and audiology services; interpreting services; psychological services; applied behavior analysis; physical therapy and occupational therapy; recreation, including therapeutic recreation; social work services; counseling services, including rehabilitation counseling; and orientation and mobility services.

⁹ For the purposes of this priority, "certification" refers to programs of study that lead to State licensure, endorsement, or certification that qualifies graduates to teach or provide services to children with disabilities. Programs of study that lead to a certificate of completion from an HBCU, TCCU, or MSI, but do not lead to State licensure, endorsement, or certification, do not qualify.

identified needs for personnel, including personnel from racially and ethnically diverse backgrounds and personnel who are multilingual with the knowledge and skills to promote high expectations and provide effective evidence-based¹⁰ interventions and services that improve outcomes for children with disabilities, including children of color with disabilities and children with disabilities who are multilingual.

Note: Projects may include individuals who are not funded as scholars, but are in degree programs (e.g., general education, early childhood education, administration) that are cooperating with the grantee's project. These individuals may participate in the coursework, assignments, field or clinical experiences, and other opportunities required of scholars' program of study (e.g., speaker series, monthly seminars) if doing so does not diminish the benefit for project-funded scholars (e.g., by reducing funds available for scholar support or limiting opportunities for scholars to participate in project activities).

Note: Personnel preparation degree programs that prepare all scholars to be dually certified can qualify under this priority.

Focus Areas:

Within this absolute priority, the Secretary intends to support projects under the following two focus areas: (A) Preparing Personnel to Serve Infants, Toddlers, and Preschool-Age Children with Disabilities; and (B) Preparing Personnel to Serve School-Age Children with Disabilities.

Applicants must identify the specific focus area (i.e., A or B) under which they are applying as part of the competition title on the application cover sheet (SF 424, line 12). Applicants may not submit the same proposal under more than one focus area. Applicants may submit proposals under both focus areas so long as they are different proposals. OSEP may fund out of rank order applications from HBCUs and TCCUs. OSEP may also fund applications out of rank order to ensure that projects are funded in both Focus Area A and Focus Area B.

Focus Area A: Preparing Personnel to Serve Infants, Toddlers, and Preschool-Age Children with Disabilities. This

¹⁰ For the purposes of this priority, "evidence-based" means, at a minimum, evidence that demonstrates a rationale (as defined in 34 CFR 77.1), where a key project component (as defined in 34 CFR 77.1) included in the project's logic model (as defined in 34 CFR 77.1) is informed by research or evaluation findings that suggest the project component is likely to improve relevant outcomes (as defined in 34 CFR 77.1).

focus area is for projects that prepare early intervention, special education, and related services personnel, including scholars from racially and ethnically diverse backgrounds and scholars who are multilingual, to provide services to infants, toddlers, and preschool children with disabilities. In States where certification in early intervention is combined with certification in early childhood special education, applicants may propose a combined early intervention and early childhood special education personnel preparation project under this focus area. In States where the certification age range is other than birth through five, applicants must propose a preparation project that complies with the State's certification requirements for early intervention and early childhood special education personnel.

Focus Area B: Preparing Personnel to Serve School-Age Children with Disabilities. This focus area is for projects that prepare special education and related services personnel, including personnel from racially and ethnically diverse backgrounds and personnel who are multilingual, to work with school-age children with disabilities.

Focus Areas A and B:

Applicants may, but are not required to, use up to the first 12 months of the performance period and up to \$100,000 of funds awarded in the first budget period for planning, including enhancing an existing program, without enrolling scholars. If an applicant chooses to use the first year for program planning then the applicant must provide sufficient justification for requesting program planning time and include the goals, objectives, key personnel and collaborators, and intended outcomes of program planning in year one, a description of the proposed strategies and activities to be supported, and a timeline for the work. The proposed strategies may include activities such as—

(1) Updating coursework, course outcomes, scholar competencies, assignments, or extensive and coordinated field or clinical experiences needed to support preparation for special education, early intervention, or related services scholars, including scholars from racially and ethnically diverse backgrounds, scholars who are multilingual, and scholars with disabilities serving children with disabilities, including children of color with disabilities and children with disabilities who are multilingual;

(2) Building the capacity (e.g., hiring a field supervisor, providing professional development for faculty

and field supervisors) of the program to prepare scholars, including scholars from racially and ethnically diverse backgrounds, scholars who are multilingual, and scholars with disabilities, to serve children with disabilities and their families, including children and families of color and who are multilingual;

(3) Purchasing needed resources (e.g., additional teaching supplies, technology-based resources, or other specialized equipment to enhance instruction); or

(4) Establishing relationships with early intervention and early childhood programs or schools, to serve as sites for field or clinical experiences needed to support the project. These sites may include high-need local educational agencies (LEAs),¹¹ high-poverty schools,¹² schools identified for comprehensive support and improvement,¹³ and schools implementing a targeted support and improvement plan¹⁴ for children with disabilities; early childhood and early intervention programs located within the geographic boundaries of a high-need LEA; and early childhood and early intervention programs located within the geographical boundaries of an LEA serving the highest percentage of schools identified for comprehensive support and improvement or

¹¹ For the purposes of this priority, “high-need LEA” means an LEA (a) that serves not fewer than 10,000 children from families with incomes below the poverty line; or (b) for which not less than 20 percent of the children are from families with incomes below the poverty line.

¹² For the purposes of this priority, “high-poverty school” means a school in which at least 50 percent of students are from low-income families as determined using one of the measures of poverty specified in section 1113(a)(5) of the Elementary and Secondary Education Act of 1965, as amended (ESEA). For middle and high schools, eligibility may be calculated on the basis of comparable data from feeder schools. Eligibility as a high-poverty school under this definition is determined on the basis of the most currently available data.

¹³ For the purposes of this priority, “school implementing a comprehensive support and improvement plan” means a school identified for comprehensive support and improvement by a State under section 1111(c)(4)(D) of the ESEA that includes (a) not less than the lowest performing 5 percent of all schools in the State receiving funds under title I, part A of the ESEA; (b) all public high schools in the State failing to graduate one third or more of their students; and (c) public schools in the State described in section 1111(d)(3)(A)(i)(II) of the ESEA.

¹⁴ For the purposes of this priority, “school implementing a targeted support and improvement plan” means a school identified for targeted support and improvement by a State that has developed and is implementing a school-level targeted support and improvement plan to improve student outcomes based on the indicators in the statewide accountability system as defined in section 1111(d)(2) of the ESEA.

implementing targeted support and improvement plans in the State.

Additional Federal funds may be requested for scholar support and other grant activities occurring in year one of the project, provided that the total request for year one does not exceed the maximum award available for one budget period of 12 months (i.e., \$250,000).

Note: Applicants proposing projects to develop, expand, or add a new area of emphasis to early intervention, special education, or related services programs must provide, in their applications, information on how these new areas will be sustained once Federal funding ends.

Note: Project periods under this priority may be up to 60 months. Projects should be designed to ensure that all proposed scholars successfully complete the program within 60 months from the start of the project. The Secretary may reduce continuation awards for any project in which scholar recruitment is not on track or scholars are not on track to complete the program by the end of that period.

To be considered for funding under this absolute priority, applicants must meet the application requirements contained in the priority. All projects funded under this absolute priority also must meet the programmatic and administrative requirements specified in the priority.

To meet the requirements of this priority, an applicant must—

(a) Demonstrate, in the narrative section of the application under “Significance” how—

(1) The proposed project will address the need in the proposed preparation focus area to increase the number of personnel, including increasing the number from racially and ethnically diverse backgrounds, the number of personnel who are multilingual, and the number of personnel with disabilities, who are prepared to provide culturally and linguistically responsive effective and equitable instruction, interventions, and services that improve outcomes for children with disabilities;

(2) The proposed project will increase the number of personnel with competencies¹⁵ in the proposed preparation focus area to provide effective and equitable evidence-based culturally and linguistically responsive instruction, interventions, and services, including through distance education,

¹⁵ For the purposes of this priority, “competencies” means what a person knows and can do—the knowledge, skills, and dispositions necessary to effectively function in a role (National Professional Development Center on Inclusion, 2011).

that improve outcomes, including literacy and math outcomes, for children with disabilities, including children of color with disabilities and children with disabilities who are multilingual; and

(3) That the applicant has successfully graduated students in its program, including students who are from racially and ethnically diverse backgrounds, students who are multilingual, and students with disabilities, including data disaggregated by race, national origin and primary language(s), and disability status; and the number of students who have graduated in the last five years.

(b) Demonstrate, in the narrative section of the application under “Quality of project services,” how—

(1) The project will conduct its planning activities, if the applicant will use any of the allowable first 12 months of the project period for planning;

(2) The project will recruit and retain scholars to participate in the project. To meet this requirement, the applicant must describe—

(i) The selection criteria the project will use to identify program applicants for admission into the program;

(ii) The specific recruitment strategies the project will use to attract a diverse pool of applicants, including from groups that are underrepresented in the field, including applicants from racially and ethnically diverse backgrounds, applicants who are multilingual, and applicants with disabilities; and

Note: Applicants should engage in focused outreach and recruitment to increase the number of applicants from groups that are traditionally underrepresented in the field, including applicants from racially and ethnically diverse backgrounds, applicants who are multilingual, and applicants with disabilities, but the selection criteria the applicant intends to use must ensure equal access and treatment of all applicants seeking admission to the program, and must be consistent with applicable law, including Federal civil rights laws.

(iii) The approach that will be used to mentor and support all scholars, including any specific approaches to supporting groups that are underrepresented in the field, including scholars from racially and ethnically diverse backgrounds, scholars who are multilingual, and scholars with disabilities, with the goal of helping them complete the program within the project period and preparing them for careers in special education, early intervention, or related services;

(3) The project will promote the acquisition of competencies needed by

special education, early intervention, or related services personnel in the project’s proposed preparation focus area to provide effective and equitable evidence-based culturally and linguistically responsive instruction, interventions, and services that improve outcomes for children with disabilities, including children of color with disabilities and children with disabilities who are multilingual. To address this requirement, the applicant must—

(i) Describe how the proposed components, such as coursework; field or clinical experiences in early intervention, early childhood, or school settings; work-based experiences; or other opportunities provided to scholars, and sequence of the components will enable the scholars to acquire the competencies needed by applicable personnel to serve children with disabilities, including children of color and children who are multilingual in a school or early intervention setting;

(ii) Describe how the proposed project will reflect current evidence-based practices (EBPs) to prepare scholars to provide effective and equitable evidence-based culturally and linguistically responsive instruction, interventions, and services that improve outcomes for children with disabilities, including children of color and children who are multilingual, in a variety of educational or early childhood and early intervention settings, including in-person and distance learning;

(iii) Describe the pedagogical practices that will be used to ensure that the program is inclusive regarding race, ethnicity, culture, language, and disability status so that scholars are prepared to create inclusive, supportive, equitable, unbiased, and identity-safe learning environments for children with disabilities; and

(iv) Describe how the project will engage various partners, including families of color, families who are multilingual, and family caregivers with disabilities; and public or private partnering agencies, schools, or programs, including those that serve racially and ethnically diverse populations, multilingual populations, and children with disabilities; and centers or organizations that provide services to children with disabilities, including children of color with disabilities and children with disabilities who are multilingual, to inform and support project components.

(c) Demonstrate, in the narrative section of the application under “Quality of the project personnel and management plan,” how—

(1) The project director and other key project personnel are qualified to prepare scholars in the project’s preparation focus area;

(2) The project director and other key project personnel will manage the components of the project; and

(3) The time commitments of the project director and other key project personnel are adequate to meet the objectives of the proposed project.

(d) Demonstrate, in the narrative section of the application under “Adequacy of resources,” how—

(1) Information regarding the types of accommodations and resources available to fully support scholars’ well-being and a work-life balance (e.g., university and community mental health supports, counseling services, health resources, housing resources, child care) will be disseminated and how the project will support scholars to access those accommodations and resources on a timely basis, if needed, while the scholar is in the program;

(2) The types of accommodations and resources provided to support scholars’ well-being and a work-life balance will be individualized based on scholars’ cultural, academic, social emotional, and disability-related needs with the goals of supporting them to complete the program; and

(3) The budget is adequate for meeting the project objectives and mitigating financial burden to scholars in completing the program of study.

Note: Scholar support does not need to be uniform for all scholars and should be customized for individual scholars based on scholars’ financial needs, including consideration of all costs associated with the cost of attendance, even if that means enrolling fewer scholars. Scholar support can include support for cost of attendance (i.e., tuition and fees; university student health insurance; an allowance for books, materials, and supplies; an allowance for miscellaneous personal expenses; an allowance for dependent care, such as child care; and an allowance for room and board), travel in conjunction with training assignments, including conference registration, and stipends to support scholars’ completion of the program. Projections for scholar support should consider tuition increases and cost of living increases over the project period.

(e) Demonstrate, in the narrative section of the application under “Quality of the project evaluation,” how the applicant will—

(1) Evaluate how well the goals or objectives of the proposed project have been met. To meet this requirement the applicant must describe—

(i) The relevant outcomes to be measured for both the project and the scholars, particularly the acquisition of scholars' competencies; and

(ii) The evaluation methodologies, data collection methods, and data analyses that will be used; and

(2) Collect and analyze data on all scholars, including data disaggregated by race, national origin and primary language(s), and disability status, supported by the project to inform the proposed project on an ongoing basis.

(f) Demonstrate, in the appendices or narrative under "Required project assurances" as directed, that the following requirements are met. The applicant must—

(1) Include, in appendix A of the application—

(i) Charts, tables, figures, graphs, screen shots, and visuals that provide information directly relating to the application requirements for the narrative. Appendix A should not be used for supplementary information. Please note that charts, tables, figures, graphs, and screen shots can be single-spaced when placed in appendix A; and

(ii) A letter of support from a public or private partnering agency, school, or program, that states it will provide scholars with a field or clinical experience in a high-need LEA, a high-poverty school, a school implementing a comprehensive support and improvement plan, a school implementing a targeted support and improvement plan for children with disabilities, a State educational agency, an early childhood and early intervention program located within the geographical boundaries of a high-need LEA, or an early childhood and early intervention program located within the geographical boundaries of an LEA serving the highest percentage of schools identified for comprehensive support and improvement or implementing targeted support and improvement plans in the State;

(2) Include in appendix B of the application—

(i) A table that lists the project's required coursework and includes the course title, brief description, learning goals, and relevant State or national professional organization personnel standards for each course; and

(ii) Four exemplars of course syllabi required by the degree program that reflect EBP across the areas of assessment; social, emotional, and behavioral development and learning; inclusive practices; instructional strategies; and literacy if appropriate, and consider the unique needs of children of color with disabilities and children who are multilingual;

(3) Include in the application budget attendance by the project director at a three-day project directors' meeting in Washington, DC, during each year of the project; and

(4) Provide an assurance that—

(i) The project will meet the requirements in 34 CFR 304.23, particularly those related to (A) informing all scholarship recipients of their service obligation commitment; and (B) disbursing scholarships. Failure by a grantee to properly meet these requirements is a violation of the grant award that may result in the grantee being liable for returning any misused funds to the Department;

(ii) The project will meet the statutory requirements in section 662(e) through (h) of IDEA;

(iii) The project will be operated in a manner consistent with nondiscrimination requirements contained in Federal civil rights laws;

(iv) An assurance that all the syllabi for the project's required coursework will be provided at the request of OSEP;

(v) At least 65 percent of the total award over the project period (*i.e.*, up to 5 years) will be used for scholar support;

(vi) Scholar support provided by the project (*e.g.*, tuition and fees; university student health insurance; an allowance for books, materials, and supplies; an allowance for miscellaneous personal expenses; an allowance for dependent care, such as child care; an allowance for room and board) is not conditioned on scholars working for the grantee (*e.g.*, personnel at the institution of higher education (IHE));

(vii) The project director, key personnel, and scholars will actively participate in learning opportunities (*e.g.*, webinars, briefings) supported by OSEP. This is intended to promote opportunities for participants to understand reporting requirements, share resources, and generate new ideas by discussing topics of common interest to participants across projects including Department priorities and needs in the field;

(viii) The project website, if applicable, will be of high quality, with an easy-to-navigate design that meets government or industry-recognized standards for accessibility;

(ix) Scholar accomplishments (*e.g.*, public service, awards, publications, conference presentations) will be reported in annual and final performance reports; and

(x) Annual data will be submitted on each scholar who receives grant support (OMB Control Number 1820–0686). The primary purposes of the data collection are to track the service obligation

fulfillment of scholars who receive funds from OSEP grants and to collect data for program performance measure reporting under 34 CFR 75.110. Data collection includes the submission of a signed, completed pre-scholarship agreement and exit certification for each scholar funded under an OSEP grant (see paragraph (f)(4)(i) of this priority). Applicants are encouraged to visit the Personnel Development Program Data Collection System (DCS) website at <https://pdp.ed.gov/osep> for further information about this data collection requirement.

Competitive Preference Priority:

Within this absolute priority, we give competitive preference to applications that address the following priority. Under 34 CFR 75.105(c)(2)(i), we award an additional 3 points to an application that meets the competitive preference priority. Applicants should indicate in the abstract if the competitive preference priority is addressed.

The competitive preference priority is:

Applications from New Potential Grantees (0 or 3 points).

(a) Under this priority, an applicant must demonstrate that the applicant (*i.e.*, the IHE) has not had an active discretionary grant under the ALN 84.325K¹⁶ program, including through membership in a group application submitted in accordance with 34 CFR 75.127–75.129, in the last five years before the deadline date for submission of applications under this program (ALN 84.325M).

(b) For the purpose of this priority, a grant or contract is active until the end of the grant's or contract's project or funding period, including any extensions of those periods that extend the grantee's or contractor's authority to obligate funds.

References:

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¹⁶ 84.325M is a new special education, early intervention, and related services personnel preparation program for HBCUs, TCCUs, and MSIs. HBCUs, TCCUs, and MSIs were, and continue to be, eligible applicants under 84.325K.

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- Ondrasek, N., Carver-Thomas, D., Scott, C., & Darling-Hammond, L. (2020). *California's special education teacher shortage* (policy brief). Policy Analysis for California Education.
- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S.* Learning Policy Institute.
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- U.S. Department of Education. (2022b). *Characteristics of 2020–21 Public and Private K–12 School Teachers in the United States: Results From the National Teacher and Principal Survey*. <https://nces.ed.gov/pubs2022/2022113.pdf>.

Waiver of Proposed Rulemaking:

Under the Administrative Procedure Act (APA) (5 U.S.C. 553) the Department generally offers interested parties the opportunity to comment on proposed priorities. Section 681(d) of IDEA, however, makes the public comment requirements of the APA inapplicable to the priorities in this notice.

Program Authority: 20 U.S.C. 1462 and 1481.

Note: Projects will be awarded and must be operated in a manner consistent with the nondiscrimination requirements contained in Federal civil rights laws.

Applicable Regulations: (a) The Education Department General Administrative Regulations in 34 CFR parts 75, 77, 79, 81, 82, 84, 86, 97, 98, and 99. (b) The Office of Management and Budget Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement) in 2 CFR part 180, as adopted and amended as regulations of the Department in 2 CFR part 3485. (c) The Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2 CFR part 200, as adopted and amended as regulations of the Department in 2 CFR part 3474. (d) The regulations for this program in 34 CFR part 304.

Note: The regulations in 34 CFR part 86 apply to IHEs only.

II. Award Information

Type of Award: Discretionary grants.
Estimated Available Funds: \$7,250,000.

Contingent upon the availability of funds and the quality of applications, we may make additional awards in FY 2024 from the list of unfunded applications from this competition.

Estimated Range of Awards:

\$200,000–\$250,000 per year.

Estimated Average Size of Awards: \$225,000 per year.

Maximum Award: We will not make an award exceeding \$250,000 for a single budget period of 12 months.

Estimated Number of Awards: 29.

Project Period: Up to 60 months.

Note: The Department is not bound by any estimates in this notice.

III. Eligibility Information

1. **Eligible Applicants:** HBCUs, TCCUs, MSIs, and private nonprofit organizations.

Note: If you are a nonprofit organization, under 34 CFR 75.51, you may demonstrate your nonprofit status by providing: (1) proof that the Internal Revenue Service currently recognizes the applicant as an organization to which contributions are tax deductible under section 501(c)(3) of the Internal Revenue Code; (2) a statement from a State taxing body or the State attorney general certifying that the organization is a nonprofit organization operating within the State and that no part of its net earnings may lawfully benefit any private shareholder or individual; (3) a certified copy of the applicant's

certificate of incorporation or similar document if it clearly establishes the nonprofit status of the applicant; or (4) any item described above if that item applies to a State or national parent organization, together with a statement by the State or parent organization that the applicant is a local nonprofit affiliate.

2. a. **Cost Sharing or Matching:** Cost sharing or matching is not required for this competition.

b. **Indirect Cost Rate Information:** This program uses a training indirect cost rate. This limits indirect cost reimbursement to an entity's actual indirect costs, as determined in its negotiated indirect cost rate agreement, or eight percent of a modified total direct cost base, whichever amount is less. For more information regarding training indirect cost rates, see 34 CFR 75.562. For more information regarding indirect costs, or to obtain a negotiated indirect cost rate, please see www2.ed.gov/about/offices/list/ocfo/intro.html.

c. **Administrative Cost Limitation:** This program does not include any program-specific limitation on administrative expenses. All administrative expenses must be reasonable and necessary and conform to Cost Principles described in 2 CFR part 200 subpart E of the Uniform Guidance.

3. **Subgrantees:** Under 34 CFR 75.708(b) and (c), a grantee under this competition may award subgrants—to directly carry out project activities described in its application—to the following types of entities: IHEs, nonprofit organizations suitable to carry out the activities proposed in the application, and other public agencies. The grantee may award subgrants to entities it has identified in an approved application or that it selects through a competition under procedures established by the grantee, consistent with 34 CFR 75.708(b)(2).

4. Other General Requirements:

a. Recipients of funding under this competition must make positive efforts to employ and advance in employment qualified individuals with disabilities (see section 606 of IDEA).

b. Applicants for, and recipients of, funding must, with respect to the aspects of their proposed projects relating to the absolute priority, involve individuals with disabilities, or parents of individuals with disabilities ages birth through 26, in planning, implementing, and evaluating the project (see section 682(a)(1)(A) of IDEA).

IV. Application and Submission Information

1. Application Submission

Instructions: Applicants are required to follow the Common Instructions for Applicants to Department of Education Discretionary Grant Programs, published in the **Federal Register** on December 7, 2022 (87 FR 75045) and available at www.federalregister.gov/documents/2022/12/07/2022-26554/common-instructions-for-applicants-to-department-of-education-discretionary-grant-programs, which contain requirements and information on how to submit an application. Please note that these Common Instructions supersede the version published on December 27, 2021.

2. Intergovernmental Review: This competition is subject to Executive Order 12372 and the regulations in 34 CFR part 79. Information about Intergovernmental Review of Federal Programs under Executive Order 12372 is in the application package for this competition.

3. Funding Restrictions: We reference regulations outlining funding restrictions in the *Applicable Regulations* section of this notice.

4. Recommended Page Limit: The application narrative is where you, the applicant, address the selection criteria that reviewers use to evaluate your application. We recommend that you (1) limit the application narrative to no more than 40 pages; (2) limit the whole application to no more than 100 pages; and (3) use the following standards:

- A “page” is 8.5” x 11”, on one side only, with 1” margins at the top, bottom, and both sides.

- Double-space (no more than three lines per vertical inch) all text in the application narrative, including titles, headings, footnotes, quotations, reference citations, and captions, as well as all text in charts, tables, figures, graphs, and screen shots.

- Use a font that is 12 point or larger.
- Use one of the following fonts: Times New Roman, Courier, Courier New, or Arial.

The recommended page limit does not apply to the cover sheet; the budget section, including the narrative budget justification; the assurances and certifications; or the abstract (follow the guidance provided in the application package for completing the abstract), the table of contents, the list of priority requirements, the resumes, the reference list, the letters of support, or the appendices. However, the recommended page limit does apply to all of the application narrative, including all text in charts, tables, figures, graphs, and screen shots.

V. Application Review Information

1. Selection Criteria: The selection criteria for this competition are from 34 CFR 75.210 and are as follows:

(a) *Significance (10 points).*
(1) The Secretary considers the significance of the proposed project.
(2) In determining the significance of the proposed project, the Secretary considers the following factors:
(i) The extent to which the proposed project will prepare personnel for fields in which shortages have been demonstrated; and
(ii) The importance or magnitude of the results or outcomes likely to be attained by the proposed project, especially improvements in teaching and student achievement.

(b) *Quality of project services (45 points).*
(1) The Secretary considers the quality of the services to be provided by the proposed project.

(2) In determining the quality of the services to be provided by the proposed project, the Secretary considers the quality and sufficiency of strategies for ensuring equal access and treatment for eligible project participants who are members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability.

(3) In addition, the Secretary considers the following factors:

(i) The extent to which the services to be provided by the proposed project reflect up-to-date knowledge from research and effective practice;

(ii) The extent to which the training or professional development services to be provided by the proposed project are of sufficient quality, intensity, and duration to lead to improvements in practice among the recipients of those services;

(iii) The extent to which the services to be provided by the proposed project involve the collaboration of appropriate partners for maximizing the effectiveness of project services; and

(iv) The extent to which the proposed activities constitute a coherent, sustained program of training in the field.

(c) *Quality of project personnel and quality of the management plan (20 points).*

(1) The Secretary considers the quality of the project personnel and the quality of the management plan for the proposed project.

(2) In determining the quality of project personnel, the Secretary considers the extent to which the applicant encourages applications for employment from persons who are

members of groups that have traditionally been underrepresented based on race, color, national origin, gender, age, or disability.

(3) In addition, the Secretary considers the following factors:

(i) The qualifications, including relevant training and experience, of key project personnel;

(ii) The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks; and

(iii) The extent to which the time commitments of the project director and principal investigator and other key project personnel are appropriate and adequate to meet the objectives of the proposed project; and

(d) *Adequacy of resources (10 points).*

(1) The Secretary considers the adequacy of resources of the proposed project.

(2) In determining the adequacy of resources of the proposed project, the Secretary considers the following factors:

(i) The adequacy of support, including facilities, equipment, supplies, and other resources, from the applicant organization or the lead applicant organization; and

(ii) The extent to which the costs are reasonable in relation to the objectives, design, and potential significance of the proposed project.

(e) *Quality of the project evaluation (15 points).*

(1) The Secretary considers the quality of the evaluation to be conducted of the proposed project.

(2) In determining the quality of the evaluation, the Secretary considers the following factors:

(i) The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project; and

(ii) The extent to which the methods of evaluation will provide performance feedback and permit periodic assessment of progress toward achieving intended outcomes.

2. Review and Selection Process: We remind potential applicants that in reviewing applications in any discretionary grant competition, the Secretary may consider, under 34 CFR 75.217(d)(3), the past performance of the applicant in carrying out a previous award, such as the applicant's use of funds, achievement of project objectives, and compliance with grant conditions. The Secretary may also consider whether the applicant failed to submit a timely performance report or

submitted a report of unacceptable quality.

In addition, in making a competitive grant award, the Secretary requires various assurances, including those applicable to Federal civil rights laws that prohibit discrimination in programs or activities receiving Federal financial assistance from the Department (34 CFR 100.4, 104.5, 106.4, 108.8, and 110.23).

3. Additional Review and Selection Process Factors: In the past, the Department has had difficulty finding peer reviewers for certain competitions because many individuals who are eligible to serve as peer reviewers have conflicts of interest. The standing panel requirements under section 682(b) of IDEA also have placed additional constraints on the availability of reviewers. Therefore, the Department has determined that for some discretionary grant competitions, applications may be separated into two or more groups and ranked and selected for funding within specific groups. This procedure will make it easier for the Department to find peer reviewers by ensuring that greater numbers of individuals who are eligible to serve as reviewers for any particular group of applicants will not have conflicts of interest. It also will increase the quality, independence, and fairness of the review process, while permitting panel members to review applications under discretionary grant competitions for which they also have submitted applications.

4. Risk Assessment and Specific Conditions: Consistent with 2 CFR 200.206, before awarding grants under this competition the Department conducts a review of the risks posed by applicants. Under 2 CFR 200.208, the Secretary may impose specific conditions, and under 2 CFR 3474.10, in appropriate circumstances, high-risk conditions on a grant if the applicant or grantee is not financially stable; has a history of unsatisfactory performance; has a financial or other management system that does not meet the standards in 2 CFR part 200, subpart D; has not fulfilled the conditions of a prior grant; or is otherwise not responsible.

5. Integrity and Performance System: If you are selected under this competition to receive an award that over the course of the project period may exceed the simplified acquisition threshold (currently \$250,000), under 2 CFR 200.206(a)(2) we must make a judgment about your integrity, business ethics, and record of performance under Federal awards—that is, the risk posed by you as an applicant—before we make an award. In doing so, we must consider any information about you that is in the

integrity and performance system (currently referred to as the Federal Awardee Performance and Integrity Information System (FAPIIS)), accessible through the System for Award Management. You may review and comment on any information about yourself that a Federal agency previously entered and that is currently in FAPIIS.

Please note that, if the total value of your currently active grants, cooperative agreements, and procurement contracts from the Federal Government exceeds \$10,000,000, the reporting requirements in 2 CFR part 200, appendix XII, require you to report certain integrity information to FAPIIS semiannually. Please review the requirements in 2 CFR part 200, appendix XII, if this grant plus all the other Federal funds you receive exceed \$10,000,000.

6. In General: In accordance with the Office of Management and Budget's guidance located at 2 CFR part 200, all applicable Federal laws, and relevant Executive guidance, the Department will review and consider applications for funding pursuant to this notice inviting applications in accordance with—

(a) Selecting recipients most likely to be successful in delivering results based on the program objectives through an objective process of evaluating Federal award applications (2 CFR 200.205);

(b) Prohibiting the purchase of certain telecommunication and video surveillance services or equipment in alignment with section 889 of the National Defense Authorization Act of 2019 (Pub. L. 115–232) (2 CFR 200.216);

(c) Providing a preference, to the extent permitted by law, to maximize use of goods, products, and materials produced in the United States (2 CFR 200.322); and

(d) Terminating agreements in whole or in part to the greatest extent authorized by law if an award no longer effectuates the program goals or agency priorities (2 CFR 200.340).

VI. Award Administration Information

1. Award Notices: If your application is successful, we notify your U.S. Representative and U.S. Senators and send you a Grant Award Notification (GAN); or we may send you an email containing a link to access an electronic version of your GAN. We may notify you informally, also.

If your application is not evaluated or not selected for funding, we notify you.

2. Administrative and National Policy Requirements: We identify administrative and national policy requirements in the application package and reference these and other

requirements in the *Applicable Regulations* section of this notice.

We reference the regulations outlining the terms and conditions of an award in the *Applicable Regulations* section of this notice and include these and other specific conditions in the GAN. The GAN also incorporates your approved application as part of your binding commitments under the grant.

3. Open Licensing Requirements: Unless an exception applies, if you are awarded a grant under this competition, you will be required to openly license to the public grant deliverables created in whole, or in part, with Department grant funds. When the deliverable consists of modifications to pre-existing works, the license extends only to those modifications that can be separately identified and only to the extent that open licensing is permitted under the terms of any licenses or other legal restrictions on the use of pre-existing works. Additionally, a grantee that is awarded competitive grant funds must have a plan to disseminate these public grant deliverables. This dissemination plan can be developed and submitted after your application has been reviewed and selected for funding. For additional information on the open licensing requirements please refer to 2 CFR 3474.20.

4. Reporting: (a) If you apply for a grant under this competition, you must ensure that you have in place the necessary processes and systems to comply with the reporting requirements in 2 CFR part 170 should you receive funding under the competition. This does not apply if you have an exception under 2 CFR 170.110(b).

(b) At the end of your project period, you must submit a final performance report, including financial information, as directed by the Secretary. If you receive a multiyear award, you must submit an annual performance report that provides the most current performance and financial expenditure information as directed by the Secretary under 34 CFR 75.118. The Secretary may also require more frequent performance reports under 34 CFR 75.720(c). For specific requirements on reporting, please go to www.ed.gov/fund/grant/apply/appforms/appforms.html.

(c) Under 34 CFR 75.250(b), the Secretary may provide a grantee with additional funding for data collection analysis and reporting. In this case the Secretary establishes a data collection period.

5. Performance Measures: For the purposes of Department reporting under 34 CFR 75.110, the Department has established a set of performance

measures, including long-term measures, that are designed to yield information on various aspects of the effectiveness and quality of the Personnel Development to Improve Services and Results for Children with Disabilities program. These measures include: (1) the percentage of preparation programs that incorporate scientifically or evidence-based practices into their curricula; (2) the percentage of scholars completing the preparation program who are knowledgeable and skilled in evidence-based practices that improve outcomes for children with disabilities; (3) the percentage of scholars who exit the preparation program prior to completion due to poor academic performance; (4) the percentage of scholars completing the preparation program who are working in the area(s) in which they were prepared upon program completion; (5) the Federal cost per scholar who completed the preparation program; (6) the percentage of scholars who completed the preparation program and are employed in high-need districts; and (7) the percentage of scholars who completed the preparation program and who are rated effective by their employers.

In addition, the Department will gather information on the following outcome measures: the number and percentage of scholars proposed by the grantee in its application that were actually enrolled and making satisfactory academic progress in the current academic year; the number and percentage of enrolled scholars who are on track to complete the training program by the end of the project's original grant period; and the percentage of scholars who completed the preparation program and are employed in the field of special education for at least two years.

Grantees may be asked to participate in assessing and providing information on these aspects of program quality.

6. *Continuation Awards:* In making a continuation award under 34 CFR 75.253, the Secretary considers, among other things: whether a grantee has made substantial progress in achieving the goals and objectives of the project; whether the grantee has expended funds in a manner that is consistent with its approved application and budget; and, if the Secretary has established performance measurement requirements, the performance targets in the grantee's approved application.

In making a continuation award, the Secretary also considers whether the grantee is operating in compliance with the assurances in its approved application, including those applicable

to Federal civil rights laws that prohibit discrimination in programs or activities receiving Federal financial assistance from the Department (34 CFR 100.4, 104.5, 106.4, 108.8, and 110.23).

VII. Other Information

Accessible Format: On request to the program contact person listed under **FOR FURTHER INFORMATION CONTACT**, individuals with disabilities can obtain this document and a copy of the application package in an accessible format. The Department will provide the requestor with an accessible format that may include Rich Text Format (RTF) or text format (txt), a thumb drive, an MP3 file, braille, large print, audiotope, or compact disc, or other accessible format.

Electronic Access to This Document: The official version of this document is the document published in the **Federal Register**. You may access the official edition of the **Federal Register** and the Code of Federal Regulations at www.govinfo.gov. At this site you can view this document, as well as all other documents of this Department published in the **Federal Register**, in text or Portable Document Format (PDF). To use PDF you must have Adobe Acrobat Reader, which is available free at the site. You may also access documents of the Department published in the **Federal Register** by using the article search feature at www.federalregister.gov. Specifically, through the advanced search feature at this site, you can limit your search to documents published by the Department.

Katherine Neas,

Deputy Assistant Secretary, Delegated the authority to perform the functions and duties of the Assistant Secretary for the Office of Special Education and Rehabilitative Services.

[FR Doc. 2023-09615 Filed 5-4-23; 8:45 am]

BILLING CODE 4000-01-P

DEPARTMENT OF EDUCATION

Applications for New Awards; Statewide Longitudinal Data Systems

AGENCY: Institute of Education Sciences, Department of Education.

ACTION: Notice.

SUMMARY: The Institute of Education Sciences (IES) invites State educational agencies (SEAs) to apply for fiscal year (FY) 2023 grants to assist them in using data in Statewide Longitudinal Data Systems (SLDS) to inform their efforts to improve education in critical areas, Assistance Listing Number (ALN) 84.372A. This notice relates to the

approved information collection under OMB control number 1894-0006.

DATES:

Applications Available: May 5, 2023.
Deadline for Notice of Intent to Apply: May 19, 2023.

Deadline for Transmittal of Applications: June 29, 2023.

Pre-Application Webinar Information: We intend to hold webinars designed to provide technical assistance to interested applicants. Detailed information regarding these meetings will be provided on the IES website at <https://ies.ed.gov/funding>.

ADDRESSES: For the addresses for obtaining and submitting an application, please refer to our Common Instructions for Applicants to Department of Education Discretionary Grant Programs, published in the **Federal Register** on December 7, 2022 (87 FR 75045) and available at www.federalregister.gov/documents/2022/12/07/2022-26554/common-instructions-for-applicants-to-department-of-education-discretionary-grant-programs. Please note that these Common Instructions supersede the version published on December 27, 2021.

FOR FURTHER INFORMATION CONTACT:

Nancy Sharkey, U.S. Department of Education, 400 Maryland Avenue SW, Potomac Center Plaza, 4th Floor, Washington, DC 20202. Telephone: (202) 987-1082. Email: nancy.sharkey@ed.gov.

If you are deaf, hard of hearing, or have a speech disability and wish to access telecommunications relay services, please dial 7-1-1.

SUPPLEMENTARY INFORMATION:

Full Text of Announcement

I. Funding Opportunity Description

Purpose of Program: The SLDS program awards grants to SEAs to design, develop, and implement statewide longitudinal data systems to efficiently and accurately manage, analyze, disaggregate, and use individual student data. The Department's long-term goal in operating the program is to help all States create comprehensive P-20W (early learning through workforce) systems that foster the generation and use of accurate and timely data, support analysis and informed decision-making at all levels of the education system, increase the efficiency with which data may be analyzed to support the continuous improvement of education services and outcomes, facilitate research to improve student academic achievement and close achievement

gaps, support education accountability systems, and simplify the processes used by SEAs to make education data transparent through Federal and public reporting.

Under previous competitions, IES awarded SLDS grants to 49 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa. These funds supported SLDS grantees in the design, development, and implementation of statewide longitudinal kindergarten through grade 12 (K–12) data systems, or to expand their K–12 systems to include early childhood data and/or postsecondary and workforce data. SLDS grant awards also supported the development and implementation of systems that link individual student data across time and across databases, including the matching of teachers to students; promoting interoperability across institutions, agencies, and States; and protecting student and individual privacy consistent with applicable privacy protection laws.

Priorities: Since the beginning of the COVID–19 pandemic, States have used their SLDS systems in unprecedented ways, including helping to develop and implement new attendance policies and procedures, identifying locations where internet hotspots should be added to enable students to access academic digital content and online instruction, and even providing a source of information on available childcare. SLDS systems have helped States use American Rescue Plan Elementary and Secondary School Relief (ARP ESSER) funds to safely reopen schools and also to mitigate the learning losses that occurred during the pandemic. Education data systems are essential for enabling States to respond to unanticipated events quickly and effectively. To do that, SLDS systems must be flexible enough to link new data and provide valid and reliable information to stakeholders. The following priorities would enable States to modernize their SLDS systems and facilitate their use to inform policy issues.

Applicants may apply for funds to carry out projects to address one of the following priorities for development and use of an SLDS:

- (1) Infrastructure and Interoperability.
- (2) College and Career.
- (3) School Finance.
- (4) State Policy Questions.

Under any of these priorities, States should consider how their proposals would enhance their ability to use their SLDS to address the needs of at-risk

students, including, for example, children and youth who are or have been homeless or in the child welfare or juvenile justice systems.

All applicants may also apply for funds to participate in the development of open-source data use assets built upon the Common Education Data Standards (CEDS) and within the CEDS Open Source Community (OSC). More information on CEDS can be found at <https://ceds.ed.gov/>. States participating in this project would contribute to the identification and prioritization of data use applications (e.g., reports, dashboards, research request tools) for statewide longitudinal data stored in or expressed in CEDS. State participants would then contribute to an Agile development process to collaboratively produce these outputs within the CEDS OSC. These outputs would be immediately deployable within the States that participate in the project, but also more broadly scalable to any State or education stakeholder that uses CEDS. States that participate would be in control of the implementation of outputs from the work and no data would be shared outside of the State.

Only SEAs are eligible to apply. We will not award grants to support ongoing maintenance of current data systems, but they may be used to make more effective use of the data contained in existing statewide systems, or to create a system where none previously existed, or a linkage that did not already exist.

In recognition of the progress that prior grantees have made in improving data systems and to ensure that as many States as possible have the opportunity to receive SLDS funding, States that did not receive SLDS grants in *both* the FY 2015 and FY 2019/2020 competitions are eligible to receive grants in this competition.

Exemption from Rulemaking: Under section 191 of the Education Sciences Reform Act, 20 U.S.C. 9581, IES is not subject to section 43(d) of the General Education Provisions Act, 20 U.S.C. 1232(d), and is therefore not required to offer interested parties the opportunity to comment on priorities, selection criteria, definitions, and requirements.

Program Authority: 20 U.S.C. 9607.

Applicable Regulations: (a) The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 77, 82, 84, 97, 98, and 99. (b) 34 CFR part 75, except for the provisions in 34 CFR 75.100, 75.101(b), 75.102, 75.103, 75.105, 75.109(a), 75.200, 75.201, 75.209, 75.210, 75.211, 75.217(a)–(c), 75.219, 75.220, 75.221, 75.222, and 75.230. (c) The OMB Guidelines to Agencies on

Governmentwide Debarment and Suspension (Nonprocurement) in 2 CFR part 180, as adopted and amended as regulations of the Department in 2 CFR part 3485.

II. Award Information

Type of Award: Cooperative agreements.

Estimated Available Funds: \$43,755,985.

Estimated Range of Awards: \$3,750,000 to \$4,000,000 for the entire project period of 48 months.

Maximum Award: We will not make an award exceeding \$3,750,000 for the entire project period of 48 months to address one of the priorities. States that agree to participate in the Open Source Data Use project may request an additional \$250,000 for costs associated with the work for a project period of no more than 48 months.

Note: The Director of IES may change the maximum award through a notice published in the **Federal Register**.

Estimated Number of Awards: We estimate making approximately 35 awards. The number of awards made under this competition will depend upon the quality of the applications received and the level of funding requested.

Note: The Department is not bound by any estimates in this notice.

Project Period: Up to 48 months.

III. Eligibility Information

1. **Eligible Applicants:** Eligible applicants are limited to SEAs. An SEA is the agency primarily responsible for the State supervision of elementary schools and secondary schools. See 20 U.S.C. 7801 (which incorporates by reference the definition of SEA in section 8101 of the Elementary and Secondary Education Act of 1965, as amended (ESEA), 20 U.S.C. 7801). States and territories that did not receive SLDS grants in *both* the FY 2015 and FY 2019/2020¹ competitions are eligible to receive grants in this round.²

2. a. **Cost Sharing or Matching:** This competition does not require cost sharing or matching.

¹ Grants that were awarded to States in FY 2020 included funds appropriated in FY 2019. These grants are referred to as FY 19/20 grants to reflect the funding source and the award date.

² State and Territories eligible to apply are: Alabama, Alaska, American Samoa, Arizona, Arkansas, California, Colorado, Northern Mariana Islands, Connecticut, Delaware, District of Columbia, Florida, Georgia, Guam, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Puerto Rico, Rhode Island, South Carolina, South Dakota, U.S. Virgin Islands, Utah, Vermont, Virginia, West Virginia, and Wyoming.

b. *Indirect Cost Rate Information:* This program uses a restricted indirect cost rate. For more information regarding indirect costs, or to obtain a negotiated indirect cost rate, please see www2.ed.gov/about/offices/list/ocfo/intro.html.

c. *Supplement-Not-Supplant:* The Educational Technical Assistance Act of 2002 requires that funds made available under this grant program be used to supplement, and not supplant, other State or local funds used for developing or using State data systems.

3. *Subgrantees:* A grantee under this competition may not award subgrants to entities to directly carry out project activities described in its application.

IV. Application and Submission Information

1. Application Submission

Instructions: Applicants are required to follow the Common Instructions for Applicants to Department of Education Discretionary Grant Programs, published in the **Federal Register** on December 7, 2022 (87 FR 75045) and available at <https://www.federalregister.gov/documents/2022/12/07/2022-26554/common-instructions-for-applicants-to-department-of-education-discretionary-grant-programs>, which contain requirements and information on how to submit an application. Please note that these Common Instructions supersede the version published on December 27, 2021.

Additional information regarding program requirements for this competition will be contained in the Request for Applications (RFA), which will be available on or before May 12, 2023, on the IES website at: <https://ies.ed.gov/funding/>.

2. *Submission of Proprietary Information:* Given the types of projects that may be proposed in applications for the SLDS grant program, your application may include business information that you consider proprietary. In 34 CFR 5.11 we define “business information” and describe the process we use in determining whether any of that information is proprietary and, thus, protected from disclosure under Exemption 4 of the Freedom of Information Act (5 U.S.C. 552, as amended).

Because we plan to make successful applications available to the public, you may wish to request confidentiality of business information.

Consistent with Executive Order 12600, please designate in your application any information that you believe is exempt from disclosure under Exemption 4. In the appropriate

appendix section of your application, under “Other Attachments Form,” please list the page number or numbers on which we can find this information. For additional information please see 34 CFR 5.11(c).

3. *Intergovernmental Review:* This program is not subject to Executive Order 12372 and the regulations in 34 CFR part 79.

4. *Funding Restrictions:* We reference regulations outlining funding restrictions in the *Applicable Regulations* section of this notice.

5. *Notice of Intent to Apply:* We ask potential applicants to submit a letter of intent, indicating the priority under which the State intends to apply for funding. We use the information in the letters of intent to identify the expertise needed for the scientific review panels and to secure a sufficient number of reviewers. For this reason, letters of intent are optional but strongly encouraged. We request that letters of intent be submitted using the link at: <https://iesreview.ed.gov/>. Applicants that do not submit a notice of intent to apply may still apply for funding; applicants that do submit a notice of intent to apply are not bound to apply or bound by the information provided.

V. Application Review Information

1. *Selection Criteria:* For all of its grant competitions, IES uses selection criteria based on a peer-review process that has been approved by the National Board for Education Sciences. The Peer Review Procedures for Grant Applications can be found on the IES website at: https://ies.ed.gov/director/sro/peer_review/application_review.asp. For this competition, peer reviewers will be asked to evaluate the substantial need for the project; the quality and feasibility of its measurable outcomes, activities, and timelines; the effectiveness of its management and governance plan; the quality of its data security and privacy protections; the qualifications and experience of the personnel; and the resources of the applicant to support the proposed activities. These criteria are described in greater detail in the RFA.

2. *Review and Selection Process:* We remind potential applicants that in reviewing applications in any discretionary grant competition, the Secretary may consider, under 34 CFR 75.217(d)(3), the past performance of the applicant in carrying out a previous award, such as the applicant’s use of funds, achievement of project objectives, and compliance with grant conditions. The Secretary may also consider whether the applicant failed to submit a timely performance report or

submitted a report of unacceptable quality.

In addition, in making a competitive grant award, the Secretary requires various assurances, including those applicable to Federal civil rights laws that prohibit discrimination in programs or activities receiving Federal financial assistance from the Department (34 CFR 100.4, 104.5, 106.4, 108.8, and 110.23).

3. *Risk Assessment and Specific Conditions:* Consistent with 2 CFR 200.206, before awarding grants under this program the Department conducts a review of the risks posed by applicants. Under 2 CFR 200.208, the Secretary may impose specific conditions and, under 2 CFR 3473.10, in appropriate circumstances, high-risk conditions on a grant if the applicant or grantee is not financially stable; has a history of unsatisfactory performance; has a financial or other management system that does not meet the standards in 2 CFR part 200, subpart D; has not fulfilled the conditions of a prior grant; or is otherwise not responsible.

4. *Integrity and Performance System:* If you are selected under this competition to receive an award that over the course of the project period may exceed the simplified acquisition threshold (currently \$250,000), under 2 CFR 200.206(a)(2) we must make a judgment about your integrity, business ethics, and record of performance under Federal awards—that is, the risk posed by you as an applicant—before we make an award. In doing so, we must consider any information about you that is in the integrity and performance system (currently referred to as the Federal Awardee Performance and Integrity Information System (FAPIIS)), accessible through the System for Award Management. You may review and comment on any information about yourself that a Federal agency previously entered and that is currently in FAPIIS.

Please note that, if the total value of your currently active grants, cooperative agreements, and procurement contracts from the Federal Government exceeds \$10,000,000, the reporting requirements in 2 CFR part 200, appendix XII, require you to report certain integrity information to FAPIIS semiannually. Please review the requirements in 2 CFR part 200, appendix XII, if this grant plus all the other Federal funds you receive exceed \$10,000,000.

5. *In General:* In accordance with the Office of Management and Budget’s guidance located at 2 CFR part 200, all applicable Federal laws, and relevant Executive guidance, the Department will review and consider applications for funding pursuant to this notice

inviting applications in accordance with:

(a) Selecting recipients most likely to be successful in delivering results based on the program objectives through an objective process of evaluating Federal award applications (2 CFR 200.205);

(b) Prohibiting the purchase of certain telecommunication and video surveillance services or equipment in alignment with section 889 of the National Defense Authorization Act of 2019 (Pub. L. 115–232) (2 CFR 200.216).

(c) Providing a preference, to the extent permitted by law, to maximize use of goods, products, and materials produced in the United States (2 CFR 200.322); and

(d) Terminating agreements in whole or in part to the greatest extent authorized by law if an award no longer effectuates the program goals or agency priorities (2 CFR 200.340).

VI. Award Administration Information

1. *Award Notices:* If your application is successful, we notify your U.S. Representative and U.S. Senators and send you a Grant Award Notification (GAN); or we may send you an email containing a link to access an electronic version of your GAN. We may notify you informally, also.

If your application is not evaluated or not selected for funding, we notify you.

2. *Administrative and National Policy Requirements:* We identify administrative and national policy requirements in the application package and reference these and other requirements in the *Applicable Regulations* section of this notice.

We reference the regulations outlining the terms and conditions of an award in the *Applicable Regulations* section of this notice and include these and other specific conditions in the GAN. The GAN also incorporates your approved application as part of your binding commitments under the grant.

3. *Open Licensing Requirements:* Unless an exception applies, if you are awarded a grant under this competition, you will be required to openly license to the public grant deliverables created in whole, or in part, with Department grant funds. When the deliverable consists of modifications to pre-existing works, the license extends only to those modifications that can be separately identified and only to the extent that open licensing is permitted under the terms of any licenses or other legal restrictions on the use of pre-existing works. Additionally, a grantee or subgrantee that is awarded competitive grant funds must have a plan to disseminate these public grant deliverables. This dissemination plan

can be developed and submitted after your application has been reviewed and selected for funding. For additional information on the open licensing requirements please refer to 2 CFR 3474.20.

4. *Reporting:* (a) If you apply for a grant under this competition, you must ensure that you have in place the necessary processes and systems to comply with the reporting requirements in 2 CFR part 170 should you receive funding under the competition. This does not apply if you have an exception under 2 CFR 170.110(b).

(b) At the end of your project period, you must submit a final performance report, including financial information, as directed by the Secretary. If you receive a multiyear award, you must submit an annual performance report that provides the most current performance and financial expenditure information as directed by the Secretary under 34 CFR 75.118. The Secretary may also require more frequent performance reports under 34 CFR 75.720(c). For specific requirements on reporting, please go to www.ed.gov/fund/grant/apply/appforms/appforms.html.

5. *Performance Measures:* To evaluate the overall success of this program, the Department has established three performance measures that assess progress toward our strategic goal of ensuring that data are available to inform education decisions by supporting States' development and implementation of statewide longitudinal data systems. The Department measures: (1) the number of States that link K–12 data with early childhood data; (2) the number of States that link K–12 data with postsecondary data; and (3) the number of States that link K–12 and postsecondary data with workforce data. In addition, grantees will be expected to report in their annual and final performance reports on their progress in achieving the project objectives proposed in their grant applications and on the status of their development and implementation of a statewide longitudinal data system.

6. *Continuation Awards:* In making a continuation award under 34 CFR 75.253, the Secretary considers, among other things: whether a grantee has made substantial progress in achieving the goals and objectives of the project; whether the grantee has expended funds in a manner that is consistent with its approved application and budget; and, if the Secretary has established performance measurement requirements, the performance targets in the grantee's approved application.

In making a continuation award, the Secretary also considers whether the grantee is operating in compliance with the assurances in its approved application, including those applicable to Federal civil rights laws that prohibit discrimination in programs or activities receiving Federal financial assistance from the Department (34 CFR 100.4, 104.5, 106.4, 108.8, and 110.23).

VII. Other Information

Accessible Format: Individuals with disabilities can obtain this document and a copy of the application package in an accessible format (e.g., braille, large print, audiotape, or compact disc) on request to the program contact person listed under **FOR FURTHER INFORMATION CONTACT**.

Electronic Access to This Document: The official version of this document is the document published in the **Federal Register**. You may access the official edition of the **Federal Register** and the Code of Federal Regulations at www.govinfo.gov. At this site you can view this document, as well as all other documents of this Department published in the **Federal Register**, in text or Portable Document Format (PDF). To use PDF you must have Adobe Acrobat Reader, which is available free at the site.

You may also access documents of the Department published in the **Federal Register** by using the article search feature at: www.federalregister.gov. Specifically, through the advanced search feature at this site, you can limit your search to documents published by the Department.

Mark Schneider,

Director, Institute of Education Sciences.

[FR Doc. 2023–09611 Filed 5–4–23; 8:45 am]

BILLING CODE 4000–01–P

ELECTION ASSISTANCE COMMISSION

Notice; Request for Public Comment

AGENCY: U.S. Election Assistance Commission.

ACTION: Notice; correction.

SUMMARY: The U.S. Election Assistance Commission published a document in the **Federal Register** on March 16, 2023 in FR Doc. 2023–05342 regarding a correction to a document published to **Federal Register** on March 9, 2023 in FR Doc. 2023–04783, on page 14613 public comments on its annual review of the Voluntary Voting System Guidelines. The EAC is withdrawing the correction. **FOR FURTHER INFORMATION CONTACT:** Paul Aumayr, phone (301) 960–1216, email:

paumayr@eac.gov; U.S. Election Assistance Commission, 633 3rd Street NW, Suite 200, Washington, DC 20001.

SUPPLEMENTARY INFORMATION:

Correction

On March 16, 2023 in FR Doc. 2023–05342, the EAC corrected the *Submission of Comments* subsection of the **ADDRESSES** caption in **Federal Register** of March 9, 2023 in FR Doc. 2023–04783, on page 14613 in the first column, to read:

Submission of Comments: Comments on updates to VVSG 2.0 should be submitted electronically via https://www.regulations.gov/document/EAC_FRDOC_0001-0193 (FDMS docket ID: EAC–2023–0001). Written comments on the proposed information collection can also be sent to the U.S. Election Assistance Commission, 633 3rd Street NW, Suite 200, Washington, DC 20001, Attn: Testing & Certification.

This correction is being withdrawn. The original posting in **Federal Register** of March 9, 2023 in FR Doc. 2023–04783, on page 14613 in the first column is correct.

Camden Kelliher,

Associate Counsel, U.S. Election Assistance Commission.

[FR Doc. 2023–09601 Filed 5–4–23; 8:45 am]

BILLING CODE P

DEPARTMENT OF ENERGY

Environmental Management Site-Specific Advisory Board, Portsmouth

AGENCY: Office of Environmental Management, Department of Energy.

ACTION: Notice of open meeting.

SUMMARY: This notice announces a meeting of the Environmental Management Site-Specific Advisory Board (EM SSAB), Portsmouth. The Federal Advisory Committee Act requires that public notice of this meeting be announced in the **Federal Register**.

DATES: Thursday, June 1, 2023; 6:00 p.m.–8:00 p.m. EDT.

ADDRESSES: The Ohio State University, Endeavor Center, 1862 Shyville Road, Room 165, Piketon, OH 45661. Attendees should check with the Board Support Manager (below) for any meeting format changes due to COVID–19 protocols.

FOR FURTHER INFORMATION CONTACT: Eric Roberts, Board Support Manager, by phone: (270) 554–3004 or email: eric@pgdpcab.org.

SUPPLEMENTARY INFORMATION:

Purpose of the Board: The purpose of the Board is to make recommendations to DOE–EM and site management in the areas of environmental restoration, waste management, and related activities.

Tentative Agenda:

- Review of Agenda
- Presentation
- Administrative Issues
- Public Comments

Public Participation: The meeting is open to the public. The EM SSAB, Portsmouth, welcomes the attendance of the public at its advisory committee meetings and will make every effort to accommodate persons with physical disabilities or special needs. If you require special accommodations due to a disability, please contact Eric Roberts as soon as possible in advance of the meeting at the telephone number listed above. Written statements may be filed with the Board either before or after the meeting. Comments received by no later than 5:00 p.m. EDT on Friday, May 26, 2023, will be read aloud during the meeting. Comments will also be accepted after the meeting, by no later than 5:00 p.m. EDT on Friday, June 9, 2023. Please submit comments to Eric Roberts at the aforementioned email address. Please add “Public Comment” in the subject line. Individuals who wish to make oral statements pertaining to agenda items should contact Eric Roberts at the telephone number listed above. Requests must be received as soon as possible prior to the meeting and reasonable provision will be made to include the presentation in the agenda. The Deputy Designated Federal Officer is empowered to conduct the meeting in a fashion that will facilitate the orderly conduct of business. Individuals wishing to make public comments will be provided a maximum of five minutes to present their comments. The EM SSAB, Portsmouth, will hear public comments pertaining to its scope (clean-up standards and environmental restoration; waste management and disposition; stabilization and disposition of non-stockpile nuclear materials; excess facilities; future land use and long-term stewardship; risk assessment and management; and clean-up science and technology activities). Comments outside of the scope may be submitted via written statement as directed above.

Minutes: Minutes will be available by writing or calling Eric Roberts, Board Support Manager, Emerging Technology Center, Room 221, 4810 Alben Barkley Drive, Paducah, KY 42001; Phone: (270) 554–3004. Minutes will also be available at the following website:

<https://www.energy.gov/pppo/ports-sab/listings/meeting-materials>.

Signed in Washington, DC, on April 28, 2023.

LaTanya Butler,

Deputy Committee Management Officer.

[FR Doc. 2023–09634 Filed 5–4–23; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

Combined Notice of Filings

Take notice that the Commission has received the following Natural Gas & Oil Pipeline Rate and Refund Report filings:

Filings Instituting Proceedings

Docket Numbers: RP23–734–000.

Applicants: Southern Star Central Gas Pipeline, Inc.

Description: § 4(d) Rate Filing: Vol. 2—Neg and Conforming Rate Agreements—Tenaska PLS to be effective 5/1/2023.

Filed Date: 4/28/23.

Accession Number: 20230428–5253.

Comment Date: 5 p.m. ET 5/10/23.

Docket Numbers: RP23–735–000.

Applicants: El Paso Natural Gas Company, L.L.C.

Description: § 4(d) Rate Filing: Negotiated Rate Agreement Update (Hartree May 2023) to be effective 5/1/2023.

Filed Date: 4/28/23.

Accession Number: 20230428–5350.

Comment Date: 5 p.m. ET 5/10/23.

Docket Numbers: RP23–736–000.

Applicants: Ruby Pipeline, L.L.C.

Description: § 4(d) Rate Filing: RP 2023–04–28 FL&U and EPC Rate Adjustment to be effective 6/1/2023.

Filed Date: 4/28/23.

Accession Number: 20230428–5361.

Comment Date: 5 p.m. ET 5/10/23.

Docket Numbers: RP23–737–000.

Applicants: Ruby Pipeline, L.L.C.

Description: § 4(d) Rate Filing: RP 2023–04–28 Negotiated Rate Agreement to be effective 6/1/2023.

Filed Date: 4/28/23.

Accession Number: 20230428–5363.

Comment Date: 5 p.m. ET 5/10/23.

Docket Numbers: RP23–738–000.

Applicants: Tennessee Gas Pipeline Company, L.L.C.

Description: § 4(d) Rate Filing: Volume No. 2—Mex Gas SP384402 to be effective 5/1/2023.

Filed Date: 4/28/23.

Accession Number: 20230428–5375.

Comment Date: 5 p.m. ET 5/10/23.

Docket Numbers: RP23–740–000.

Applicants: East Cheyenne Gas Storage, LLC.
Description: Compliance filing: ECGS 2023–04–28 Annual Purchases and Sales Report to be effective N/A.
Filed Date: 4/28/23.
Accession Number: 20230428–5391.
Comment Date: 5 p.m. ET 5/10/23.
Docket Numbers: RP23–741–000.
Applicants: Discovery Gas Transmission LLC.
Description: Annual Imbalance Cash Out Report of Discovery Gas Transmission LLC.
Filed Date: 4/28/23.
Accession Number: 20230428–5435.
Comment Date: 5 p.m. ET 5/10/23.
Docket Numbers: RP23–742–000.
Applicants: Southeast Supply Header, LLC.
Description: § 4(d) Rate Filing: 2023 SESH TUP/SBA Annual Filing to be effective 6/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5014.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–743–000.
Applicants: Alliance Pipeline L.P.
Description: § 4(d) Rate Filing: Negotiated Rates—Various May 1 2023 Releases to be effective 5/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5024.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–744–000.
Applicants: Maritimes & Northeast Pipeline, L.L.C.
Description: § 4(d) Rate Filing: Negotiated Rates—Northern to Direct Energy 2848 eff 5–1–23 to be effective 5/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5083.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–745–000.
Applicants: Texas Eastern Transmission, LP.
Description: § 4(d) Rate Filing: Negotiated Rates—Various Releases eff 5–1–23 to be effective 5/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5100.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–746–000.
Applicants: NEXUS Gas Transmission, LLC.
Description: § 4(d) Rate Filing: Negotiated Rates—Various Releases eff 5–1–23 to be effective 5/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5116.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–747–000.
Applicants: Rover Pipeline LLC.
Description: § 4(d) Rate Filing: Summary of Negotiated Rate Capacity Release Agreements 5–1–23 to be effective 5/1/2023.

Filed Date: 5/1/23.
Accession Number: 20230501–5123.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–748–000.
Applicants: Sabal Trail Transmission, LLC.
Description: § 4(d) Rate Filing: 2023 TUP/SBA Annual Filing to be effective 6/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5132.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–749–000.
Applicants: MountainWest Overthrust Pipeline, LLC.
Description: § 4(d) Rate Filing: Modifications to Priority of Service Procedures to be effective 7/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5133.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–750–000.
Applicants: Equitrans, L.P.
Description: § 4(d) Rate Filing: Negotiated Rate Capacity Release Agreements—5/1/2023 to be effective 5/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5210.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–751–000.
Applicants: Northern Border Pipeline Company.
Description: Compliance filing: Company Use Gas Adjustment Annual Report to be effective N/A.
Filed Date: 5/1/23.
Accession Number: 20230501–5214.
Comment Date: 5 p.m. ET 5/15/23.
Docket Numbers: RP23–752–000.
Applicants: Gulf South Pipeline Company, LLC.
Description: § 4(d) Rate Filing: Cap Rel Neg Rate Agmt (Osaka 46429 to Texla 56308) to be effective 5/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5215.
Comment Date: 5 p.m. ET 5/15/23.
 Any person desiring to intervene or protest in any of the above proceedings must file in accordance with Rules 211 and 214 of the Commission's Regulations (18 CFR 385.211 and 385.214) on or before 5:00 p.m. Eastern time on the specified comment date. Protests may be considered, but intervention is necessary to become a party to the proceeding.
 The filings are accessible in the Commission's eLibrary system (<https://elibrary.ferc.gov/idmws/search/fercgensearch.asp>) by querying the docket number.
 eFiling is encouraged. More detailed information relating to filing requirements, interventions, protests, service, and qualifying facilities filings

can be found at: <http://www.ferc.gov/docs-filing/efiling/filing-req.pdf>. For other information, call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Dated: May 1, 2023.

Debbie-Anne A. Reese,

Deputy Secretary.

[FR Doc. 2023–09604 Filed 5–4–23; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

Combined Notice of Filings #1

Take notice that the Commission received the following electric corporate filings:

Docket Numbers: EC23–80–000.
Applicants: CleanChoice Energy, Inc.
Description: Application for Authorization Under Section 203 of the Federal Power Act of CleanChoice Energy, Inc.
Filed Date: 4/28/23.
Accession Number: 20230428–5657.
Comment Date: 5 p.m. ET 5/19/23.
Docket Numbers: EC23–81–000.
Applicants: 2014 ESA Project Company, LLC.
Description: Application for Authorization Under Section 203 of the Federal Power Act of 2014 ESA Project Company, LLC.
Filed Date: 4/28/23.
Accession Number: 20230428–5661.
Comment Date: 5 p.m. ET 5/19/23.

Take notice that the Commission received the following exempt wholesale generator filings:

Docket Numbers: EG23–139–000.
Applicants: Adams Solar LLC.
Description: Adams Solar LLC submits Notice of Self-Certification of Exempt Wholesale Generator Status.
Filed Date: 4/28/23.
Accession Number: 20230428–5488.
Comment Date: 5 p.m. ET 5/19/23.
Docket Numbers: EG23–140–000.
Applicants: Sun Valley Storage LLC.
Description: Sun Valley Storage LLC submits Notice of Self-Certification of Exempt Wholesale Generator Status.
Filed Date: 4/28/23.
Accession Number: 20230428–5606.
Comment Date: 5 p.m. ET 5/19/23.
Docket Numbers: EG23–141–000.
Applicants: Libra Storage LLC.
Description: Libra Storage LLC submits Notice of Self-Certification of Exempt Wholesale Generator Status.
Filed Date: 4/28/23.
Accession Number: 20230428–5607.
Comment Date: 5 p.m. ET 5/19/23.

Take notice that the Commission received the following Complaints and Compliance filings in EL Dockets:

Docket Numbers: EL23–63–000.
Applicants: Energy Harbor LLC v. PJM Interconnection, L.L.C.
Description: Complaint of Energy Harbor LLC v. PJM Interconnection, L.L.C.

Filed Date: 4/27/23.

Accession Number: 20230427–5445.

Comment Date: 5 p.m. ET 5/17/23.

Take notice that the Commission received the following electric rate filings:

Docket Numbers: ER20–1505–005.

Applicants: Basin Electric Power Cooperative.

Description: Notice of Change in Status of Basin Electric Power Cooperative.

Filed Date: 4/27/23.

Accession Number: 20230427–5455.

Comment Date: 5 p.m. ET 5/18/23.

Docket Numbers: ER21–2461–000.

Applicants: TransAlta Energy Marketing (U.S.) Inc.

Description: Refund Report: Refund Report to be effective N/A.

Filed Date: 4/28/23.

Accession Number: 20230428–5438.

Comment Date: 5 p.m. ET 5/19/23.

Docket Numbers: ER22–1883–002.

Applicants: Ledyard Windpower, LLC.

Description: Amendment to January 30, 2023, Notice of Non-Material Change in Status of Ledyard Windpower, LLC.

Filed Date: 4/26/23.

Accession Number: 20230426–5323.

Comment Date: 5 p.m. ET 5/17/23.

Docket Numbers: ER23–1000–001.

Applicants: ISO New England Inc., The Narragansett Electric Company.

Description: Tariff Amendment: ISO New England Inc. submits tariff filing per 35.17(b); RIE; Response to Request for Additional Information in Docket No. ER23–1000–000 to be effective 1/1/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5285.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1003–001.

Applicants: ISO New England Inc., The Narragansett Electric Company.

Description: Compliance filing: ISO New England Inc. submits tariff filing per 35: The Narragansett Electric Company; Compliance Filing in Docket No. ER23–1003 to be effective 1/1/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5258.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1768–000.

Applicants: New England Power Pool Participants Committee.

Description: § 205(d) Rate Filing: May 2023 Membership Filing to be effective 4/1/2023.

Filed Date: 4/28/23.

Accession Number: 20230428–5431.

Comment Date: 5 p.m. ET 5/19/23.

Docket Numbers: ER23–1769–000.

Applicants: Northern Indiana Public Service Company LLC.

Description: § 205(d) Rate Filing: Second Amend Dark Fiber Lease Agrmnt to be effective 3/31/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5001.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1770–000.

Applicants: Alabama Power Company, Georgia Power Company, Mississippi Power Company.

Description: § 205(d) Rate Filing: Alabama Power Company submits tariff filing per 35.13(a)(2)(iii): AMEA NITSA Amendment Filing (DNR LOC) to be effective 8/1/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5160.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1771–000.

Applicants: ISO New England Inc., New England Power Pool Participants Committee.

Description: Compliance filing: ISO New England Inc. submits tariff filing per 35: Revisions to Schedule 24; Second Compliance Filing for Order No. 676–J to be effective 12/31/9998.

Filed Date: 5/1/23.

Accession Number: 20230501–5206.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1772–000.

Applicants: Fox Squirrel Solar LLC.

Description: Baseline eTariff Filing: Initial Market-Based Rate Petition of Fox Squirrel Solar to be effective 7/1/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5216.

Comment Date: 5 p.m. ET 5/22/23.

The filings are accessible in the Commission's eLibrary system (<https://elibrary.ferc.gov/idmws/search/fercensearch.asp>) by querying the docket number.

Any person desiring to intervene or protest in any of the above proceedings must file in accordance with Rules 211 and 214 of the Commission's Regulations (18 CFR 385.211 and 385.214) on or before 5:00 p.m. Eastern time on the specified comment date. Protests may be considered, but intervention is necessary to become a party to the proceeding.

eFiling is encouraged. More detailed information relating to filing requirements, interventions, protests, service, and qualifying facilities filings can be found at: <http://www.ferc.gov/docs-filing/efiling/filing-req.pdf>. For other information, call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Dated: May 1, 2023.

Debbie-Anne A. Reese,

Deputy Secretary.

[FR Doc. 2023–09606 Filed 5–4–23; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

Combined Notice of Filings #2

Take notice that the Commission received the following electric rate filings:

Docket Numbers: ER23–1773–000.
Applicants: Pomona Energy Storage 2 LLC.

Description: Baseline eTariff Filing: Petition for Approval of Initial Market-Based Rate Tariff to be effective 7/1/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5220.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1774–000.

Applicants: ISO New England Inc., Cross-Sound Cable Company, LLC.

Description: Compliance filing: ISO New England Inc. submits tariff filing per 35: Second Compliance Filing for Order No. 676–J; Revisions to Schedule 18 to be effective 12/31/9998.

Filed Date: 5/1/23.

Accession Number: 20230501–5223.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1775–000.

Applicants: Alabama Power Company, Georgia Power Company, Mississippi Power Company.

Description: Compliance filing: Alabama Power Company submits tariff filing per 35: OATT Attachment O Order No. 676–J Compliance Filing to be effective 12/31/9998.

Filed Date: 5/1/23.

Accession Number: 20230501–5235.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1776–000.

Applicants: Alabama Power Company, Georgia Power Company, Mississippi Power Company.

Description: § 205(d) Rate Filing: Alabama Power Company submits tariff filing per 35.13(a)(2)(iii): OATT Attachment C Amendment Filing to be effective 7/1/2023.

Filed Date: 5/1/23.

Accession Number: 20230501–5236.

Comment Date: 5 p.m. ET 5/22/23.

Docket Numbers: ER23–1777–000.

Applicants: Diamond Retail Energy, LLC.

Description: Tariff Amendment: Notice of Cancellation of Market-Based Rate Tariff to be effective 6/30/2023.

Filed Date: 5/1/23.
Accession Number: 20230501–5238.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1778–000.
Applicants: Diamond Energy East, LLC.
Description: Tariff Amendment: Notice of Cancellation of Market-Based Rate Tariff to be effective 6/30/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5239.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1779–000.
Applicants: Alabama Power Company, Georgia Power Company, Mississippi Power Company.
Description: § 205(d) Rate Filing: Alabama Power Company submits tariff filing per 35.13(a)(2)(iii): OATT Attachment T—Amendment Filing to be effective 7/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5240.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1780–000.
Applicants: Diamond Energy NE, LLC.
Description: Tariff Amendment: Notice of Cancellation of Market-Based Rate Tariff to be effective 6/30/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5241.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1781–000.
Applicants: Diamond Energy NY, LLC.
Description: Tariff Amendment: Notice of Cancellation of Market-Based Rate Tariff to be effective 6/30/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5242.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1782–000.
Applicants: Versant Power.
Description: Compliance filing: Order No. 676–J Compliance Filing and Request for Waivers 5–1–2023 to be effective 8/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5243.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1783–000.
Applicants: New York Independent System Operator, Inc.
Description: Compliance filing: NYISO compliance filing and waiver request re: FERC Order 676–J to be effective 11/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5245.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1784–000.
Applicants: PJM Interconnection, L.L.C.
Description: Compliance filing: Order No. 676–J Compliance Revisions to Tariff, Section 4.2 to be effective 12/31/9998.

Filed Date: 5/1/23.
Accession Number: 20230501–5264.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1785–000.
Applicants: ISO New England Inc., Eversource Energy Service Company (as agent), National Grid Service Company Inc.
Description: Compliance filing: ISO New England Inc. submits tariff filing per 35: Order 676–J; Second Compliance Filing—Schedules 20A and 21 to be effective 12/31/9998.
Filed Date: 5/1/23.
Accession Number: 20230501–5269.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1786–000.
Applicants: Southwest Power Pool, Inc.
Description: § 205(d) Rate Filing: 4058 Missouri Electric Commission NITSA NOA to be effective 4/1/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5273.
Comment Date: 5 p.m. ET 5/22/23.
Docket Numbers: ER23–1787–000.
Applicants: Ameren Illinois Company.
Description: § 205(d) Rate Filing: Reimbursement Agrmt—AIC and PPI Gillett Rate Schedule 158 to be effective 5/2/2023.
Filed Date: 5/1/23.
Accession Number: 20230501–5293.
Comment Date: 5 p.m. ET 5/22/23.
Take notice that the Commission received the following electric securities filings:
Docket Numbers: ES23–43–000.
Applicants: MidAmerican Energy Company.
Description: Application Under Section 204 of the Federal Power Act for Authorization to Issue Securities of MidAmerican Energy Company.
Filed Date: 4/28/23.
Accession Number: 20230428–5660.
Comment Date: 5 p.m. ET 5/19/23.
Take notice that the Commission received the following qualifying facility filings:
Docket Numbers: QF23–886–000.
Applicants: 2014 ESA Project Company, LLC.
Description: Form 556 of 2014 ESA Project Company, LLC [Middletown].
Filed Date: 4/28/23.
Accession Number: 20230428–5611.
Comment Date: 5 p.m. ET 5/19/23.
The filings are accessible in the Commission's eLibrary system (<https://elibrary.ferc.gov/idmws/search/fercensearch.asp>) by querying the docket number.
Any person desiring to intervene or protest in any of the above proceedings must file in accordance with Rules 211

and 214 of the Commission's Regulations (18 CFR 385.211 and 385.214) on or before 5:00 p.m. Eastern time on the specified comment date. Protests may be considered, but intervention is necessary to become a party to the proceeding.
eFiling is encouraged. More detailed information relating to filing requirements, interventions, protests, service, and qualifying facilities filings can be found at: <http://www.ferc.gov/docs-filing/efiling/filing-req.pdf>. For other information, call (866) 208–3676 (toll free). For TTY, call (202) 502–8659.

Dated: May 1, 2023.

Debbie-Anne A. Reese,
Deputy Secretary.

[FR Doc. 2023–09607 Filed 5–4–23; 8:45 am]

BILLING CODE 6717–01–P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER23–1757–000]

Montevue Lane Solar LLC; Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization

This is a supplemental notice in the above-referenced proceeding of Montevue Lane Solar LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability, is May 22, 2023.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at <http://www.ferc.gov>. To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor

must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

Persons unable to file electronically may mail similar pleadings to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426. Hand delivered submissions in docketed proceedings should be delivered to Health and Human Services, 12225 Wilkins Avenue, Rockville, Maryland 20852.

In addition to publishing the full text of this document in the **Federal Register**, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the internet through the Commission's Home Page (<http://www.ferc.gov>) using the "eLibrary" link. Enter the docket number excluding the last three digits in the docket number field to access the document. At this time, the Commission has suspended access to the Commission's Public Reference Room, due to the proclamation declaring a National Emergency concerning the Novel Coronavirus Disease (COVID-19), issued by the President on March 13, 2020. For assistance, contact the Federal Energy Regulatory Commission at FERCOnlineSupport@ferc.gov or call toll-free, (886) 208-3676 or TTY, (202) 502-8659.

Dated: May 1, 2023.

Debbie-Anne A. Reese,
Deputy Secretary.

[FR Doc. 2023-09608 Filed 5-4-23; 8:45 am]

BILLING CODE 6717-01-P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. ER23-1766-000]

Boott Hydropower, LLC; Supplemental Notice That Initial Market-Based Rate Filing Includes Request for Blanket Section 204 Authorization

This is a supplemental notice in the above-referenced proceeding of Boott Hydropower, LLC's application for market-based rate authority, with an accompanying rate tariff, noting that such application includes a request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability.

Any person desiring to intervene or to protest should file with the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426,

in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant.

Notice is hereby given that the deadline for filing protests with regard to the applicant's request for blanket authorization, under 18 CFR part 34, of future issuances of securities and assumptions of liability, is May 22, 2023.

The Commission encourages electronic submission of protests and interventions in lieu of paper, using the FERC Online links at <http://www.ferc.gov>. To facilitate electronic service, persons with internet access who will eFile a document and/or be listed as a contact for an intervenor must create and validate an eRegistration account using the eRegistration link. Select the eFiling link to log on and submit the intervention or protests.

Persons unable to file electronically may mail similar pleadings to the Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426. Hand delivered submissions in docketed proceedings should be delivered to Health and Human Services, 12225 Wilkins Avenue, Rockville, Maryland 20852.

In addition to publishing the full text of this document in the **Federal Register**, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the internet through the Commission's Home Page (<http://www.ferc.gov>) using the "eLibrary" link. Enter the docket number excluding the last three digits in the docket number field to access the document. At this time, the Commission has suspended access to the Commission's Public Reference Room, due to the proclamation declaring a National Emergency concerning the Novel Coronavirus Disease (COVID-19), issued by the President on March 13, 2020. For assistance, contact the Federal Energy Regulatory Commission at FERCOnlineSupport@ferc.gov or call toll-free, (886) 208-3676 or TTY, (202) 502-8659.

Dated: May 1, 2023.

Debbie-Anne A. Reese,
Deputy Secretary.

[FR Doc. 2023-09603 Filed 5-4-23; 8:45 am]

BILLING CODE 6717-01-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL OP-OFA-068]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information 202-564-5632 or <https://www.epa.gov/nepa>.

Weekly receipt of Environmental Impact Statements (EIS)

Filed April 24, 2023 10 a.m. EST

Through May 1, 2023 10 a.m. EST

Pursuant to 40 CFR 1506.9

Notice: Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: <https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search>.

EIS No. 20230059, Draft Supplement, BLM, WY, Buffalo Field Office Draft Supplemental Environmental Impact Statement and Potential Resource Management Plan Amendment, Comment Period Ends: 06/20/2023, Contact: Tom Bills 307-684-1131.

EIS No. 20230060, Draft Supplement, BLM, MT, Miles City Field Office Draft Supplemental EIS and Potential Resource Management Plan Amendment, Comment Period Ends: 08/03/2023, Contact: Irma Nansel 406-233-3653.

EIS No. 20230061, Draft, NMFS, NC, Draft Amendment 15 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan, Comment Period Ends: 09/15/2023, Contact: Steve Durkee 301-427-8503.

Amended Notice

EIS No. 20230041, Draft Supplement, USFS, AK, Greens Creek Mine North Extension Project, Comment Period Ends: 05/23/2023, Contact: Matthew Reece 907-789-6274.

Revision to FR Notice Published 03/24/2023; Extending the Comment Period from 05/08/2023 to 05/23/2023.

Dated: May 1, 2023.

Cindy S. Barger,
Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 2023-09591 Filed 5-4-23; 8:45 am]

BILLING CODE 6560-50-P

FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060–0678; FR ID 139669]

Information Collection Being Reviewed by the Federal Communications Commission**AGENCY:** Federal Communications Commission.**ACTION:** Notice and request for comments.

SUMMARY: As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act (PRA), the Federal Communications Commission (FCC or the Commission) invites the general public and other Federal agencies to take this opportunity to comment on the following information collections. Comments are requested concerning: whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission's burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees.

DATES: Written comments should be submitted on or before July 5, 2023. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contacts below as soon as possible.

ADDRESSES: Direct all PRA comments to Cathy Williams, FCC, via email PRA@fcc.gov and to Cathy.Williams@fcc.gov.

FOR FURTHER INFORMATION CONTACT: For additional information about the information collection, contact Cathy Williams at (202) 418–2918.

SUPPLEMENTARY INFORMATION: The FCC may not conduct or sponsor a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid OMB control number.

As part of its continuing effort to reduce paperwork burdens, and as required by the PRA of 1995 (44 U.S.C.

3501–3520), the FCC invites the general public and other Federal agencies to take this opportunity to comment on the following information collections. Comments are requested concerning: whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission's burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees.

OMB Control Number: 3060–0678.

Title: Part 25 of the Federal Communications Commission's Rules Governing the Licensing of, and Spectrum Usage by, Commercial Earth Stations and Space Stations.

Form Number: FCC Form 312, Main Form, FCC Form 312 EZ, 312–R, and Schedules A, B, and S.

Type of Review: Revision of an existing collection.

Respondents: Business or other for-profit entities, not-for-profit institutions.

Number of Respondents and Responses: 3,515 respondents and 3,567 responses.

Estimated Time per Response: 0.5–80 hours.

Frequency of Response: On Occasion, one time, and annual reporting requirements; third-party disclosure requirement; recordkeeping requirement.

Obligation to Respond: Required to obtain or retain benefits. The Commission has statutory authority for the information collection requirements under 47 U.S.C. 154, 301, 302, 303, 307, 309, 310, 319, 332, 605, and 721.

Total Annual Burden: 27,176.

Annual Cost Burden: \$3,923,887.

Needs and Uses: The Federal Communications Commission requests that the Office of Management and Budget (OMB) approve a revision of the information collection titled “Part 25 of the Federal Communications Commission's Rules Governing the Licensing of, and Spectrum Usage By, Commercial Earth Stations and Space Stations” under OMB Control No. 3060–0678, as a result of three recent rulemakings, as well as an update to the Commission's filing system for earth

station and space station applications, as discussed below.¹

On September 27, 2019, the Commission released a Report and Order, FCC 19–93, in IB Docket No. 06–160, titled “Amendment of the Commission's Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service” (*DBS Licensing Report and Order*). In this Report and Order, the Commission adopted a new licensing process for space stations in the Direct Broadcast Satellite Service (DBS). This new process allows applicants for DBS space station licenses to take advantage of a licensing process that parallels the Commission's streamlined Part 25 satellite licensing rules for geostationary orbit (GSO) space stations in the fixed-satellite service (FSS). The Commission limited the regulatory burdens borne by applicants, while promoting new opportunities for efficient use of orbital spacing and spectrum by DBS licensees. The Commission's action supports and encourages the increasing innovation in the DBS sector and helps to preserve U.S. leadership in space-based services and operations. This information collection will provide the Commission and the public with necessary information about this area of satellite operations. This information collection serves the public interest by streamlining the collection of information and allowing the Commission to authorize DBS space stations under the new process established in the Report and Order.

Specifically, FCC 19–93 contains the new or modified information collection requirement listed below:

Space station applications for GSO space stations operating in the frequencies of the International Telecommunication Union (ITU) Appendices 30 and 30A (incorporated by reference, see § 25.108) must include a statement that the proposed operation will take into account the applicable requirements of these Appendices of the ITU Radio Regulations and a demonstration that it is compatible with other U.S. ITU filings under Appendices 30 and 30A or, for any affected filings, a letter signed by the affected operator indicating that it consents to the new application.

The changes adopted in this Report and Order will result in a very small net annualized increase in burden hours to applicants and licensees under Part 25. A request for revisions to the

¹ This request does not include the revisions to this information collection as a result of the Commission's rulemaking concerning orbital debris mitigation in IB Docket No. 18–313. These revisions will be submitted separately for OMB approval.

information collection resulting from FCC 19–93 was previously published in the **Federal Register** (see 85 FR 41980), but it has been updated and is now included in this revision request.

On August 3, 2022, the Commission released a Report and Order, FCC 22–63, in IB Docket Nos. 20–330 and 22–273, titled “FCC Updates 17 GHz Rules to Support Spectrum or Satellite Broadband” (*17 GHz Report and Order*). In this Report and Order, the Commission amended its rules to permit use of the 17.3–17.7 GHz band by geostationary satellite orbit (GSO) space stations in the fixed-satellite service (FSS) in the space-to-Earth direction on a co-primary basis with incumbent services, and permit limited GSO FSS (space-to-Earth) use of the 17.7–17.8 GHz band on an unprotected basis with respect to fixed service operations.

The updated rules require FSS applicants seeking authority to operate in the 17 GHz band to submit similar information as other operators in this band, including earth station antenna characteristics, space station technical parameters, satellite system architecture, and power levels, as well as any interference mitigation techniques to help ensure that GSO FSS operations in the 17 GHz band do not interfere with incumbent services. Specifically, the rules require applicants to provide information pertaining to:

- Certification of frequency coordination with the operator of the co-frequency space station or submission of an interference analysis demonstrating the compatibility of the proposed system with the co-frequency space station,
- Information as to earth station antenna characteristics to ensure that antennas are properly aimed and configured and that their signals are not likely to interfere with other systems,
- Implementation of interference detection and mitigation plans to prevent and resolve interference issues.

The changes adopted in this Report and Order will result in a small net annualized increase in burden hours to applicants and licensees under Part 25.

On November 19, 2020, the Commission released a Report and Order, FCC 20–159, in IB Docket No. 18–314, titled “Further Streamlining Part 25 Rules Governing Satellite Services” (*Satellite Services Report and Order*). The *Satellite Services Report and Order* streamlined the Commission’s rules governing satellite services by creating an optional framework for authorizing both the blanket-licensed earth stations and space stations of a satellite system through a unified license. The Report

and Order also permitted earth station applicants to certify compliance with relevant satellite licenses in lieu of providing duplicative or unnecessary technical demonstrations, aligned the build-out requirements for earth stations and space stations, and eliminated unnecessary reporting rules. These changes reduce regulatory burdens, simplify the Commission’s licensing of satellite systems, and provide additional operational flexibility. The Report and Order affected two information collections: OMB Control Numbers 3060–1215 and 3060–0678. The Commission received OMB approval for changes under No. 3060–1215 on August 26, 2021, as reported in 86 FR 52102. The Commission seeks approval for changes under No. 3060–0678 through this supporting statement.

The changes adopted in the Report and Order will result in a net annualized decrease in burden hours to applicants and licensees under Part 25. This submission amends the previous submission to the OMB to reflect these changes.

Additionally, The Commission has updated the International Bureau Filing System (IBFS), including updates to the Form 312, Schedule S. The updated version of Form 312, Schedule S will include several minor changes to the information collection designed to provide clarity to applicants and Commission staff, reduce errors, and make overall improvements to the applicants’ experience in completing the Schedule S. The changes will result in a very small net annualized increase in burden hours to certain applicants under Part 25.

Federal Communications Commission.

Marlene Dortch,

Secretary, Office of the Secretary.

[FR Doc. 2023–09554 Filed 5–4–23; 8:45 am]

BILLING CODE 6712–01–P

FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060–0634; FR ID 139746]

Information Collection Being Reviewed by the Federal Communications Commission Under Delegated Authority

AGENCY: Federal Communications Commission.

ACTION: Notice and request for comments.

SUMMARY: As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act of 1995 (PRA), the Federal

Communications Commission (FCC or Commission) invites the general public and other Federal agencies to take this opportunity to comment on the following information collections. Comments are requested concerning: whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission’s burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees. The FCC may not conduct or sponsor a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid OMB control number.

DATES: Written PRA comments should be submitted on or before July 5, 2023. If you anticipate that you will be submitting comments but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

ADDRESSES: Direct all PRA comments to Cathy Williams, FCC, via email to PRA@fcc.gov and to Cathy.Williams@fcc.gov.

FOR FURTHER INFORMATION CONTACT: For additional information about the information collection, contact Cathy Williams at (202) 418–2918.

SUPPLEMENTARY INFORMATION:

OMB Control Number: 3060–0634.

Title: Section 73.691, Visual Modulation Monitoring.

Form Number: N/A.

Type of Review: Extension of a currently approved collection.

Respondents: Business or other for-profit entities; not-for-profit institutions.

Number of Respondents and Responses: 50 respondents; 106 responses.

Estimated Hours per Response: One hour.

Frequency of Response: Recordkeeping requirement; On occasion reporting requirement.

Obligation to Respond: Required to obtain or retain benefits. The statutory authority for this information collection is contained in section 154(i) of the

Communications Act of 1934, as amended.

Total Annual Burden: 106 hours.
Total Annual Cost: None.

Needs and Uses: The information collection requirements contained under 47 CFR 73.691(b) require TV stations to enter into the station log the date and time of the initial technical problems that make it impossible to operate a TV station in accordance with the timing and carrier level tolerance requirements. If this operation at variance is expected to exceed 10 consecutive days, a notification must be sent to the FCC. The licensee must also notify the FCC upon restoration of normal operations. Furthermore, a licensee must send a written request to the FCC if causes beyond the control of the licensee prevent restoration of normal operations within 30 days. The FCC staff use the data to maintain accurate and complete technical information about a station's operation. In the event that a complaint is received from the public regarding a station's operation, this information is necessary to provide an accurate response.

Federal Communications Commission.

Marlene Dortch,

Secretary, Office of the Secretary.

[FR Doc. 2023-09551 Filed 5-4-23; 8:45 am]

BILLING CODE 6712-01-P

FEDERAL DEPOSIT INSURANCE CORPORATION

Notice of Open Meeting of the FDIC Advisory Committee on Economic Inclusion

AGENCY: Federal Deposit Insurance Corporation.

SUMMARY: In accordance with the Federal Advisory Committee Act, notice is hereby given of a meeting of the FDIC Advisory Committee on Economic Inclusion. The Advisory Committee will provide advice and recommendations on initiatives to expand access to banking services by underserved populations. The meeting is open to the public. The public's means to observe this meeting of the Advisory Committee on Economic Inclusion will be both in-person and via a Webcast live on the internet. In addition, the meeting will be recorded and subsequently made available on-demand approximately two weeks after the event. To view the live event, visit <http://fdic.windrosemedia.com>.

DATES: Wednesday, May 24, 2023, from 9:00 a.m. to 4:00 p.m.

ADDRESSES: The meeting will be held in the FDIC Board Room on the 6th floor

of the FDIC Building located at 550 17th Street NW, Washington, DC.

FOR FURTHER INFORMATION CONTACT:

Requests for further information concerning the meeting may be directed to Debra A. Decker, Committee Management Officer of the FDIC at (202) 898-8748.

SUPPLEMENTARY INFORMATION:

Agenda: The agenda will include updates from Committee members about key challenges facing their communities or organizations. There will also be panel discussions on opportunities for agencies that administer government benefit programs to harness "bankable moments" as a successful approach to encourage unbanked households to join the banking system as well as presentations by banks and community-based organizations about programs designed to increase bank access. The agenda is subject to change. Any changes to the agenda will be announced at the beginning of the meeting.

Type of Meeting: The meeting will be open to the public, limited only by the space available on a first-come, first-served basis. For security reasons, members of the public will be subject to security screening procedures and must present a valid photo identification to enter the building. The FDIC will provide attendees with auxiliary aids (e.g., sign language interpretation) required for this meeting. Those attendees needing such assistance should email InterpreterDC@fdic.gov at least two days before the meeting to make necessary arrangements. If you require a reasonable accommodation to participate, please email ReasonableAccommodationRequests@fdic.gov to make necessary arrangements. To view the recording, visit [http://fdic.windrosemedia.com/index.php?category=Advisory+Committee+on+Economic+Inclusion+-\(Come-IN\)](http://fdic.windrosemedia.com/index.php?category=Advisory+Committee+on+Economic+Inclusion+-(Come-IN)). Written statements may be filed with the committee before or after the meeting.

Federal Deposit Insurance Corporation.

Dated at Washington, DC, on May 2, 2023.

James P. Sheesley,

Assistant Executive Secretary.

[FR Doc. 2023-09631 Filed 5-4-23; 8:45 am]

BILLING CODE 6714-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Solicitation of Nominations for Appointment to CDC's Advisory Committee to the Director (ACD)

AGENCY: Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (HHS).

ACTION: Notice.

SUMMARY: The Centers for Disease Control and Prevention (CDC), within the Department of Health and Human Services (HHS), is seeking nominations for membership on the Advisory Committee to the Director (ACD). The ACD consists of up to 15 experts knowledgeable in areas pertinent to the CDC mission, such as public health, global health, health disparities, biomedical research, and other fields, as applicable.

DATES: Nominations for membership on the ACD must be received no later than June 5, 2023. Late nominations received after this time will not be considered for the current membership cycle.

ADDRESSES: All nominations (cover letters and curriculum vitae) should be emailed to ACDDirector@cdc.gov with the subject line: "Nomination for CDC ACD."

FOR FURTHER INFORMATION CONTACT: Bridget Richards, MPH, Centers for Disease Control and Prevention, Office of the Chief of Staff, 1600 Clifton Road NE, MS H21-10, Atlanta, Georgia 30329-4027. Telephone: (404) 718-5028; Email Address: ACDDirector@cdc.gov.

SUPPLEMENTARY INFORMATION: The Advisory Committee to the Director (ACD or Committee), shall (1) make recommendations to the Director regarding ways to prioritize the activities of the agency in alignment with the CDC Strategic Plan required under section 305(c); H.R. 2617-1252; (2) advise on ways to achieve or improve performance metrics in relation to the CDC Strategic Plan, and other relevant metrics, as appropriate; (3) provide advice and recommendations on the development of the Strategic Plan, and any subsequent updates, as appropriate; (4) advise on grants, cooperative agreements, contracts, or other transactions, as applicable; (5) provide other advice to the Director, as requested, to fulfill duties under sections 301 and 311; and (6) appoint subcommittees.

Nominations are being sought for individuals who have the expertise and

qualifications necessary to contribute to the accomplishments of the committee's objectives. Nominees will be selected based on expertise in the fields of public health, global health, health disparities, biomedical research, and public health disciplines. Federal employees will not be considered for membership.

Members may be invited to serve for four-year terms. Selection of members is based on candidates' qualifications to contribute to the accomplishment of ACD objectives. To ensure a diverse committee composition, nominees with front line and field experience at the local, state, tribal and territorial levels are encouraged to apply. This includes nominees with experience working for, and with, community-based organizations and other non-profit organizations. Selection of members is based on candidates' qualifications to contribute to the accomplishment of the ACD's objectives. Members will be required to attend ACD meetings at least two times per year (virtually or in-person), and contribute time in between meetings for research, consultation, discussion, and writing assignments.

HHS policy stipulates that committee membership be balanced in terms of points of view represented, and the Committee's function. Appointments shall be made without discrimination basis of age, race, ethnicity, gender, sexual orientation, gender identity, HIV status, disability, and cultural, religious, or socioeconomic status. Nominees must be U.S. citizens and cannot be full-time employees of the U.S. Government. Current participation on Federal workgroups or prior experience serving on a Federal advisory committee does not disqualify a candidate; however, HHS policy is to avoid excessive individual service on advisory committees and multiple committee memberships. Committee members are Special Government Employees, requiring the filing of financial disclosure reports at the beginning of and annually during their terms. CDC reviews potential candidates for ACD membership each year and provides a slate of nominees for consideration to the Secretary of HHS for final selection. HHS notifies selected candidates of their appointment near the start of the term, or as soon as the HHS selection process is completed. Note that the need for different expertise varies from year to year and a candidate who is not selected in one year may be reconsidered in a subsequent year. Candidates should submit the following items:

- A one-half to one-page cover letter that includes your understanding of, and commitment to, the time and work

necessary; one to two sentences on your background and experience; and one to two sentences on the skills/perspective you would bring to the ACD.

- Current curriculum vitae which highlights the experience and work history being sought relevant to the criteria set forth above, including complete contact information (telephone numbers, mailing address, email address).

Nominations may be submitted by the candidate him- or herself, or by the person/organization recommending the candidate.

The Director, Strategic Business Initiatives Unit, Office of the Chief Operating Officer, Centers for Disease Control and Prevention, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry.

Kalwant Smagh,

Director, Strategic Business Initiatives Unit, Office of the Chief Operating Officer, Centers for Disease Control and Prevention.

[FR Doc. 2023-09546 Filed 5-4-23; 8:45 am]

BILLING CODE 4163-18-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Advisory Council for the Elimination of Tuberculosis

AGENCY: Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (HHS).

ACTION: Notice of meeting.

SUMMARY: In accordance with regulatory provisions, the Centers for Disease Control and Prevention (CDC) announces the following meeting of the Advisory Council for the Elimination of Tuberculosis (ACET). This meeting is open to the public, limited only by the number of audio and web conference lines (1,000 audio and web conference lines are available). Time will be available for public.

DATES: The meeting will be held on June 20, 2023, from 9:30 a.m. to 5:30 p.m., EDT, and June 21, 2023, from 9 a.m. to 12 p.m., EDT.

Written comments must be submitted by June 13, 2023. Registration to make oral comments must also be submitted by June 13, 2023.

ADDRESSES: The telephone access number is 1-669-254-5252, Webinar

ID: 160 044 5648, and the Passcode is 54633168. The web conference access is <https://cdc.zoomgov.com/j/1610445648?pwd=dExvWksyUHRBMHBlcGg2V3VzSGQ1UT09>, and the Passcode is 1@yr\$G#H. The number of available audio and web conference lines is 1,000.

FOR FURTHER INFORMATION CONTACT:

Marah Condit, MS, Committee Management Lead, Office of Policy, Planning, and Partnerships, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention, 1600 Clifton Road NE, Mailstop US8-6, Atlanta, Georgia 30329-4027. Telephone: (404) 639-3423; Email: nchhstppolicy@cdc.gov.

SUPPLEMENTARY INFORMATION:

Purpose: The Advisory Council for the Elimination of Tuberculosis (ACET) advises and makes recommendations regarding the elimination of tuberculosis (TB) to the Secretary of Health and Human Services, the Assistant Secretary for Health, and the Director, Centers for Disease Control and Prevention (CDC). Specifically, the Council makes recommendations regarding policies, strategies, objectives, and priorities; addresses the development and application of new technologies; provides guidance and review on CDC's Tuberculosis Prevention Research portfolio and program priorities; and reviews the extent to which progress has been made toward eliminating TB.

Matters to be Considered: The agenda will include discussions on: (1) strengthening TB public health infrastructure through data modernization; (2) equitable access to TB diagnostics; (3) revisions to the Tuberculosis Technical Instructions for Panel Physicians and Civil Surgeons; and (4) provider education and access to TB diagnostics. Agenda items are subject to change as priorities dictate.

Public Participation

Written Public Comment: Members of the public are welcome to submit written comments in advance of the meeting. Written comments must be submitted by emailing nchhstppolicy@cdc.gov with subject line "ACET June 2023 Public Comment Registration" by June 13, 2023.

Oral Public Comment: Individuals who would like to make an oral comment during the public comment period must register by emailing nchhstppolicy@cdc.gov with subject line "ACET June 2023 Public Comment Registration" by June 13, 2023. The

public comment period is on June 20, 2023, at 5 p.m., EDT.

The Director, Strategic Business Initiatives Unit, Office of the Chief Operating Officer, Centers for Disease Control and Prevention, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry.

Kalwant Smagh,

*Director, Strategic Business Initiatives Unit,
Office of the Chief Operating Officer, Centers
for Disease Control and Prevention.*

[FR Doc. 2023-09547 Filed 5-4-23; 8:45 am]

BILLING CODE 4163-18-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

[Docket No. CDC-2023-0035]

Advisory Committee on Immunization Practices

AGENCY: Centers for Disease Control and Prevention (CDC), Department of Health and Human Services (HHS).

ACTION: Notice and request for comment.

SUMMARY: In accordance with regulatory provisions, the Centers for Disease Control and Prevention (CDC) announces the following meeting for the Advisory Committee on Immunization Practices (ACIP). This meeting is open to the public. Time will be available for public comment.

DATES: The meeting will be held on June 21, 2023, 8 a.m. to 5:15 p.m., EDT, June 22, 2023, 8 a.m. to 5 p.m., EDT, and June 23, 2023, 8 a.m. to 1 p.m., EDT (times subject to change, see the ACIP website for updates: <http://www.cdc.gov/vaccines/acip/index.html>).

Written comments must be received between June 5-16, 2023.

ADDRESSES: You may submit comments, identified by Docket No. CDC-2023-0035, by either of the methods listed below. CDC does not accept comments by email.

- **Federal eRulemaking Portal:** <https://www.regulations.gov>. Follow the instructions for submitting comments.

- **Mail:** Ms. Stephanie Thomas, ACIP Meeting, Centers for Disease Control and Prevention, 1600 Clifton Road NE, MS H24-8, Atlanta, GA 30329-4027. Attn: Docket No. CDC-2023-0035.

Instructions: All submissions received must include the Agency name and

Docket Number. All relevant comments received in conformance with the <https://www.regulations.gov> suitability policy will be posted without change to <https://www.regulations.gov>, including any personal information provided. For access to the docket to read background documents or comments received, go to <https://www.regulations.gov>.

The meeting will be webcast live via the World Wide Web. The webcast link can be found on the ACIP website at <https://www.cdc.gov/vaccines/acip/index.html>.

FOR FURTHER INFORMATION CONTACT:

Stephanie Thomas, Committee Management Specialist, Advisory Committee on Immunization Practices, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention, 1600 Clifton Road NE, Mailstop H24-8, Atlanta, Georgia 30329-4027. Telephone: (404) 639-8836; Email: ACIP@cdc.gov.

SUPPLEMENTARY INFORMATION:

Purpose: The Advisory Committee on Immunization Practices (ACIP) is charged with advising the Director, Centers for Disease Control and Prevention (CDC), on the use of immunizing agents. In addition, under 42 U.S.C. 1396s, the Committee is mandated to establish and periodically review and, as appropriate, revise the list of vaccines for administration to vaccine-eligible children through the Vaccines for Children Program (VFC), along with schedules regarding dosing interval, dosage, and contraindications to administration of vaccines. Further, under applicable provisions of the Affordable Care Act and section 2713 of the Public Health Service Act, immunization recommendations of ACIP that have been approved by the Director, CDC, and appear on CDC immunization schedules generally must be covered by applicable health plans.

Matters to be Considered: The agenda will include discussions on Mpox vaccines, influenza vaccines, pneumococcal vaccines, meningococcal vaccines, Polio vaccine, respiratory syncytial virus vaccine pediatric/maternal, respiratory syncytial virus vaccine in older adults, dengue vaccines, Chikungunya vaccine, informational session by CDC Immunization Safety Office, and COVID-19 vaccines. Recommendation votes on influenza vaccines, pneumococcal vaccines, Polio vaccines, and respiratory syncytial virus vaccine in older adults are scheduled. A VFC vote on pneumococcal vaccines is scheduled. Agenda items are subject to change as priorities dictate. For more

information on the meeting agenda visit <https://www.cdc.gov/vaccines/acip/meetings/meetings-info.html>.

Meeting Information: The meeting will be webcast live via the World Wide Web. For more information on ACIP, please visit the ACIP website: <http://www.cdc.gov/vaccines/acip/index.html>.

Public Participation

Interested persons or organizations are invited to participate by submitting written views, recommendations, and data. Please note that comments received, including attachments and other supporting materials, are part of the public record and are subject to public disclosure. Comments will be posted on <https://www.regulations.gov>. Therefore, do not include any information in your comment or supporting materials that you consider confidential or inappropriate for public disclosure. If you include your name, contact information, or other information that identifies you in the body of your comments, that information will be on public display. CDC will review all submissions and may choose to redact, or withhold, submissions containing private or proprietary information such as Social Security numbers, medical information, inappropriate language, or duplicate/near duplicate examples of a mass-mail campaign. CDC will carefully consider all comments submitted into the docket. CDC does not accept comments by email.

Written Public Comment: The docket will be opened to receive written comments on June 5, 2023. Written comments must be received by June 16, 2023.

Oral Public Comment: This meeting will include time for members of the public to make an oral comment. Oral public comment will occur before any scheduled votes including all votes relevant to the ACIP's Affordable Care Act and Vaccines for Children Program roles. Priority will be given to individuals who submit a request to make an oral public comment before the meeting according to the procedures below.

Procedure for Oral Public Comment: All persons interested in making an oral public comment at the June 21, 2023, ACIP meeting must submit a request at <http://www.cdc.gov/vaccines/acip/meetings/index.html> no later than 11:59 p.m., EDT, June 16, 2023, according to the instructions provided.

If the number of persons requesting to speak is greater than can be reasonably accommodated during the scheduled time, CDC will conduct a lottery to determine the speakers for the

scheduled public comment session. CDC staff will notify individuals regarding their request to speak by email by June 20, 2023. To accommodate the significant interest in participation in the oral public comment session of ACIP meetings, each speaker will be limited to three minutes, and each speaker may only speak once per meeting.

The Director, Strategic Business Initiatives Unit, Office of the Chief Operating Officer, Centers for Disease Control and Prevention, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry.

Kalwant Smagh,

*Director, Strategic Business Initiatives Unit,
Office of the Chief Operating Officer, Centers
for Disease Control and Prevention.*

[FR Doc. 2023-09548 Filed 5-4-23; 8:45 am]

BILLING CODE 4163-18-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

[Document Identifiers: CMS-10704]

Agency Information Collection Activities: Submission for OMB Review; Comment Request

AGENCY: Centers for Medicare & Medicaid Services, Health and Human Services (HHS).

ACTION: Notice.

SUMMARY: The Centers for Medicare & Medicaid Services (CMS) is announcing an opportunity for the public to comment on CMS' intention to collect information from the public. Under the Paperwork Reduction Act of 1995 (PRA), federal agencies are required to publish notice in the **Federal Register** concerning each proposed collection of information, including each proposed extension or reinstatement of an existing collection of information, and to allow a second opportunity for public comment on the notice. Interested persons are invited to send comments regarding the burden estimate or any other aspect of this collection of information, including the necessity and utility of the proposed information collection for the proper performance of the agency's functions, the accuracy of the estimated burden, ways to enhance the quality, utility, and clarity of the information to be collected, and the use

of automated collection techniques or other forms of information technology to minimize the information collection burden.

DATES: Comments on the collection(s) of information must be received by the OMB desk officer by June 5, 2023.

ADDRESSES: Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice to www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under 30-day Review—Open for Public Comments" or by using the search function.

To obtain copies of a supporting statement and any related forms for the proposed collection(s) summarized in this notice, please access the CMS PRA website by copying and pasting the following web address into your web browser: <https://www.cms.gov/Regulations-and-Guidance/Legislation/PaperworkReductionActof1995/PRA-Listing>.

FOR FURTHER INFORMATION CONTACT:

William Parham at (410) 786-4669.

SUPPLEMENTARY INFORMATION: Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501-3520), federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct or sponsor. The term "collection of information" is defined in 44 U.S.C. 3502(3) and 5 CFR 1320.3(c) and includes agency requests or requirements that members of the public submit reports, keep records, or provide information to a third party. Section 3506(c)(2)(A) of the PRA (44 U.S.C. 3506(c)(2)(A)) requires federal agencies to publish a 30-day notice in the **Federal Register** concerning each proposed collection of information, including each proposed extension or reinstatement of an existing collection of information, before submitting the collection to OMB for approval. To comply with this requirement, CMS is publishing this notice that summarizes the following proposed collection(s) of information for public comment:

1. *Type of Information Collection Request:* Revision of a currently approved collection; *Title of Information Collection:* Health Reimbursement Arrangements and Other Account-Based Group Health Plans; *Use:* On June 20, 2019, the Department of the Treasury, the Department of Labor, and the Department of Health and Human Services (collectively, the Departments) issued final regulations titled "Health

Reimbursement Arrangements and Other Account-Based Group Health Plans" (84 FR 28888) under section 2711 of the PHS Act and the health nondiscrimination provisions of HIPAA, Public Law 104-191 (HIPAA nondiscrimination provisions). The regulations expanded the use of health reimbursement arrangements and other account-based group health plans (collectively referred to as HRAs) and recognized certain HRAs as limited excepted benefits (the excepted benefit HRA), for plan years beginning on or after January 1, 2020. In general, the regulations expanded the use of HRAs by eliminating the prohibition on integrating HRAs with individual health insurance coverage, thereby permitting employers to offer individual coverage HRAs to employees that can be integrated with individual health insurance coverage or Medicare Parts A and B, or Part C. Under the regulations, employees are permitted to use amounts in an individual coverage HRA to pay expenses for medical care (including premiums for individual health insurance coverage and Medicare), subject to certain requirements. This information collection includes provisions related to substantiation of individual health insurance coverage (45 CFR 146.123(c)(5)), the notice requirement for individual coverage HRAs (45 CFR 146.123(c)(6)), and notification of termination of coverage (45 CFR 146.123(c)(1)(iii)). In the final rule "Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2021; Notice Requirement for Non-federal Governmental Plans" (85 FR 29164), under 45 CFR 146.145(b)(3)(viii)(E), excepted benefit HRAs offered by non-Federal governmental plan sponsors are required to provide a notice that describes conditions pertaining to eligibility to receive benefits, annual or lifetime caps or other limits on benefits under the excepted benefit HRA, and a description or summary of the benefits. This notice must be provided no later than 90 days after the employee becomes a participant in the excepted benefit HRA and annually thereafter.

Form Number: CMS-10704 (OMB Control Number 0938-1361); *Frequency:* Annually; *Affected Public:* Private Sector, State Governments; *Number of Respondents:* 11,574; *Total Annual Responses:* 1,037,674; *Total Annual Hours:* 5,889. (For policy questions regarding this collection contact Adam Pellillo at (667) 290-9621.)

Dated: May 1, 2023.

William N. Parham, III,

Director, Paperwork Reduction Staff, Office of Strategic Operations and Regulatory Affairs.

[FR Doc. 2023-09553 Filed 5-4-23; 8:45 am]

BILLING CODE 4120-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Administration for Community Living

Intent To Award a Single-Source Supplement To Provide the National Aging Network With Timely, Relevant, High-Quality Opportunities To Further Enhance Training and Technical Assistance, Visibility, and Cultural Adaptions Related to Chronic Disease Self-Management Education (CDSME) Programs

ACTION: Notice.

SUMMARY: The Administration for Community Living (ACL) announces the intent to award a single-source supplement to the current cooperative agreement held by the National Council on Aging (NCOA) for the Chronic Disease Self-Management Education (CDSME) Resource Center. The purpose of this program is to leverage and expand upon chronic disease self-management education efforts across the nation; work collaboratively in partnership with the aging and disability network and other stakeholders to advance the development of technical assistance, education, and resources to increase public awareness about chronic disease self-management tools to better manage chronic conditions like diabetes, chronic pain, arthritis and depression; increase the number of older adults and adults with disabilities who participate in evidence-based CDSME and self-management support programs; and support the integration and sustainability of evidence-based CDSME and self-management support programs within community integrated health networks.

FOR FURTHER INFORMATION CONTACT: For further information or comments regarding this program supplement, contact Lesha Spencer-Brown, U.S. Department of Health and Human Services, Administration for Community Living, Administration on Aging, Office of Nutrition and Health Promotion Programs, [202-795-7331], email Lesha.Spencer-Brown@acl.hhs.gov.

SUPPLEMENTARY INFORMATION: The purpose of this supplement is to:

- Support enhanced training and technical assistance for CDSME program capacity building and delivery infrastructure through the update and development of evergreen evidence-based training materials and other resources based on needs and gaps identified from the grantees and the network; engagement of individuals from the field to establish cross-sector advisory panels that will advise on the development of best practices and frameworks for evidence-based program adaptation and effective delivery in underserved communities; facilitation of a mini grantee meeting that will offer intensive workshops on capacity building, program delivery and sustainability; further development of evidence-based program providers through a peer mentoring program; and enhance existing sustainability tools to assist the network in strategic planning activities that will lead to enhanced program sustainability.

- Augment marketing resources to include development and fielding of an assessment to better understand capacities, needs and opportunities around marketing; translation of existing and new resources into different languages; development of tip sheets and best practices guides around messaging and platforms for effective dissemination of program benefits and availability; and creation of materials and messaging that can be easily adapted by the network for their own use in increasing awareness about the CDSME programs and recruiting program participants in their communities.

- Improve the visibility of CDSME program data through a public facing interactive dashboard of national-level data that can be used for various purposes by the network; infographics describing CDSME grantee efforts and accomplishments (e.g., reach, cost savings, program outcomes); and a webinar series that will focus on program forecasting, reach and growth across the country, quality improvement, and best practices for data integration.

- Advance action steps in the “*Call to Action to Improve Cultural Relevance and Accessibility: Evidence-Based Programs among American Indian, Alaska Native and Native Hawaiian Communities*” by working with researchers to operationalize several of the recommendations including developing program adaptations, improving cultural relevance of existing CDSME approved programs, and assisting with research and other needs to advance programs.

The administrative supplement for FY 2023 will be in the amount of \$1,088,834, bringing the total award for FY 2023 to \$3,088,834.

With this supplement, NCOA will be able to continue to work across the aging and disability network to enhance and expand existing CDSME efforts to increase the number of older adults and adults with disabilities who participate in evidence-based CDSME programs, and further embed CDSME programs in communities. The additional funding will not be used for projects or activities outside the scope of the approved award.

Program Name: National Chronic Disease Self-Management Education (CDSME) Resource Center.

Recipient: National Council on Aging (NCOA).

Period of Performance: The supplement award will be issued for the third year of a five-year project period of August 1, 2021, to July 31, 2026.

Total Award Amount: \$3,088,834 in FY 2023.

Award Type: Cooperative Agreement Supplement.

Statutory Authority: The Older Americans Act, title IV; and the Patient Protection and Affordable Care Act, 42 U.S.C. 300u-11 (Prevention and Public Health Fund).

Basis for Award: National Council on Aging (NCOA) is currently funded through a cooperative agreement to carry out the objectives of the project entitled, *National Chronic Disease Self-Management Education (CDSME) Resource Center* for the period of August 1, 2021, through July 31, 2026. Since the project's implementation, the grantee has made significant progress toward its approved work plan. The supplement will enable the grantee to carry their work even further, enhancing the support they provide to the Aging Network. The additional funding will not be used to begin new projects or activities, but rather to enhance efforts.

NCOA is uniquely positioned to complete the work called for under this project. They have an already established infrastructure and are a known and trusted organization in the Aging Network. Prior to this current award, NCOA competed, and was awarded the *National Chronic Disease Self-Management Education (CDSME) Resource Center* for the past 7 years. Under the current award period, they are providing technical assistance and educational opportunities for the Aging Network's CDSME efforts, in partnership with a broad network of local and national agencies, to increase the number of older adults and adults with disabilities who participate in

evidence-based CDSME and self-management support programs, and support the integration and sustainability of these programs within community integrated health networks. They have a comprehensive, interactive web-based repository (<https://ncoa.org/professionals/health/center-for-healthy-aging/national-cdsme-resource-center>) of tools and resources, including—best practices documents, issue briefs, and tip sheets based on identified needs and gaps in the network, CDSME program and fidelity guidance, educational learning modules and webinars via NCOA Connect (an online platform for learning and sharing among aging professionals), articles covering topics from program planning through sustainability, and videos. NCOA also hosts special events such as the Older Adult Mental Health Awareness Day symposium, the annual Age + Action Conference (a gathering of grantees, aging professionals and others with an interest in aging to share and explore solutions to ensure equitable aging for all), facilitates the Evidence-Based Program Review Process that identifies and approves new health promotion and disease programs for implementation across the network, and they maintain the national CDSME database that tracks the delivery and impact of CDSME programs across the country. They have reached thousands of consumers and aging services providers using their comprehensive database of SUAs, AAAs, and other CDSME stakeholders. Additionally, they have worked diligently to ensure that an inclusive range of partners are in place, engaged in the work, and committed to the success of chronic disease self-management education.

Establishing a separate but parallel grant project at this time could be potentially duplicative and disruptive to the current CDSME-related activities well under way. More importantly, it could cause confusion among the Aging Network and stakeholders, and negatively impact training, implementation, communication, and support opportunities. If this supplement were not provided, the project would be unable to address the significant unmet needs of the Aging Network to engage more older adults and adults with disabilities in evidence-based CDSME programs and embed these programs within communities so they are available and accessible over time.

Dated: May 2, 2023.

Alison Barkoff,

Acting Administrator and Assistant Secretary for Aging.

[FR Doc. 2023–09613 Filed 5–4–23; 8:45 am]

BILLING CODE 4154–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Agency Information Collection Activities: Proposed Collection: Public Comment Request; Information Collection Request Title: Title V Maternal and Child Health Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report, OMB No. 0915–0172—Revision

AGENCY: Health Resources and Services Administration (HRSA), Department of Health and Human Services.

ACTION: Notice.

SUMMARY: In compliance with the requirement for opportunity for public comment on proposed data collection projects of the Paperwork Reduction Act of 1995, HRSA announces plans to submit an Information Collection Request (ICR), described below, to the Office of Management and Budget (OMB). Prior to submitting the ICR to OMB, HRSA seeks comments from the public regarding the burden estimate, below, or any other aspect of the ICR.

DATES: Comments on this ICR should be received no later than July 5, 2023.

ADDRESSES: Submit your comments to paperwork@hrsa.gov or mail the HRSA Information Collection Clearance Officer, Room 14N39, 5600 Fishers Lane, Rockville, Maryland 20857.

FOR FURTHER INFORMATION CONTACT: To request more information on the proposed project or to obtain a copy of the data collection plans and draft instruments, email paperwork@hrsa.gov or call Samantha Miller, the HRSA Information Collection Clearance Officer, at (301) 443–1984.

SUPPLEMENTARY INFORMATION: When submitting comments or requesting information, please include the ICR title for reference.

Information Collection Request Title: Title V Maternal and Child Health Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report, OMB No. 0915–0172—Revision.

Abstract: The Title V Maternal and Child Health (MCH) Services Block Grant to States Program is authorized by

Sections 501–509 of Title V of the Social Security Act (42 U.S.C. 701–709). HRSA is updating the *Title V Maternal and Child Health Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report*. This Guidance is used annually by the 50 states and nine jurisdictions¹ (hereafter referred to as “State”) in applying for Block Grants under Title V of the Social Security Act and in preparing the required Annual Report. The updates being proposed by HRSA’s Maternal and Child Health Bureau (MCHB) for this edition of the Guidance continue to support the Federal-State partnership that is supported by the Title V MCH Services Block Grant and the state’s role in developing a 5-Year Action Plan that addresses its individual priority needs. These proposed updates build on and further refine the reporting structure and vision that was outlined in the previous edition. As such, they are intended to enable a state to articulate a comprehensive description of its Title V program activities and its leadership efforts in advancing and assuring a public health system that serves the MCH population. HRSA’s proposed updates to this edition of the Guidance were informed by consultation with State Title V maternal and child health agencies, and by comments received from State Title V program leadership, national Maternal and Child Health leaders and other stakeholders.

Specific updates to this edition of the *Title V Maternal and Child Health Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report* include the following:

(1) Requirements for narrative reporting have been adjusted to allow for streamlined reporting in the four interim years after the needs assessment, giving states the flexibility to update certain sections if they choose. Reporting for all narrative sections is required in the year of the Five-Year Needs Assessment.

(2) The requirements for state and program capacity narrative reporting have been reorganized and streamlined to eliminate duplication.

(3) Expectations around state Title V reporting on family and community partnerships have been clarified. These expectations include enhanced

¹ The following nine jurisdictions receive Title V Maternal and Child Health Block Grant Program funding: the District of Columbia, the Republic of the Marshall Islands, the Federated States of Micronesia, the Republic of Palau, the Commonwealth of Puerto Rico, the US Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

discussion on program and financial planning and activities, the impact they have on the MCH population, and their value in improving outcomes.

(4) A greater emphasis on health equity as a guiding principle of the Title V program is noted. Discussion on this principle is incorporated in the needs assessment sections and the state action plan for each MCH population. States have the option to identify and set annual targets for priority populations under each National Performance Measure (NPM) and use prepopulated, stratified data to report annual progress.

(5) Reporting on the state’s implementation of the *Blueprint for Change: A National Framework for a System of Services for Children and Youth with Special Health Care Needs* has been added for the children with special health care needs (CSHCN) domain, which includes reporting on the four critical areas in the Blueprint: health equity, family and child well-being and quality of life, access to services, and financing of services.

(6) The performance measure framework has been maintained; however, the NPMs and National Outcome Measures (NOMs) have been updated to reflect salient and emergent priorities at the state and national levels. The framework has been updated to include measure domain types for the NPMs. All NPMs are categorized by one of three types: clinical health systems; health behaviors; and social determinants of health. Within each MCH population health domain, there are at least three NPM options, with at least one NPM for each measure domain type. The exception is for CSHCN, where there is a greater focus on the need to improve clinical health systems.

(7) Two NPMs are identified as Universal NPMs that every state is required to address and report on in its Title V MCH Block Grant Application/Annual Report. The Universal NPMs serve to accelerate progress on priority areas with a focus on access and quality of primary and preventive care. The two Universal NPMs are: (1) NPM 1- Postpartum Visit in the Women/Maternal Health domain and (2) NPM 17-Medical Home in the Child Health and CSHCN domains. A state must report on a minimum of five NPMs, which includes the two Universal NPMs, with at least one NPM for each of the five MCH population domains. States have the flexibility to select as many NPMs and State Performance Measures (SPMs) as necessary to address each of its priority needs including the other NPMs within the Women/Maternal Health and CSHCN domains. There is no maximum for the number of NPMs that a state can select.

(8) A new set of Standardized Measures are available to select as SPMs. Similar to NOMs and NPMs, annual performance data for these SPMs will be prepopulated by MCHB from national data sources, if available, and provided to the states for their use. States will be able to target priority populations for MCH outcomes. The Standardized Measures set contains measures that were NPMs in the previous Guidance as well as former NOMs that function better as performance measures.

(9) A new form, Form 7: Title V Program Workforce, has been added to quantify the Title V-funded positions in the state. This form will be required only in the year of the Five-Year Needs Assessment, and these data will help

assist technical assistance efforts to support workforce development.

Need and Proposed Use of the Information: Each year, all states are required to submit an Application/Annual Report for Federal funds for their Title V MCH Services Block Grant to States Program to HRSA’s MCHB (sections 505(a) and 506(a)(1) of Title V of the Social Security Act). In addition, the state MCH Services Block Grant programs are required to conduct a state-wide, comprehensive needs assessment every five years. The information and instructions for the preparation and submission of this Application/Annual Report are contained in the *Title V MCH Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report*.

Likely Respondents: Likely respondents are state MCH agencies and other MCH stakeholders.

Burden Statement: Burden in this context means the time expended by persons to generate, maintain, retain, disclose, or provide the information requested. This estimate includes the time needed to review instructions; to develop, acquire, install, and utilize technology and systems for the purpose of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; to train personnel and to be able to respond to a collection of information; to search data sources; to complete and review the collection of information; and to transmit or otherwise disclose the information. The total annual burden hours estimated for this ICR are summarized in the table below.

TOTAL ESTIMATED ANNUALIZED BURDEN HOURS

Form name	Number of respondents	Number of responses per respondent	Total responses	Average burden per response (in hours)	Total burden hours
Application and Annual Report without Five-Year Needs Assessment Summary	59	1	59	115	6,785
Application and Annual Report with Five Year Needs Assessment Summary	59	1	59	181	10,679
Total	59	.....	59	.....	17,464

States will use the updated edition of the *Title V MCH Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report* to prepare and submit the fiscal year (FY) 2025, FY 2026, and FY 2027 Applications/FY 2023, FY 2024, and FY 2025 Annual Report. In calendar year 2025, states will use the updated edition

of the *Title V MCH Services Block Grant to States Program: Guidance and Forms for the Title V Application/Annual Report* to submit the next five-year needs assessment summary, as part of the FY 2026 Application/FY 2024 Annual Report.

HRSA specifically requests comments on (1) the necessity and utility of the

proposed information collection for the proper performance of the agency’s functions, (2) the accuracy of the estimated burden, (3) ways to enhance the quality, utility, and clarity of the information to be collected, and (4) the use of automated collection techniques or other forms of information

technology to minimize the information collection burden.

Maria G. Button,

Director, Executive Secretariat.

[FR Doc. 2023-09635 Filed 5-4-23; 8:45 am]

BILLING CODE 4165-15-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Agency Information Collection Activities: Proposed Collection: Public Comment Request; Information Collection Request Title: Evaluation of Programs Supporting the Mental Health of the Health Professions Workforce, OMB No. 0915-xxxx—New

AGENCY: Health Resources and Services Administration (HRSA), Department of Health and Human Services.

ACTION: Notice.

SUMMARY: In compliance with the requirement for opportunity for public comment on proposed data collection projects of the Paperwork Reduction Act of 1995, HRSA announces plans to submit an Information Collection Request (ICR), described below, to the Office of Management and Budget (OMB). Prior to submitting the ICR to OMB, HRSA seeks comments from the public regarding the burden estimate, below, or any other aspect of the ICR.

DATES: Comments on this ICR should be received no later than July 5, 2023.

ADDRESSES: Submit your comments to paperwork@hrsa.gov or mail the HRSA Information Collection Clearance Officer, Room 14N136B, 5600 Fishers Lane, Rockville, Maryland 20857.

FOR FURTHER INFORMATION CONTACT: To request more information on the proposed project or to obtain a copy of the data collection plans and draft instruments, email paperwork@hrsa.gov or call Samantha Miller, the acting HRSA Information Collection Clearance Officer, at 301-594-4394.

SUPPLEMENTARY INFORMATION: When submitting comments or requesting information, please include the ICR title for reference.

Information Collection Request Title: Evaluation of Programs Supporting the Mental Health of the Health Professions Workforce, OMB No. 0915-xxxx—New.

Abstract: The Public Health Service Act and the American Rescue Plan Act of 2021 authorized three programs administered by HRSA: (1) the Health and Public Safety Workforce Resiliency Training Program (the Training

Program); (2) the Promoting Resilience and Mental Health among Health Professional Workforce Program (the Workforce Program); and (3) the Health and Public Safety Workforce Resiliency Technical Assistance Center (the Technical Assistance Center). The Training Program funds resilience training activities for the health workforce in rural and underserved communities. The Workforce Program supports organizations' programs or protocols that foster resilience and wellness among the health workforce in these communities. The Technical Assistance Center provides tailored training and technical assistance to Training Program and Workforce Program awardees. The purpose of the planned evaluation is to assess the three programs with respect to their goals of promoting resiliency and mental health in the health workforce. Data collection efforts will inform HRSA leadership about the progress, costs and benefits, and impact of these efforts to support the delivery of health care in the United States.

Methods of Collection

Quantitative and qualitative de-identified data will be collected from awardees and their health care workforce. Each instrument will be administered twice over the 4-year evaluation period; once mid-way through the project period and once after the project period has ended. There will also be a one-time comparison group survey. To achieve the evaluation, the study will use the following quantitative data collection instruments:

The Healthcare Workforce Survey is a web-based survey intended to collect data on the impact and implementation of the Training Program and the Workforce Program from individuals in both programs' target populations. Respondents will only be asked questions that are relevant to their experience. The Healthcare Workforce Survey includes questions about before and after program participation to assess self-reported change.

The Fielding Tracker is an Excel-based tool that Workforce Program and Training Program awardees will help populate with information on how they distributed the Healthcare Workforce Survey (e.g., type and frequency of email communications sent to the target populations of grant-funded activities, number of individuals emailed, number of undeliverable emails received, and demographic information). It will also gather aggregated demographic information on the target population required for a non-response bias

analysis (this information is not reported to HRSA elsewhere).

The Awardee Training and Services Report is an Excel-based tool that will be used to clarify how evaluators can refer to each activity Training Program and the Workforce Program grantees implemented on the Healthcare Workforce Survey so that respondents will recognize the activities. The Awardee Training and Services Report will also request key descriptive information for each activity. Each report will include pre-populated activities or training programs that have been reported to HRSA to reduce burden on the Training Program and Workforce Program awardees, while confirming, revising, or adding details, as needed.

The Health and Public Safety Workforce Resiliency Training Program Comparison Group Survey is a web-based survey intended to assess key outcomes among those in the health workforce who did not have access to Training Program-funded activities. A third-party vendor will provide the health workforce sample. Eligibility for this survey will be assessed using a brief web-based Screener. The purpose of the screener is to identify respondents with similar characteristics as the Training Program participants.

The Awardee Survey about the Technical Assistance Center is a web-based survey intended to assess the Training Program and the Workforce Program awardees' experiences with and perceptions of the impact from technical assistance provided by the Technical Assistance Center. In addition, the Awardee Survey is designed to gather details about program implementation to inform future programming.

The Awardee Cost Workbook is an Excel-based tool that will be used to conduct a cost-benefit analysis. It will be pre-populated with existing data for the Training Program and the Workforce Program awardees to verify and update as needed. Workforce Program awardees are expected to have lower response burden because they are required to report staff turnover rates through annual reporting; the Training Program awardees are not.

The Awardee Interview Guide and Organizational Assessment Interview Protocol are qualitative data collection instruments the evaluation team will use as semi-structured interview guides to understand the awardees' perspectives on challenges, lessons learned, and organizational change. The Organizational Assessment interviews will be conducted with the Workforce Program awardees, given the grant

program's unique focus on organizational change. Questions will be tailored depending on the role of the interviewee, which could include the awardee project director, the manager, an external partner, and up to three workforce team members.

Need and Proposed Use of the Information: The information collected for this evaluation will enable a comprehensive evaluation of these important HRSA-funded programs to promote resiliency and improve mental health in the health workforce. The proposed data collection efforts are critical to understanding program outcomes and will inform leadership on program progress and inform future programming. Data collection will assist in the development of actionable strategies and methodologies to inform future programs, investment strategies, and ongoing workforce resiliency policy development. Data collection will align with parallel efforts across HRSA, providing previously un-collected or un-verified information critical to understanding factors related to the

success of current HRSA programs. All instruments have been designed to leverage and not duplicate annual performance reporting requirements and data collected by the Technical Assistance Center.

Likely Respondents: For the Healthcare Workforce Survey, all individuals in the target population of the Training Program and Workforce Programs will be invited to complete the survey. For the Training Program Comparison Group Survey, the following types of professionals across the four census regions will be targeted: nurses, physicians, physician assistants, behavioral health providers, nursing students, medical school students and residents, and clinical social work or psychology students. For the Awardee Interviews and Awardee Training and Services Reports Form, the Training Program, Workforce Program, and Technical Assistance Center awardees will be invited to participate. For the Awardee Survey about the Technical Assistance Center and the Fielding Tracker, the Training Program and

Workforce Program awardees will be asked to participate. For the Organizational Assessment Interviews, multiple types of staff at each Workforce Program awardee organization will be targeted.

Burden Statement: Burden in this context means the time expended by persons to generate, maintain, retain, disclose, or provide the information requested. This includes the time needed to review instructions; to develop, acquire, install, and utilize technology and systems for the purpose of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; to train personnel and to be able to respond to a collection of information; to search data sources; to complete and review the collection of information; and to transmit or otherwise disclose the information. The total annual burden hours estimated for this ICR are summarized in the table below.

TOTAL ESTIMATED ANNUALIZED BURDEN HOURS

Form name	Number of respondents	Number of responses per respondent	Total responses	Average burden per response (in hours)	Total burden hours
Healthcare Workforce Survey	29,359	1	29,359	0.25	7,340
The Training Program Comparison Group Screener	180,000	1	180,000	0.05	9,000
The Training Program Comparison Group Survey	2,600	1	2,600	0.17	442
The Training Program Awardee Cost Workbook	34	1	34	5.00	170
Awardee Interview Guide	44	1	44	1.50	66
Awardee Training and Services Report	44	1	44	1.00	44
Fielding Tracker	44	1	44	4.00	176
The Workforce Program Awardee Cost Workbook	10	1	10	3.50	35
The Workforce Program Organizational Assessment Interview Protocol	50	1	50	1.00	50
Awardee Survey about the Technical Assistance Center ...	44	1	44	1.00	44
Total	212,229	10	212,229	17.47	17,367

HRSA specifically requests comments on (1) the necessity and utility of the proposed information collection for the proper performance of the agency's functions, (2) the accuracy of the estimated burden, (3) ways to enhance the quality, utility, and clarity of the information to be collected, and (4) the use of automated collection techniques or other forms of information technology to minimize the information collection burden.

Maria G. Button,

Director, Executive Secretariat.

[FR Doc. 2023-09599 Filed 5-4-23; 8:45 am]

BILLING CODE 4165-15-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Resources and Services Administration

Solicitation of Nominations for Membership To Serve on the Advisory Committee on Interdisciplinary, Community-Based Linkages

AGENCY: Health Resources and Services Administration (HRSA), Department of Health and Human Services (HHS).

ACTION: Request for nominations.

SUMMARY: HRSA is seeking nominations of qualified candidates for consideration for appointment as members of the Advisory Committee on

Interdisciplinary, Community-Based Linkages (ACICBL or Committee).

DATES: Nominations for membership on ACICBL must be received on or before June 30, 2023.

ADDRESSES: Nomination packages must be electronically submitted to the Designated Federal Official, Shane Rogers, at BHWAdvisoryCouncil@hrsa.gov.

FOR FURTHER INFORMATION CONTACT: Shane Rogers, Designated Federal Official, Division of Medicine and Dentistry, Bureau of Health Workforce, email SRogers@hrsa.gov or telephone at 301-443-5260.

SUPPLEMENTARY INFORMATION: The ACICBL provides advice and recommendations to the Secretary of

HHS (Secretary) concerning policy and program development, and other significant matters related to activities under the Public Health Service (PHS) Act, which includes Area Health Education Centers, Geriatrics, Mental and Behavioral Health, Social Work, Graduate Psychology, Rural Health, and Pharmacy.

ACICBL is responsible for preparing and submitting an annual report to the Secretary and Congress describing the activities of the Committee, including findings and recommendations made by the Committee. ACICBL meets at least three times per year. A copy of the current committee membership, charter, and reports can be obtained by accessing the ACICBL website at: <https://www.hrsa.gov/advisory-committees/interdisciplinary-community-linkages/index.html>.

Nominations: HRSA is requesting nominations for voting members to serve as Special Government Employees. The Secretary appoints ACICBL members with the expertise needed to fulfill the duties of the Committee. The membership requirements are set forth in section 757 of the PHS Act (42 U.S.C. 294f). Members are health professionals from schools of medicine or osteopathic medicine, schools of dentistry, schools of pharmacy, schools of public health, physician assistant education programs, and schools of allied health. Interested applicants may self-nominate or be nominated by another individual or organization.

Individuals selected for appointment to the Committee will be invited to serve for 3 years. Members of ACICBL, as Special Government Employees, receive compensation for performance of their duties on the Committee and reimbursement for per diem and travel expenses incurred for attending ACICBL meetings.

The following information must be included in the package of materials submitted for each individual nominated for consideration: (1) A letter of nomination from an employer, a colleague, or a professional organization; (2) a current copy of the nominee's curriculum vitae; (3) a statement of interest from the nominee; and (4) a one-paragraph biographical sketch of the nominee. Nomination packages may be submitted directly by the individual being nominated or by the person/organization nominating the candidate.

HHS endeavors to ensure that the membership of ACICBL is fairly balanced in terms of points of view represented and among the health professions. ACICBL also seeks a broad

representation of geographic areas, including balance between urban and rural members, gender, and minority groups, including individuals with disabilities. At least 75 percent of the members of the Committee are health professionals. Appointments shall be made without discrimination on the basis of age, race, ethnicity, gender, sexual orientation, disability, and or cultural, religious, or socioeconomic status.

Individuals who are selected to be considered for appointment will be required to provide detailed information regarding their financial holdings, consultancies, and research grants or contracts. Disclosure of this information is required for HRSA ethics officials to determine whether there is a potential conflict of interest between the Special Government Employee's public duties as a member of ACICBL and their private interests, including an appearance of a loss of impartiality as defined by federal laws and regulations, and to identify any required remedial action needed to address the potential conflict.

Authority: ACICBL is required by section 757 (42 U.S.C. 294f) of the PHS Act. Except where otherwise indicated, the Committee is governed by provisions of the Federal Advisory Committee Act of (FACA) of 1972 (5 U.S.C. 10), as amended, which sets forth standards for the formation and use of advisory committees.

Maria G. Button,

Director, Executive Secretariat.

[FR Doc. 2023–09595 Filed 5–4–23; 8:45 am]

BILLING CODE 4165–15–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Indian Health Service

Tribal Self-Governance Negotiation Cooperative Agreement Program

Correction

In notice document 2023–09097, appearing on pages 26569–26577, in the issue of Monday, May 1, 2023, make the following correction:

On page 26569, in the third column, in the first and second lines after **Key Dates**, “*Application Deadline Date*: May 1, 2023.” should read, “*Application Deadline Date*: June 30, 2023.”.

[FR Doc. C1–2023–09097 Filed 5–4–23; 8:45 am]

BILLING CODE 0099–10–D

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Cancer Institute; Notice of Charter Renewal

In accordance with title 41 of the U.S. Code of Federal Regulations, section 102–3.65(a), notice is hereby given that the Charter for the Frederick National Laboratory Advisory Committee to the National Cancer Institute, was renewed for an additional two-year period on March 30, 2023.

It is determined that the Frederick National Laboratory Advisory Committee to the National Cancer Institute, is in the public interest in connection with the performance of duties imposed on the National Institutes of Health by law, and that these duties can best be performed through the advice and counsel of this group.

Inquiries may be directed to Claire Harris, Director, Office of Federal Advisory Committee Policy, Office of the Director, National Institutes of Health, 6701 Democracy Boulevard, Suite 1000, Bethesda, Maryland 20892 (Mail code 4875), Telephone (301) 496–2123, or harriscl@mail.nih.gov.

Dated: May 1, 2023.

Melanie J. Pantoja,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023–09565 Filed 5–4–23; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Center for Complementary & Integrative Health; Notice of Closed Meeting

Pursuant to section 1009 of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Center for Complementary and Integrative Health

Special Emphasis Panel; Early Phase Clinical Trials of Natural Products (NP).

Date: July 12, 2023.

Time: 11:00 a.m. to 3:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Center for Complementary and Integrative, Democracy II, 6707 Democracy Blvd., Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Shiyong Huang, Ph.D., Scientific Review Officer, Office of Scientific Review, Division of Extramural Activities, NCCIH/NIH, 6707 Democracy Boulevard, Suite 401, Bethesda, MD 20817, shiyong.huang@nih.gov.

(Catalogue of Federal Domestic Assistance Program Nos. 93.213, Research and Training in Complementary and Alternative Medicine, National Institutes of Health, HHS)

Dated: May 2, 2023.

Victoria E. Townsend,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023–09629 Filed 5–4–23; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of General Medical Sciences; Notice of Closed Meeting

Pursuant to section 1009 of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: NIGMS Initial Review Group; Training and Workforce Development Study Section—D Review of IMSD and PREP Applications.

Date: June 8–9, 2023.

Time: 9:00 a.m. to 5:00 p.m.

Agenda: To review and evaluate grant applications.

Place: The Bethesda Hotel, Tapestry Collection by Hilton, 8120 Wisconsin Avenue, Bethesda, Maryland 20892 (Hybrid Meeting).

Contact Person: Marc Rigas, Ph.D., Scientific Review Officer, Office of Scientific Review, National Institutes of General Medical Sciences, National Institute of Health, 45 Center Drive, Room 3AN18C, Bethesda, Maryland 20892, 301–827–0648, marc.rigas@nih.gov.

Name of Committee: NIGMS Initial Review Group; Training and Workforce Development Study Section—C Review of G–RISE, IMSD, and PREP Applications.

Date: June 15–16, 2023.

Time: 10:00 a.m. to 6:00 p.m.

Agenda: To review and evaluate grant applications.

Place: The Bethesda Hotel, Tapestry Collection by Hilton, 8120 Wisconsin Avenue, Bethesda, Maryland 20892 (Hybrid Meeting).

Contact Person: Sonia Ivette Ortiz-Miranda, Ph.D., Scientific Review Officer, Scientific Review Branch, National Institute of General Medical Sciences, National Institutes of Health, 45 Center Drive, MSC 6200, Bethesda, Maryland 20892, 301–402–9448, sonia.ortiz-miranda@nih.gov.

Information is also available on the Institute's/Center's home page: www.nigms.nih.gov/, where an agenda and any additional information for the meeting will be posted when available.

(Catalogue of Federal Domestic Assistance Program No. 93.859, Biomedical Research and Research Training, National Institutes of Health, HHS)

Dated: May 1, 2023.

Miguelina Perez,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023–09560 Filed 5–4–23; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute on Alcohol Abuse and Alcoholism; Notice of Closed Meeting

Pursuant to section 1009 of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute on Alcohol Abuse and Alcoholism Initial Review Group; Clinical, Treatment and Health Services Research Study Section.

Date: June 7, 2023.

Time: 9:00 a.m. to 6:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institute of Health, National Institute on Alcohol Abuse and

Alcoholism, 6700B Rockledge Drive, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Luis Espinoza, Ph.D., Scientific Review Officer, Extramural Project Review Branch, National Institute on Alcohol Abuse and Alcoholism, 6700B Rockledge Drive, Room 2109, Bethesda, MD 20892, (301) 443–8599, espinozala@mail.nih.gov. (Catalogue of Federal Domestic Assistance Program Nos. 93.273, Alcohol Research Programs, National Institutes of Health, HHS)

Dated: May 1, 2023.

Melanie J. Pantoja,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023–09561 Filed 5–4–23; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Dental and Craniofacial Research; Notice of Closed Meetings

Pursuant to section 1009 of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Dental and Craniofacial Research Special Emphasis Panel; Review of NIDCR's Secondary Data PARs.

Date: June 14, 2023.

Time: 1:00 p.m. to 5:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institute of Dental and Craniofacial Research, 6701 Democracy Boulevard, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Yun Mei, MD, Scientific Review Officer, Scientific Review Branch, National Institute of Dental and Craniofacial Research, National Institutes of Health, 6701 Democracy Boulevard, Bethesda, MD 20892, (301) 827–4639, yun.mei@nih.gov.

Name of Committee: National Institute of Dental and Craniofacial Research Special Emphasis Panel; AHEAD: Advancing Head and Neck Cancer Early Detection Research.

Date: June 15, 2023.

Time: 9:00 a.m. to 6:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institute of Dental and Craniofacial Research, 6701 Democracy Boulevard, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Aiwu Cheng, Ph.D., MD, Scientific Review Officer, Scientific Review Branch, Division of Extramural Activities, National Institute of Dental and Craniofacial Research, 6701 Democracy Blvd., Bethesda, MD 20892, (301) 594-4859, Aiwu.cheng@nih.gov.

Name of Committee: National Institute of Dental and Craniofacial Research Special Emphasis Panel; Review of Clinical Study Applications.

Date: June 15, 2023.

Time: 10:00 a.m. to 5:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institute of Dental and Craniofacial Research, 6701 Democracy Boulevard, Bethesda, MD 20892 (Virtual Meeting).

Contact Person: Yun Mei, MD, Scientific Review Officer, Scientific Review Branch, National Institute of Dental and Craniofacial Research, National Institutes of Health, 6701 Democracy Boulevard, Bethesda, MD 20892, (301) 827-4639, yun.mei@nih.gov.

(Catalogue of Federal Domestic Assistance Program No. 93.121, Oral Diseases and Disorders Research, National Institutes of Health, HHS)

Dated: May 2, 2023.

Melanie J. Pantoja,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023-09602 Filed 5-4-23; 8:45 am]

BILLING CODE 4140-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Mental Health; Notice of Closed Meeting

Pursuant to section 1009 of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Mental Health Initial Review Group; Effectiveness of Mental Health Interventions Study Section.

Date: June 5, 2023.

Time: 9:30 a.m. to 6:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, Neuroscience Center, 6001 Executive Boulevard, Rockville, MD 20852 (Virtual Meeting).

Contact Person: Marcy Ellen Burstein, Ph.D., Scientific Review Officer, Division of Extramural Activities, National Institute of Mental Health, National Institutes of Health, Neuroscience Center, 6001 Executive Blvd., Bethesda, MD 20892-9606, 301-443-9699, bursteinme@mail.nih.gov.

(Catalogue of Federal Domestic Assistance Program No. 93.242, Mental Health Research Grants, National Institutes of Health, HHS)

Dated: May 1, 2023.

Melanie J. Pantoja,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023-09563 Filed 5-4-23; 8:45 am]

BILLING CODE 4140-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Prospective Grant of an Exclusive Patent License: Predicting Patient Response to Cancer Therapy via Histopathology Images

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The National Cancer Institute (NCI), an institute of the National Institutes of Health, Department of Health and Human Services, is contemplating the grant of an exclusive, sublicensable patent license to Australian National University (“ANU”), a non-profit research institution located in Canberra, Australia for NCI’s rights to the patent applications listed in the Supplementary Information section of this notice.

DATES: Only written comments and/or applications for a license which are received by the National Cancer Institute’s Technology Transfer Center on or before May 22, 2023 will be considered.

ADDRESSES: Requests for copies of the patent application, inquiries, and comments relating to the contemplated exclusive patent license should be directed to: Kevin Chang, Ph.D., Senior Technology Transfer Manager, NCI Technology Transfer Center, at: email: changke@mail.nih.gov.

SUPPLEMENTARY INFORMATION:

Intellectual Property

The following and all continuing U.S. and foreign patents/patent applications

thereof are the intellectual properties to be licensed under the prospective agreement to ANU: United States Provisional Patent Application No. 63/349,829, filed June 7, 2022, entitled “Predicting Patient Response to Cancer Therapy via Histopathology Images” (HHS Ref. No. E-186-2022-0-US-01).

The Government of the United States of America and ANU are assignees of the patent rights in these inventions. The prospective license will be for the purpose of consolidating NCI’s patent rights to ANU, co-owners of said rights, for commercial development and marketing. Consolidation of these co-owned rights is intended to expedite development of the invention, consistent with the goals of the Bayh-Dole Act codified as 35 U.S.C. 200-212.

The prospective patent license territory will be worldwide, exclusive, and may be limited to those fields of use commensurate in scope with the patent rights. It will be sublicensable, and any sublicenses granted by ANU will be subject to the provisions of 37 CFR part 401 and 404.

This technology discloses a computational based method to predict whether a cancer patient will respond to targeted and immunotherapies against cancer using hematoxylin and eosin (H&E) slides from the patient’s tumor.

This notice is made in accordance with 35 U.S.C. 209 and 37 CFR part 404. The prospective exclusive license will include terms for the sharing of royalty income with NCI from commercial sublicenses of the patent rights. The prospective exclusive license may be granted unless within fifteen (15) days from the date of this published notice, the National Cancer Institute receives written evidence and argument that establishes that the grant of the license would not be consistent with the requirements of 35 U.S.C. 209 and 37 CFR part 404.

Complete applications for a license that are timely filed in response to this notice will be treated as objections to the grant of the contemplated exclusive patent license. In response to this Notice, the public may file comments or objections. Comments and objections, other than those in the form of a license application, will not be treated confidentially, and may be made publicly available.

License applications submitted in response to this Notice will be presumed to contain business confidential information and any release of information in these license applications will be made only as required and upon a request under the Freedom of Information Act, 5 U.S.C. 552.

Dated: May 1, 2023.

Richard U. Rodriguez,

Associate Director, Technology Transfer Center, National Cancer Institute.

[FR Doc. 2023-09566 Filed 5-4-23; 8:45 am]

BILLING CODE 4140-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Mental Health; Notice of Closed Meeting

Pursuant to section 1009 of the Federal Advisory Committee Act, as amended, notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Mental Health Special Emphasis Panel; BRAIN Initiative: Brain Behavior Quantification and Synchronization R61/R33.

Date: May 31, 2023.

Time: 10:00 a.m. to 5:00 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, Neuroscience Center, 6001 Executive Boulevard, Rockville, MD 20852 (Virtual Meeting).

Contact Person: Evon Abisaid, Ph.D., Scientific Review Officer, Division of Extramural Activities, National Institute of Mental Health, National Institutes of Health, Rockville, MD 20852, 301-827-0399, ereifejes@mail.nih.gov.

(Catalogue of Federal Domestic Assistance Program No. 93.242, Mental Health Research Grants, National Institutes of Health, HHS)

Dated: May 1, 2023.

Melanie J. Pantoja,

Program Analyst, Office of Federal Advisory Committee Policy.

[FR Doc. 2023-09562 Filed 5-4-23; 8:45 am]

BILLING CODE 4140-01-P

DEPARTMENT OF HOMELAND SECURITY

U.S. Customs and Border Protection

[Docket No. USCBP-2023-0008]

Request for Applicants for Appointment to the Commercial Customs Operations Advisory Committee (COAC)

AGENCY: U.S. Customs and Border Protection, Department of Homeland Security (DHS).

ACTION: Committee Management; request for applicants for appointment to the Commercial Customs Operations Advisory Committee (COAC).

SUMMARY: U.S. Customs and Border Protection (CBP) is requesting that individuals who are interested in serving on the Commercial Customs Operations Advisory Committee (COAC) apply for membership. The COAC provides advice and makes recommendations to the Secretaries of the Department of the Treasury (Treasury) and the Department of Homeland Security (DHS) on all matters involving the commercial operations of CBP and related functions.

DATES: Applications for membership should be submitted to CBP as indicated in the **ADDRESSES** section on or before June 5, 2023.

ADDRESSES: If you wish to apply for membership, your application should be submitted by one of the following means:

- *Email:* latoria.p.martin@cbp.dhs.gov.
- *Mail:* Ms. Latoria Martin, Office of Trade Relations, U.S. Customs and Border Protection, 1300 Pennsylvania Avenue NW, Room 3.5A, Washington, DC 20229.

FOR FURTHER INFORMATION CONTACT: Ms. Latoria Martin, U.S. Customs and Border Protection, 1300 Pennsylvania Avenue NW, Room 3.5A, Washington, DC 20229. Email: latoria.p.martin@cbp.dhs.gov; telephone 202-344-1440.

SUPPLEMENTARY INFORMATION: Section 109 of the Trade Facilitation and Trade Enforcement Act of 2015 (Pub. L. 114-125, 130 Stat. 122, February 24, 2016) established the Commercial Customs Operations Advisory Committee (COAC). The COAC is an advisory committee established in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. chapter 10. The COAC advises the Secretaries of the Department of the Treasury (Treasury) and Department of Homeland Security (DHS) on the commercial operations of U.S. Customs

and Border Protection (CBP) and related Treasury and DHS functions. In accordance with section 109 of the Trade Facilitation and Trade Enforcement Act, the COAC shall:

(1) advise the Secretaries of the Treasury and DHS on all matters involving the commercial operations of CBP, including advising with respect to significant changes that are proposed with respect to regulations, policies, or practices of CBP;

(2) provide recommendations to the Secretaries of the Treasury and DHS on improvements to the commercial operations of CBP;

(3) collaborate in developing the agenda for COAC meetings; and

(4) perform such other functions relating to the commercial operations of CBP as prescribed by law or as the Secretaries of the Treasury and DHS jointly direct.

Balanced Membership Plans

The COAC consists of 20 members who are selected from representatives of the trade or transportation communities served by CBP, or others who are directly affected by CBP commercial operations and related functions. The members shall represent the interests of individuals and firms affected by the commercial operations of CBP and shall be appointed without regard to political affiliation. The members will be appointed by the Secretaries of the Treasury and DHS from candidates recommended by the Commissioner of CBP. In addition, members will represent major regions of the country.

COAC Meetings

The COAC meets once each quarter, although additional meetings may be scheduled. The COAC meetings may be held in Washington, DC, or near a CBP port of entry. The members do not receive travel reimbursement or per diem.

COAC Membership

Membership on the COAC is specific to the appointee and a member may not send an alternate to represent him or her at a COAC meeting. The length of the member's term is determined by the Secretaries, not to exceed three years. Regular attendance is essential; a member who is absent for two public meetings within a calendar year, or does not participate in the committee's work, may be removed from the COAC.

Members who are currently serving on the COAC are eligible to re-apply for membership if they are not in their second consecutive term and if they have met the attendance requirements. A new application letter is required and

may incorporate copies of previously filed application materials noted herein. Members will not be considered Special Government Employees and will not be paid compensation by the Federal Government for their representative services with respect to the COAC.

Application for COAC Appointment: Any interested person wishing to serve on the COAC must provide the following:

- Statement of interest and reasons for application;
- Complete professional resume;
- Home address and telephone number;
- Work address, telephone number, and email address;
- Statement of the industry you represent; and
- Statement agreeing to submit to pre-appointment mandatory background and tax checks.

A national security clearance is not required for the position. In order for Treasury and DHS to fully leverage broad-ranging experience and education, the COAC must be diverse with regard to professional and technical expertise. Treasury and DHS are committed to pursuing opportunities, consistent with applicable law, to compose a committee that reflects the diversity of the nation's people.

Signing Authority

The Acting Commissioner Troy A. Miller, having reviewed and approved this document, has delegated the authority to electronically sign the document to the Director (or Acting Director, if applicable) of the Regulations and Disclosure Law Division of CBP, for purposes of publication in the **Federal Register**.

Dated: May 1, 2023.

Robert F. Altneu,

Director, Regulations and Disclosure Law Division, Regulations and Rulings, Office of Trade, U.S. Customs and Border Protection.

[FR Doc. 2023-09552 Filed 5-4-23; 8:45 am]

BILLING CODE 9111-14-P

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

[Docket ID: FEMA-2023-0010; OMB No. 1660-NW131]

Agency Information Collection Activities: Proposed Collection; Comment Request; Generic Clearance for the Multi-Modal Mixed Methods Collection of Information To Inform Agency Marketing and Outreach

AGENCY: Federal Emergency Management Agency, Department of Homeland Security.

ACTION: 60-Day notice of new collection and request for comments.

SUMMARY: The Federal Emergency Management Agency (FEMA), as part of its continuing effort to reduce paperwork and respondent burden, invites the general public to take this opportunity to comment on a new information collection. In accordance with the Paperwork Reduction Act of 1995, this notice seeks comments concerning gathering insights from customers and stakeholders about their perceptions, experiences, and expectations that can improve the marketing and outreach of the Agency's services and programs.

DATES: Comments must be submitted on or before July 5, 2023.

ADDRESSES: Submit comments at www.regulations.gov under Docket ID FEMA-2023-0010. Follow the instructions for submitting comments.

All submissions received must include the Agency name and Docket ID, and will be posted, without change, to the Federal eRulemaking Portal at <http://www.regulations.gov>, and will include any personal information you provide. Therefore, submitting this information makes it public. You may wish to read the Privacy and Security Notice that is available via a link on the homepage of www.regulations.gov.

FOR FURTHER INFORMATION CONTACT:

Joshua Heath, Insurance Communications Specialist, Marketing & Outreach, Federal Insurance, Federal Insurance and Mitigation Administration, 202-322-6215, joshua.heath@fema.dhs.gov. You may contact the Information Management Division for copies of the proposed collection of information at email address: FEMA-Information-Collections-Management@fema.dhs.gov.

SUPPLEMENTARY INFORMATION: Executive Order 12862 directs Federal agencies to provide service to the public that

matches or exceeds the best service available in the private sector. Section 1(b) of Executive Order 12862 requires government agencies to "survey customers to determine the kind and quality of services they want." In addition, the Foundations for Evidence-Based Policymaking Act of 2018 ("Evidence Act") enables agencies to collect and analyze data to use as evidence in policymaking, as well as assess the effectiveness and efficiency of current programs. To work continuously to ensure that our programs are effective and meet our customers' needs, FEMA seeks to obtain the Office of Management and Budget's (OMB) approval of a generic clearance to collect information through mixed methods (quantitative and qualitative) to improve marketing, outreach, and other promotional activities of services, programs, and opportunities offered by FEMA.

Collection of Information

Title: Generic Clearance for the Multi-Modal Mixed Methods Collection of Information to Inform Agency Marketing and Outreach.

Type of Information Collection: New information collection.

OMB Number: 1660-NW131.

FEMA Forms: Not applicable.

Abstract: In accordance with the Evidence Act, the collected information will equip FEMA with vital feedback from the general public and stakeholders that will allow for evidence-based improvements to FEMA's programs and services. FEMA will collect, analyze, and interpret information to identify strengths and weaknesses of programs based on current stakeholder experience and make improvements in the marketing and other promotional activities based on feedback.

Affected Public: Individuals and households, business or other for-profit, Federal Government, State, local or Tribal government, non-profit institutions.

Estimated Number of Respondents: 45,600.

Estimated Number of Responses: 45,600.

Estimated Total Annual Burden Hours: 7,861.

Estimated Total Annual Respondent Cost: \$344,867.

Estimated Respondents' Operation and Maintenance Costs: \$0.

Estimated Respondents' Capital and Start-Up Costs: \$0.

Estimated Total Annual Cost to the Federal Government: \$748,830.

Comments

Comments may be submitted as indicated in the **ADDRESSES** caption above. Comments are solicited to (a) evaluate whether the proposed data collection is necessary for the proper performance of the Agency, including whether the information shall have practical utility; (b) evaluate the accuracy of the Agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used; (c) enhance the quality, utility, and clarity of the information to be collected; and (d) minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses.

Millicent Brown Wilson,

Records Management Branch Chief, Office of the Chief Administrative Officer, Mission Support, Federal Emergency Management Agency, Department of Homeland Security.

[FR Doc. 2023-09618 Filed 5-4-23; 8:45 am]

BILLING CODE 9111-52-P

DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

[Docket ID: FEMA-2022-0037; OMB No. 1660-NW163]

Agency Information Collection Activities: Proposed Collection; Comment Request; Generic Clearance for Notice of Loss and Proof of Loss

AGENCY: Federal Emergency Management Agency, Department of Homeland Security.

ACTION: 60-Day notice and request for comments.

SUMMARY: The Federal Emergency Management Agency (FEMA), as part of its continuing effort to reduce paperwork and respondent burden, invites the general public to take this opportunity to comment on a new information collection. In accordance with the Paperwork Reduction Act of 1995, this notice seeks comments concerning the Generic Clearance for the Collection of the Notice of Loss and Proof of Loss for claimants who file a claim with the Agency seeking compensation for injury or loss of property resulting from fires.

DATES: Comments must be submitted on or before July 5, 2023.

ADDRESSES: Submit comments at www.regulations.gov under Docket ID FEMA-2023-0037. Follow the instructions for submitting comments.

All submissions received must include the Agency name and Docket ID, and will be posted, without change, to the Federal eRulemaking Portal at <http://www.regulations.gov>, and will include any personal information you provide. Therefore, submitting this information makes it public. You may wish to read the Privacy and Security Notice that is available via a link on the homepage of www.regulations.gov.

FOR FURTHER INFORMATION CONTACT:

Angelica Searls, Emergency Management Specialist, Recovery Directorate, Federal Emergency Management Agency, 202-701-9021, fema-hermits-peak@fema.dhs.gov. You may contact the Information Management Division for copies of the proposed collection of information at email address: FEMA-Information-Collections-Management@fema.dhs.gov.

SUPPLEMENTARY INFORMATION: FEMA proposes to collect information from parties who apply for compensation under FEMA-established fire claims programs stemming from its role providing financial assistance and direct services to individuals applying for disaster assistance benefits in the event of a federally declared disaster as specified by The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law 93-288, as amended (42 U.S.C. 5121-5207). On September 30, 2022, President Biden signed into law the Hermit's Peak/Calf Canyon Fire Assistance Act ("Act") Public Law 117-180, division G—Hermit's Peak/Calf Canyon Fire Assistance Act. Congress passed the Act to compensate those parties who suffered injury and loss of property from the Hermit's Peak/Calf Canyon Fire. Such a generic clearance will minimize delays in FEMA's ability to respond to future fire incidents resulting in the establishment of claims offices.

Collection of Information

Title: Generic Clearance for Notice of Loss and Proof of Loss.

Type of Information Collection: New information collection.

OMB Number: 1660-NW163.

FEMA Forms: None.

Abstract: The Federal Emergency Management Agency will use the collected information to commence the process and procedures for claimants to seek compensation for injury or loss of

property resulting from the Hermit's Peak/Calf Canyon Fire and other Fires that meet the criteria. Affected State, local and Tribal governments, private sector businesses, not-for-profit organizations, and individuals and households that suffered injuries resulting from Fires will be eligible to apply for compensation. Claimants will submit a Notice of Loss to the Agency, meet with a FEMA Claims Reviewer, obtain documentation needed to substantiate claims, sign a Proof of Loss, and complete and return a Release and Certification form.

Affected Public: Individuals or households, State, local or Tribal government, private sector businesses, and not-for-profit organizations.

Estimated Number of Respondents: 287,250.

Estimated Number of Responses: 287,250.

Estimated Total Annual Burden Hours: 732,490.

Estimated Total Annual Respondent Cost: \$31,606,900.

Estimated Respondents' Operation and Maintenance Costs: \$0.

Estimated Respondents' Capital and Start-Up Costs: \$0.

Estimated Total Annual Cost to the Federal Government: \$65,103,002.

Comments

Comments may be submitted as indicated in the **ADDRESSES** caption above. Comments are solicited to (a) evaluate whether the proposed data collection is necessary for the proper performance of the Agency, including whether the information shall have practical utility; (b) evaluate the accuracy of the Agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used; (c) enhance the quality, utility, and clarity of the information to be collected; and (d) minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses.

Millicent L. Brown,

Records Management Branch Chief, Office of the Chief Administrative Officer, Mission Support, Federal Emergency Management Agency, Department of Homeland Security.

[FR Doc. 2023-09612 Filed 5-4-23; 8:45 am]

BILLING CODE 9111-68-P

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service**

[Docket No. FWS-HQ-LE-2023-0049;
FF09L00200-FX-LE18110900000; OMB
Control Number 1018-0012]

**Agency Information Collection
Activities; Declaration for Importation
or Exportation of Fish or Wildlife**

AGENCY: Fish and Wildlife Service,
Interior.

ACTION: Notice of information collection;
request for comment.

SUMMARY: In accordance with the
Paperwork Reduction Act of 1995, we,
the U.S. Fish and Wildlife Service
(Service), are proposing to renew an
information collection with revisions.

DATES: Interested persons are invited to
submit comments on or before July 5,
2023.

ADDRESSES: Send your comments on the
information collection request (ICR) by
one of the following methods (please
reference 1018-0012 in the subject line
of your comments):

- *Internet (preferred):* <https://www.regulations.gov>. Follow the instructions for submitting comments on Docket No. FWS-HQ-LE-2023-0049.
- *Email:* Info_Coll@fws.gov.
- *U.S. mail:* Service Information Collection Clearance Officer, U.S. Fish and Wildlife Service, 5275 Leesburg Pike, MS: PRB (JAO/3W), Falls Church, VA 22041-3803.

FOR FURTHER INFORMATION CONTACT:

Madonna L. Baucum, Service Information Collection Clearance Officer, by email at Info_Coll@fws.gov, or by telephone at (703) 358-2503. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION: In accordance with the Paperwork Reduction Act (PRA, 44 U.S.C. 3501 *et seq.*) and its implementing regulations at 5 CFR 1320.8(d)(1), all information collections require approval under the PRA. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

As part of our continuing effort to reduce paperwork and respondent

burdens, we invite the public and other Federal agencies to comment on new, proposed, revised, and continuing collections of information. This helps us assess the impact of our information collection requirements and minimize the public's reporting burden. It also helps the public understand our information collection requirements and provide the requested data in the desired format.

We are especially interested in public comment addressing the following:

- (1) Whether or not the collection of information is necessary for the proper performance of the functions of the agency, including whether or not the information will have practical utility;
- (2) The accuracy of our estimate of the burden for this collection of information, including the validity of the methodology and assumptions used;
- (3) Ways to enhance the quality, utility, and clarity of the information to be collected; and
- (4) How might the agency minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, *e.g.*, permitting electronic submission of response.

Comments that you submit in response to this notice are a matter of public record. We will include or summarize each comment in our request to OMB to approve this ICR. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Abstract: The Endangered Species Act (Act; 16 U.S.C. 1531 *et seq.*) makes it unlawful to import or export fish, wildlife, or plants without filing a declaration or report as necessary for enforcing the Act or upholding the Convention on International Trade in Endangered Species (CITES; 16 U.S.C. 1538(e)). With some exceptions, individuals, businesses, and others importing into or exporting from the United States any fish or wildlife must complete and submit to the Service an FWS Form 3-177 (Declaration for Importation or Exportation of Fish or Wildlife). This form, as well as FWS Form 3-177a (Continuation Sheet) and instructions for completion, are

available for electronic submission at <https://edecs.fws.gov>. These forms are also available in fillable format at <http://www.fws.gov/forms/>. The information that we collect enables us to:

- Accurately inspect the contents of the shipment;
- Enforce any regulations that pertain to the fish, wildlife, or plants contained in the shipment; and
- Maintain records of the importation and exportation of these commodities.

Individuals, businesses, and others must file FWS Forms 3-177 and 3-177a with us at the time of import or export of fish or wildlife. Our regulations allow certain species of fish or wildlife to be imported or exported between the United States and Canada or Mexico at U.S. Customs and Border Protection ports, even though our wildlife inspectors may not be present. In these instances, importers and exporters may submit the hard copy of the completed forms to U.S. Customs and Border Protection (CBP). We later collect these submitted forms from CBP and enter the information into the Service's Law Enforcement Management Information System (LEMIS). Form 3-177 collects the following information:

1. Date of the import/export;
2. Import/export license number;
3. Whether the shipment is an import or export;
4. Port of clearance;
5. Purpose code;
6. Customs documents number(s);
7. Name of carrier;
8. Transportation code;
9. Bonded location for inspection;
10. Whether the importer/exporter is based in the United States or in a foreign country;
11. Name, address, phone, and email of importer/exporter;
12. Identifier number and ID type of importer/exporter;
13. Name, phone, fax, email address, and contact person for customs broker, shipping agent, or freight forwarder;
14. Identifier number and ID type of customs broker, shipping agent, or freight forwarder;
15. Scientific and common name of the fish or wildlife;
16. Permit numbers (if permits are required);
17. Description, quantity, and value of the fish or wildlife;
18. Natural country of origin of the fish or wildlife; and
19. Whether the wildlife is live and venomous.

In addition, certain information, such as the airway bill or bill of lading number, the location of the shipment containing the fish or wildlife for inspection, and the markings on cartons

and number of cartons containing fish or wildlife, assists our wildlife inspectors if a physical examination of the shipment is necessary.

We are also requesting OMB's continued approval for electronic collection of data through CBP's Automated Commercial Environment (ACE) portal as an alternative electronic option for importers to eDecs. ACE is the system through which the trade community transmits international trade data required by CBP and all other participating government agencies. The Safe Port Act requires the Service to participate in the International Trade Data System, and the Executive Order on Streamlining Exports and Imports establishes ACE as the primary means for collection of international trade data by the government. Although the Service does not mandate importers to use ACE to file Service data at this time, if the filer chooses to file in ACE, we will collect the data from ACE as an alternative to eDecs. If importers file in ACE, they should not file in eDecs.

Proposed Revisions to This Information Collection

With this submission, we propose the following revisions to this information collection for OMB approval:

1. We propose to collect the container number for fish or wildlife shipped via ocean cargo. When fish or wildlife are imported and exported on cargo ships, they are packed in shipping containers, which have unique numbers. When our inspectors receive documents for these shipments, the documents often, but do not always, include the container number. However, Form 3-177 currently does not have a field for the container number. It is difficult for our wildlife inspectors to locate a shipment at a seaport without the container number, as ocean cargo shipments are tracked by container number. By adding a field for the container number to Form 3-177 and thus requiring this information on the form, we will improve our ability to inspect ocean cargo shipments and expedite the inspection process for individuals, businesses, and others who ship via ocean cargo.

2. Second, we propose to add a field to collect U.S. permit numbers other than CITES. Currently, we require importers and exporters to include the number for a U.S. CITES permit for those CITES listed species that require a U.S. CITES permit. They may also or instead have other U.S.-issued wildlife permits, such as those required under the Endangered Species Act, Migratory Bird Treaty Act, Marine Mammal Protection Act, Wild Bird Conservation Act, Bald and Golden Eagle Protection Act, and Lacey Act. These additional permit numbers will enable us to link the Form 3-177 to the permit. This will improve data collection and analysis, as we will be able to better ascertain what fish or wildlife is being imported and exported and tie it to what is being permitted. It will also help us ensure that permits are not duplicated and are used the allowable number of times, aiding enforcement.

3. Next, we propose to add a field to collect the designated port exception permit number. We have designated certain ports for import and export of fish and wildlife (see 50 CFR 14.12). Generally, individuals, businesses, and others who seek to import and export fish and wildlife at non-designated ports must obtain a designated port exception permit by submitting an application and paying the appropriate fees (see 50 CFR part 13). When they file Form 3-177, they must also include the issued designated port exception permit in their document package. Requiring importers and exporters to put the permit number on Form 3-177, along with the import-export license number (which we already require on Form 3-177), will assist us in tracking permits and making sure that importers and exporters are authorized to use the ports they are seeking to use. Having the number easily accessible on Form 3-177 will help to streamline the review process. If they are not authorized because they have not obtained the designated port exemption permit for the particular port, it will assist us with enforcement.

4. Next, we propose to add a field to collect the CITES tag or marking number for sport-hunted wildlife species that

require a CITES tag or marking for import, export, and in-transit shipments (see 50 CFR 23.74(e)). Those species include black rhinoceros, crocodilians (all members of the order *Crocodylia*, which includes alligators, caimans, crocodiles, and gavials), elephants, leopards, and markhor. A CITES tag or marking is specific to an individual wildlife item and may not be used for multiple wildlife items. Each CITES tag or marking has a unique alphanumeric identifier. Requiring placement of the CITES tag or marking number on Form 3-177 will help ensure we can match the tag or marking to the Form 3-177 declaration and verify that the tag or marking has only been used once. Thus, we will improve our ability to inspect shipments of these species, expedite inspections, and improve enforcement. It will also bolster our ability to meet our obligations under the CITES treaty.

As part of the renewal of and proposed changes for this information collection, we also will review the instructions pages of Form 3-177 to determine what updates are appropriate.

The public may request copies of any form or document contained in this information collection by sending a request to the Service Information Collection Clearance Officer in **ADDRESSES**, above.

Title of Collection: Declaration for Importation or Exportation of Fish or Wildlife, 50 CFR 14.61-14.64 and 14.94(k)(4).

OMB Control Number: 1018-0012.

Form Number: 3-177 and 3-177a.

Type of Review: Revision of a currently approved collection.

Respondents/Affected Public: Individuals, businesses, or others that import or export fish, wildlife, or plants; scientific institutions that import or export fish, wildlife, or plant scientific specimens; and government agencies that import or export fish, wildlife, or plant specimens for various purposes.

Respondent's Obligation: Required to obtain or retain a benefit.

Frequency of Collection: On occasion.

Total Estimated Annual Nonhour Burden Cost: None.

Requirement	Annual number of respondents	Total annual responses	Completion time per response (minutes)	Total annual burden hours*
FWS Form 3-177 Hard Copy (Upon Import)				
Individuals	8,996	9,569	15	2,392
Private Sector	128	347	15	87
Government	0	0	15	0
Subtotals:	9,124	9,916	.....	2,479

Requirement	Annual number of respondents	Total annual responses	Completion time per response (minutes)	Total annual burden hours*
FWS Form 3–177 Hard Copy (Upon Export)				
Individuals	717	881	15	220
Private Sector	30	43	15	11
Government	0	0	15	0
Subtotals	747	924	.....	231
eDecs/ACE (Upon Import)				
Individuals	21,567	25,030	10	4,172
Private Sector	13,005	120,035	10	20,006
Government	46	90	10	15
Subtotals	34,618	145,155	.....	24,193
eDecs (Upon Export)				
Individuals	975	1,930	10	322
Private Sector	2,548	32,230	10	5,372
Government	36	68	10	11
Subtotals	3,559	34,228	.....	5,705
eDecs—Confirmation Number (Automated Export System (AES))				
Private Sector	1,824	35,175	1	586
Automated Commercial Environment (ACE)/AES Disclaimer (and Accompanying Documents)				
Private Sector	5,000	500,000	1	8,333
eDecs—Fee Exemption Certification				
Private Sector	42	2,906	1	48
Totals	54,914	728,304	.....	41,575

* Rounded.

An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number.

The authority for this action is the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

Madonna Baucum,
Information Collection Clearance Officer, U.S.
Fish and Wildlife Service.

[FR Doc. 2023–09577 Filed 5–4–23; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service**

[FWS–HQ–IA–2023–N034;
FXIA1671090000/234/FF09A30000; OMB
Control Number 1018–0093]

**Agency Information Collection
Activities; Submission to the Office of
Management and Budget for Review
and Approval; Federal Fish and
Wildlife Permit Applications and
Reports—Management Authority**

AGENCY: Fish and Wildlife Service,
Interior.

ACTION: Notice of information collection;
request for comment.

SUMMARY: In accordance with the
Paperwork Reduction Act of 1995, we,
the U.S. Fish and Wildlife Service
(Service), are proposing to renew an
information collection, with revisions.

DATES: Interested persons are invited to
submit comments on or before June 5,
2023.

ADDRESSES: Written comments and
recommendations for the proposed
information collection should be sent
within 30 days of publication of this
notice to [https://www.reginfo.gov/
public/do/PRAMain](https://www.reginfo.gov/public/do/PRAMain). Find this
particular information collection by
selecting “Currently under Review—
Open for Public Comments” or by using
the search function. Please provide a
copy of your comments to the Service
Information Collection Clearance
Officer, U.S. Fish and Wildlife Service,
MS: PRB (JAO/3W), 5275 Leesburg Pike,
Falls Church, VA 22041–3803 (mail); or
by email to Info_Coll@fws.gov. Please
reference “1018–0093” in the subject
line of your comments.

FOR FURTHER INFORMATION CONTACT:
Madonna L. Baucum, Service
Information Collection Clearance
Officer, by email at Info_Coll@fws.gov,
or by telephone at (703) 358–2503.
Individuals in the United States who are
deaf, deafblind, hard of hearing, or have
a speech disability may dial 711 (TTY,
TDD, or TeleBraille) to access
telecommunications relay services.

Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION: In accordance with the Paperwork Reduction Act (PRA; 44 U.S.C. 3501 *et seq.*) and its implementing regulations in the Code of Federal Regulations (CFR) at 5 CFR 1320, all information collections require approval under the PRA. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

On June 30, 2022, we published in the **Federal Register** (87 FR 39112) a notice of our intent to request that OMB approve this information collection. In that notice, we solicited comments for 60 days, ending on August 29, 2022. In an effort to increase public awareness of, and participation in, our public commenting processes associated with information collection requests, the Service also published the **Federal Register** notice on *Regulations.gov* (Docket FWS-HQ-IA-2022-0067) to provide the public with an additional method to submit comments (in addition to the typical *Info Coll@fws.gov* email and U.S. mail submission methods). We received the following comments in response to that notice:

Comment 1: Email comment dated July 18, 2022, from the Marine Mammal Commission. The Marine Mammal Commission provided the following recommendations regarding marine mammal permit applications:

1. Recommended that we (1) remove the requirement to denote procedures as Level A or B harassment or other take, and (2) ensure that mortality takes are denoted on separate rows and classified appropriately in the tables.

2. Recommended that we adopt a clearer means of collecting principal investigator (PI) and co-investigator (CI) activities by providing a table based on comments they provided on November 26, 2019.

3. Recommended that the Service establish a standardized qualification system similar to National Marine Fisheries Service (NMFS) standards, authorize PI and CIs to conduct activities according to this system, and require that in lieu of a curriculum vitae (CV), each PI or CI submit a qualification table based on the qualification standards that we establish.

4. Expressed concern that we under-reported the burden hours as indicated on our application forms for marine

mammals, and provided suggested burden hours for information collection.

Agency Response to Comment 1: We accepted these changes and have incorporated them in our revised marine mammal permit application forms to include the removal of the requirement to denote procedures as Level A or B harassment or other take, adopting a clearer means of collecting PI and CI activities, and adjusting the burden hours for information collection.

Comment 2: Email comment dated August 15, 2022, from The Ornithological Council. The Ornithological Council's comment supports our electronic permitting system. The Council is encouraged to see improvements and the continued development of the system and encourages continued improvements to the digitization of the application forms. The commenter hopes that the Service can be more responsive to their requests for assistance when needed. For Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) permits, the commenter indicated that it can be problematic to obtain the endorsements that were adopted in 2002 (Resolution Conf. 12.3 Rev. CoP19). For Wild Bird Conservation Act (WBCA) permits, the commenter indicated that there is some question on interpretation of the exemption for requiring a permit under the WBCA for dead museum specimens and dead scientific specimens. Finally, the commenter requested that we change the title of Form 3-200-47 to "Import of Live Birds for Scientific Research or Zoological Breeding and Display under the Wild Bird Conservation Act."

Agency Response to Comment 2: We are pleased to see that the commenter is in support of our ePermits system, along with the commenter's acknowledgement that we continue to build and improve the system. We continue to work to improve our responsiveness to our customers' questions. For WBCA permits, the Service's position is that this exemption is only allowed for those specimens that are accessioned into a museum or scientific institution's collection. Specimens that are subject to collection under a researcher's activities and are not accessioned into an institution's collection would not be eligible for this exemption and the researcher should apply for the necessary import permits.

For CITES permit endorsements, Resolution Conf. 12.3 (Rev CoP19) provides that "export permits and re-export certificates be endorsed, with quantity, signature, and stamp, by an inspecting official, such as Customs, in

the export endorsement block of the document. If the export document has not been endorsed at the time of export, the Management Authority of the importing country should liaise with the exporting country's Management Authority, considering any extenuating circumstances or documents, to determine the acceptability of the document." As this is a regulatory requirement and recommendation under a CITES resolution, the commenter has continued to experience barriers to obtaining the required endorsements; consequently, they submitted a petition requesting we eliminate this requirement from our regulations. These regulations are currently being updated at this time and may address the Ornithological Society's concerns. For application Form 3-200-47, based on our discussion above, this change would preclude researchers that obtain dead specimens that are not accessioned into a museum or scientific institution from applying for a permit. Therefore, we will not make this change.

The commenter also discussed issues specific to the Migratory Bird Treaty Act (MBTA). Since we collect information regarding CITES and the U.S. Endangered Species Act (ESA), we can only provide the comments to the Service program that handles MBTA permits.

Comment 3: Email comment dated August 29, 2022, from Safari Club International. The Safari Club International (SCI) opposes the information collected on Forms 3-200-19, 3-200-20, 3-200-21, and 3-200-22, regarding the sex and age of the sport-hunted trophy. The commenter also suggested changes to the Notices section of the application under the Privacy Act Statement and Paperwork Reduction Act Statement.

Agency Response to Comment 3: In response to the request to remove the questions asking for the age and sex of the trophy, our regulations at 50 CFR 23.61 require us to find that a proposed import of an Appendix I specimen is for purposes that would not be detrimental to the survival of the species, prior to issuing a CITES document. The regulations stipulate, at 50 CFR 23.61(c), that the applicant must provide sufficient information for us to make a finding of non-detriment, and outline those criteria for which a finding of non-detriment can be made. Specifically, 50 CFR 23.61(c)(2) states that we must be able to find that the removal of the animal or plant from the wild is part of a biologically based sustainable-use management plan that is designed to eliminate overutilization of the species. Under CITES, the import permit must be

issued prior to the export permit. Our requirement for the applicant to state the sex and age of the sport-hunted trophy provides us with the complete information we need to make a non-detriment finding.

Additionally, in accordance with regulations at 50 CFR 23.60, in order to issue a permit for this activity, the Division of Management Authority (DMA) must determine that the trophy was legally acquired. This involves reviewing records such as permits, licenses, and tags, plus harvest locations and capture means, that demonstrate the specimen was legally removed from the wild under relevant wildlife or forestry laws or regulations. In some cases, this may include the sex and age of the animal, evidence of firearms license where restricted and relevant, and invoices related to hiring of guides or professional hunters.

Additionally, for species listed as threatened or endangered under the U.S. Endangered Species Act, we are required to find that the activity enhances the survival of the species. We understand that management plans in many foreign countries limit hunters to sport-hunting of animals of a certain age and/or sex. The requirement for the applicant to state the sex and age of the sport-hunted trophy information, in addition to the current enhancement questionnaire, makes it unnecessary for us to ask the country for this information. We do not ask for the age and/or sex for a trophy that has not yet been hunted. Therefore, in summary, we appreciate the comment submitted; however, the topics addressed in the comment submitted will remain unchanged in the application. In response to the commenter's request that we incorporate their suggested changes to our Notices under the Privacy Act Statement and Paperwork Reduction Act Statement, we did not make the suggested changes as these statements apply to all permit application forms.

Additionally, we are required to publish in the **Federal Register** the name, city, and State of any applicant who requests activities with a species that is listed as endangered. The information that is collected is voluntary in that the General Permit Procedures, outlined in 50 CFR 13.12(a), require this information be disclosed if a person wishes to obtain a permit.

As part of our continuing effort to reduce paperwork and respondent burdens, we invite the public and other Federal agencies to comment on new, proposed, revised, and continuing collections of information. This helps us assess the impact of our information

collection requirements and minimize the public's reporting burden. It also helps the public understand our information collection requirements and provide the requested data in the desired format.

We are especially interested in public comment addressing the following:

(1) Whether or not the collection of information is necessary for the proper performance of the functions of the agency, including whether or not the information will have practical utility;

(2) The accuracy of our estimate of the burden for this collection of information, including the validity of the methodology and assumptions used;

(3) Ways to enhance the quality, utility, and clarity of the information to be collected; and

(4) How might the agency minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, *e.g.*, permitting electronic submission of response.

Comments that you submit in response to this notice are a matter of public record. We will include or summarize each comment in our request to OMB to approve this ICR. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Abstract: The General Permit Requirements at 50 CFR 13 provide the uniform rules, conditions, and procedures for the application for, and the issuance, denial, suspension, revocation, and general administration of, all permits for all of the laws, treaties, and regulations administered by the Service that authorize activities requiring permits. The requirements in 50 CFR part 13 are in addition to any other permit regulations that may apply to a specific circumstance and are outlined in other sections of our regulations.

The Wild Bird Conservation Act (WBCA; 16 U.S.C. 4901–4916) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES; 27 U.S.T. 1087, March 3, 1973) use a system of permits and certificates to help ensure that international trade is legal and does not

threaten the survival of wildlife or plant species in the wild. Permits under the U.S. Endangered Species Act (ESA; 16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1361 *et seq.*) ensure that activities are consistent with the intent and purposes of the ESA and MMPA. Permitted activities under the Bald and Golden Eagle Act (BGEPA; 16 U.S.C. 668–668d) must be compatible with the preservation of eagles. Permitted activities regarding injurious wildlife under the Lacey Act (18 U.S.C. 42; 16 U.S.C. 3371–3378) regulate the importation into the United States and any shipment between the continental United States, the District of Columbia, Alaska, Hawaii, the Commonwealth of Puerto Rico, or any possession of the United States, of animal species determined to be injurious by the Secretary of the Interior. Such importation and shipments are prohibited, except by permit. Although the Service's Division of Management Authority does not administer the Migratory Bird Treaty Act (MBTA; 16 U.S.C. 704), we receive authorization from the Migratory Bird Program to issue import/export permits under the MBTA.

Prior to the import or export of species listed under the MBTA, MMPA, BGEPA, Lacey Act, WBCA, ESA, and/or CITES, the Management Authority and Scientific Authority must make appropriate determinations and issue the appropriate documents. Section 8A of the ESA designates the Secretary of the Interior as the U.S. Management Authority and U.S. Scientific Authority for CITES. The Secretary in turn delegated these authorities to the Service.

Before a country can issue an export permit for CITES Appendix I or II specimens, the CITES Scientific Authority of the exporting country must determine that the export will not be detrimental to the survival of the species, and the Management Authority must be satisfied that the specimens were acquired legally. For the export of Appendix III specimens, the Management Authority must be satisfied that the specimens were acquired legally (CITES does not require findings from the Scientific Authority). Prior to the importation of Appendix I specimens, both the Scientific Authority and the Management Authority of the importing country must make required findings. The Scientific Authority must also monitor trade of all species to ensure that the level of trade is sustainable.

Article VIII(3) of the CITES treaty states that participating parties should

make efforts to ensure that CITES specimens are traded with a minimum of delay. Section XIII of Resolution Conf. 12.3 (Rev. CoP19) recommends use of simplified procedures for issuing CITES documents to expedite trade that will have no impact, or a negligible impact, on conservation of the species involved.

All Service permit applications are in the 3–200 series of forms, each tailored to a specific activity based on the requirements for specific types of permits. In accordance with Federal regulations at 50 CFR 13.12, we collect standard identifier information for all permit applications, such as:

- Applicant's full name, whether an individual or business, and address (street address, city, county, State, and zip code; and mailing address, if different from street address); main and alternate telephone numbers; and an email address (required if filing electronically, optional for a mail-in application), and
- If the applicant resides or is located outside the United States, an address in the United States, and, if the applicant is conducting commercial activities, the name and address of the applicant's agent inside the United States; and
- If the applicant is a business, corporation, public agency, or institution, the tax identification number; description of the business type, corporation, agency, or institution; and the name and title of the person responsible for the permit (such as president, principal officer, or director);

• Location where the requested permitted activity is to occur or be conducted;

• Reference to the part(s) and section(s) of subchapter B as listed in paragraph (b) of 50 CFR 13 under which the application is made for a permit or permits, together with any additional justification, including supporting documentation as required by the referenced part(s) and section(s);

• If the requested permitted activity involves the import or re-export of wildlife or plants from or to any foreign country, and the country of origin, or the country of export or re-export restricts the taking, possession, transportation, exportation, or sale of wildlife or plants, documentation as indicated in § 14.52(c) of subchapter B;

• Certification containing the following language:

—I hereby certify that I have read and am familiar with the regulations contained in title 50, part 13, of the Code of Federal Regulations and the

other applicable parts in subchapter B of chapter I of title 50, Code of Federal Regulations, and I further certify that the information submitted in this application for a permit is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to suspension or revocation of this permit and to the criminal penalties of 18 U.S.C. 1001.

• Desired effective date of permit (except where issuance date is fixed by the part under which the permit is issued);

- Signature date;
- Signature of the applicant;
- Such other information as the

Director determines relevant to the processing of the application, including but not limited to information on the environmental effects of the activity consistent with 40 CFR 1506.5 and Departmental procedures at 516 DM 6, appendix 1.3A; and

• Additional information required on applications for other types of permits may be found by referring to table 1 in paragraph (b) in 50 CFR 13.12.

Standardization of general information common to the application forms makes the filing of applications easier for the public, as well as expediting our review of applications. The information that we collect on applications and reports is the minimum necessary for us to determine if the applicant meets/continues to meet issuance requirements for the particular activity.

Proposed Revisions

In 2020, the Service implemented a new electronic permit application called ePermits. The ePermits system allowed the Service to move towards a streamlined permitting process to reduce the information collection burden on the public, particularly small businesses. Public burden reduction is a priority for the Service, the Assistant Secretary for Fish and Wildlife and Parks, and senior leadership at the Department of the Interior. The intent of the ePermits system is to fully modernize the permitting process to improve the customer experience and to reduce time burden on respondents. This system enhances the user experience by allowing users to enter data from any device that has internet access, including personal computers, tablets, and smartphones. It also links the permit applicant to the *Pay.gov* system for payment of the associated permit application fee.

Users of the ePermits system register for and use an account which will then automatically populate the forms they

complete with the required identification information. The system eliminates the need for applicants to enter their information multiple times when they apply for separate permits and therefore reduces the burden on the applicant. The account registration process will also provide private sector users an opportunity to self-identify as a small business, which will enable the Service to more accurately report burden associated with information collection requirements placed on them.

At this time, the ePermits system is unable to fully digitize section E of the permit application process. Section E of each permit application is customized based on the permit type. We anticipate being able to begin digitizing section E on our application forms within the year. As a result of challenges with the development of forms within the ePermits system, we do not have a timeline for full digitization of section E. We anticipate beginning the digitization of the report forms contained in this collection within the year, and believe the digitization of section E on application forms should be finalized by fiscal year 2024, as funding and resources become available.

We anticipate changes to 12 application forms outlined below; however, we do not anticipate significant changes to the questions within section E of the other application forms. We have identified questions that could be simplified into plain language. Our proposed changes to the application forms are described below:

• Changes to trophy applications (FWS Forms 3–200–19, “*Import of Sport-Hunted Trophies of Southern African Leopard and Namibian Southern White Rhinoceros*”; 3–200–20, “*Import of Sport-Hunted Trophies (Appendix I of CITES and/or ESA)*”; 3–200–21, “*Import of Sport-Hunted Trophies of Argali*”; and 3–200–22, “*Import of Sport-Hunted Bontebok Trophies from South Africa*”), to include specific questions on the sex and approximate age of the trophy, and copies of the specific forms provided by each country to the hunter as part of their application.

• Updating FWS Form 3–200–31, “*Introduction from the Sea (CITES)*,” to add information requirements necessary to identify ports of entry to ensure proper inspection/clearance of specimens imported under the introduction from the sea.

• Updating FWS Form 3–200–32, “*Export/Re-Export of Plants (CITES)*,” to ensure that each section of the application requests receipts documenting the legal acquisition of the species requested.

- Updating FWS Form 3–200–37d, “*Interstate or Foreign commerce of Live Animals/Samples/or Products (ESA)*,” to add a question on the description of and justification for the requested activity. We will outline the information needed for each of the following purposes: scientific research, conservation education and/or zoological display, and captive propagation for the conservation and survival of the species.

- Based on requirements outlined in Resolution Conf. 11.20 (Rev CoP18), we will be updating FWS Form 3–200–37f, “*Import of Live African Elephant from Botswana, Namibia, South Africa, and Zimbabwe and Southern White Rhino from Eswatini and South Africa*,” to request additional information required in order to make the finding of appropriate and acceptable destinations for the import of live African elephants and rhinoceros.

- Updates to FWS Form 3–200–41, “*Captive-Bred Wildlife Registration (U.S. Endangered Species Act)*,” will be updated to include all new applicants completing sections 1, 2, and 4, as appropriate, and section 3 for renewing a captive-bred wildlife registration.

- Splitting FWS Form 3–200–43, “*Take/Import/Export of Marine Mammals for Public Display, Scientific Research, Enhancement, or Rescue/ Rehabilitation/Release Activities or Renewal/Amendment of Existing Permit (MMPA and/or ESA)*,” into smaller parts (3–200–43a, 3–200–43b, 3–200–43c, 3–200–43d) to ensure the applicant can easily identify and submit the correct type of application for activities being requested under the MMPA.

- Clarification of information needed on FWS Form 3–200–46, “*Import/ Export/Re-Export of Personal Pets under the Conservation on International Trade in Endangered Species (CITES) and/or the U.S. Endangered Species Act (ESA)*,” will include the requirement of the address of an applicant when they will be relocating with their pet.

- Updates to FWS Form 3–200–73, “*Re-Export of Wildlife (CITES)*,” will be updated to align with our FWS Form 3–200–24, “*Export of Live Captive-Born Animals and/or Part/Products from Non-Native Species under the Convention on International Trade in Endangered Species (CITES)*,” for information collected on live animals to include the sex and birth/hatch date of the live wildlife to be re-exported.

We do not plan to make changes to the annual report forms contained in this collection. We do make note that some permits are issued with specific reporting requirements at the termination of the permitted activity.

The information varies based on the permitted activities. The report is submitted at the time a permit renewal is requested or at the termination of the permitted activity.

The public may request copies of any form or document contained in this information collection by sending a request to the Service Information Collection Clearance Officer (see **ADDRESSES**, above).

Title of Collection: Federal Fish and Wildlife Permit Applications and Reports—Management Authority; 50 CFR 13, 15, 16, 17, 18, 22, 23.

OMB Control Number: 1018–0093.

Form Numbers: FWS Forms 3–200–19 through 3–200–37, 3–200–39 through 3–200–42, 3–200–43a through 3–200–43d, 3–200–46 through 3–200–53, 3–200–58, 3–200–61, 3–200–64 through 3–200–66, 3–200–69, 3–200–70, 3–200–73 through 3–200–76, 3–200–80, and 3–200–85 through 3–200–88.

Type of Review: Revision of a currently approved collection.

Description of Respondents/Affected Public: Individuals (including hunters); private sector (including biomedical companies, circuses, zoological parks, botanical gardens, nurseries, museums, universities, antique dealers, exotic pet industry, taxidermists, commercial importers/exporters of wildlife and plants, freight forwarders/brokers); and State, local, Tribal, and Federal governments.

Estimated Number of Annual Respondents: 6,139.

Estimated Number of Annual Responses: 8,946.

Estimated Completion Time per Response: Varies from 15 minutes to 40 hours, depending on activity.

Estimated Annual Burden Hours: 9,035.

Respondent's Obligation: Required to obtain or retain a benefit.

Frequency of Collection: On occasion or annually, depending on activity.

Total Estimated Annual Nonhour Burden Cost: \$576,387 for costs associated with application processing fees, which range from \$0 to \$250. There is no fee for reports. State, local, Tribal, and Federal government agencies and those acting on their behalf are exempt from processing fees.

An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number.

The authority for this action is the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

Madonna Baucum,
Information Collection Clearance Officer, U.S. Fish and Wildlife Service.

[FR Doc. 2023–09578 Filed 5–4–23; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

[234A2100DD/AAKC001030/
A0A501010.999900]

HEARTH Act Approval of Pala Band of Mission Indians Amended Leasing Ordinance

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice.

SUMMARY: The Bureau of Indian Affairs (BIA) approved the Pala Band of Mission Indians Amended Leasing Ordinance under the Helping Expedite and Advance Responsible Tribal Homeownership Act of 2012 (HEARTH Act). With this approval, the Tribe is authorized to enter into business and residential leases without further BIA approval.

DATES: BIA issued the approval on May 2, 2023.

FOR FURTHER INFORMATION CONTACT: Ms. Carla Clark, Bureau of Indian Affairs, Division of Real Estate Services, 1001 Indian School Road NW, Albuquerque, NM 87104, carla.clark@bia.gov, (702) 484–3233.

SUPPLEMENTARY INFORMATION:

I. Summary of the HEARTH Act

The HEARTH Act makes a voluntary, alternative land leasing process available to Tribes, by amending the Indian Long-Term Leasing Act of 1955, 25 U.S.C. 415. The HEARTH Act authorizes Tribes to negotiate and enter into business leases of Tribal trust lands with a primary term of 25 years, and up to two renewal terms of 25 years each, without the approval of the Secretary of the Interior (Secretary). The HEARTH Act also authorizes Tribes to enter into leases for residential, recreational, religious or educational purposes for a primary term of up to 75 years without the approval of the Secretary. Participating Tribes develop Tribal Leasing regulations, including an environmental review process, and then must obtain the Secretary's approval of those regulations prior to entering into leases. The HEARTH Act requires the Secretary to approve Tribal regulations

if the Tribal regulations are consistent with the Department of the Interior's (Department) leasing regulations at 25 CFR part 162 and provide for an environmental review process that meets requirements set forth in the HEARTH Act. This notice announces that the Secretary, through the Assistant Secretary—Indian Affairs, has approved the Tribal regulations for the Pala Band of Mission Indians.

II. Federal Preemption of State and Local Taxes

The Department's regulations governing the surface leasing of trust and restricted Indian lands specify that, subject to applicable Federal law, permanent improvements on leased land, leasehold or possessory interests, and activities under the lease are not subject to State and local taxation and may be subject to taxation by the Indian Tribe with jurisdiction. See 25 CFR 162.017. As explained further in the preamble to the final regulations, the Federal government has a strong interest in promoting economic development, self-determination, and Tribal sovereignty. 77 FR 72440, 72447–48 (December 5, 2012). The principles supporting the Federal preemption of State law in the field of Indian leasing and the taxation of lease-related interests and activities applies with equal force to leases entered into under Tribal leasing regulations approved by the Federal government pursuant to the HEARTH Act.

Section 5 of the Indian Reorganization Act, 25 U.S.C. 5108, preempts State and local taxation of permanent improvements on trust land. *Confederated Tribes of the Chehalis Reservation v. Thurston County*, 724 F.3d 1153, 1157 (9th Cir. 2013) (citing *Mescalero Apache Tribe v. Jones*, 411 U.S. 145 (1973)). Similarly, section 5108 preempts State taxation of rent payments by a lessee for leased trust lands, because “tax on the payment of rent is indistinguishable from an impermissible tax on the land.” See *Seminole Tribe of Florida v. Stranburg*, 799 F.3d 1324, 1331, n.8 (11th Cir. 2015). In addition, as explained in the preamble to the revised leasing regulations at 25 CFR part 162, Federal courts have applied a balancing test to determine whether State and local taxation of non-Indians on the reservation is preempted. *White Mountain Apache Tribe v. Bracker*, 448 U.S. 136, 143 (1980). The *Bracker* balancing test, which is conducted against a backdrop of “traditional notions of Indian self-government,” requires a particularized examination of the relevant State, Federal, and Tribal

interests. We hereby adopt the *Bracker* analysis from the preamble to the surface leasing regulations, 77 FR at 72447–48, as supplemented by the analysis below.

The strong Federal and Tribal interests against State and local taxation of improvements, leaseholds, and activities on land leased under the Department's leasing regulations apply equally to improvements, leaseholds, and activities on land leased pursuant to Tribal leasing regulations approved under the HEARTH Act. Congress's overarching intent was to “allow Tribes to exercise greater control over their own land, support self-determination, and eliminate bureaucratic delays that stand in the way of homeownership and economic development in Tribal communities.” 158 Cong. Rec. H. 2682 (May 15, 2012). The HEARTH Act was intended to afford Tribes “flexibility to adapt lease terms to suit [their] business and cultural needs” and to “enable [Tribes] to approve leases quickly and efficiently.” H. Rep. 112–427 at 6 (2012).

Assessment of State and local taxes would obstruct these express Federal policies supporting Tribal economic development and self-determination, and also threaten substantial Tribal interests in effective Tribal government, economic self-sufficiency, and territorial autonomy. See *Michigan v. Bay Mills Indian Community*, 572 U.S. 782, 810 (2014) (Sotomayor, J., concurring) (determining that “[a] key goal of the Federal Government is to render Tribes more self-sufficient, and better positioned to fund their own sovereign functions, rather than relying on Federal funding”). The additional costs of State and local taxation have a chilling effect on potential lessees, as well as on a Tribe that, as a result, might refrain from exercising its own sovereign right to impose a Tribal tax to support its infrastructure needs. See *id.* at 810–11 (finding that State and local taxes greatly discourage Tribes from raising tax revenue from the same sources because the imposition of double taxation would impede Tribal economic growth).

Similar to BIA's surface leasing regulations, Tribal regulations under the HEARTH Act pervasively cover all aspects of leasing. See 25 U.S.C. 415(h)(3)(B)(i) (requiring Tribal regulations be consistent with BIA surface leasing regulations). Furthermore, the Federal government remains involved in the Tribal land leasing process by approving the Tribal leasing regulations in the first instance and providing technical assistance, upon request by a Tribe, for the

development of an environmental review process. The Secretary also retains authority to take any necessary actions to remedy violations of a lease or of the Tribal regulations, including terminating the lease or rescinding approval of the Tribal regulations and reassuming lease approval responsibilities. Moreover, the Secretary continues to review, approve, and monitor individual Indian land leases and other types of leases not covered under the Tribal regulations according to the Part 162 regulations.

Accordingly, the Federal and Tribal interests weigh heavily in favor of preemption of State and local taxes on lease-related activities and interests, regardless of whether the lease is governed by Tribal leasing regulations or Part 162. Improvements, activities, and leasehold or possessory interests may be subject to taxation by the Pala Band of Mission Indians.

Bryan Newland,

Assistant Secretary—Indian Affairs.

[FR Doc. 2023–09654 Filed 5–4–23; 8:45 am]

BILLING CODE 4337–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

[2341A2100DD/AAKC001030/
A0A501010.999900]

Forthcoming Fiscal Year 2023 Living Language Grant Program

AGENCY: Bureau of Indian Affairs (BIA), Interior.

ACTION: Announcement.

SUMMARY: The Assistant Secretary of the Interior—Indian Affairs, through the Office of Indian Economic Development (OIED), announces a forthcoming fiscal year (FY) 2023 Living Language Grant Program (LLGP) Notice of Funding Opportunity (NOFO) in advance of publication on *Grants.gov*. The FY 2023 LLGP will fund Native language immersion projects that support a cohesive Tribal community approach through collaborative instruction based on current language immersion models. The OIED aims to publish the NOFO and allow submission of applications in May 2023.

DATES: Proposals must be submitted no later than 5 p.m. EST by the deadline indicated in the NOFO and posting on *Grants.gov*.

ADDRESSES: Proposals must be submitted to <https://www.Grants.gov>.

FOR FURTHER INFORMATION CONTACT: Mr. Dennis Wilson, Grant Management Specialist, Office of Indian Economic

Development, telephone: (505) 917-3235; email: dennis.wilson@bia.gov. If you have questions regarding the application process, please contact Ms. Jo Ann Metcalfe, Grant Officer, telephone (401) 703-3390; email jo.metcalfe@bia.gov. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Additional Program information can be found at: <https://www.bia.gov/service/grants/ttgp>.

SUPPLEMENTARY INFORMATION: This OIED announcement for the forthcoming FY 2023 LLGP NOFO provides interested applicants time to prepare their applications prior to the opening of the application period. The OIED expects the official NOFO solicitation to run for approximately 90 days on *Grants.gov* to receive applications. Additional information for the FY 2023 LLGP NOFO, as well as a link to the final NOFO posting on *Grants.gov*, will be available on OIED's website at the following URL: <https://www.bia.gov/service/grants/llgp>.

The FY 2023 LLGP cohort anticipates awarding between 18 to 22 grants, ranging in value from \$250,000 to \$300,000 in annual funding, for a three-year active period of performance. FY 2023 LLGP funding supports immersion projects that can provide an "all-of-community" language program with measurable outcomes which will be achieved within the period of performance. The forthcoming NOFO will provide the structure by which the applications will be reviewed and evaluated as they provide language immersion from a collaborative community approach.

While OIED will not accept applications at this time, interested applicants may submit questions to the grant program contacts. No project shall be funded that has comparable activities previously carried out under other federal assistance programs. The OIED encourages applicants to conduct the required registration activities for the System for Award Management (SAM), Unique Entity Identifier (UEI), the Automated Standard Application for Payment (ASAP), as well as acquire a Tribal Resolution.

The OIED anticipates the FY 2023 LLGP NOFO will publish on *Grants.gov* in May 2023, which will signal the opening of the application period. The application period will be open for 90 days. All applications must be submitted through *Grants.gov*.

The required method of submitting proposals during the open solicitation

period is through *Grants.gov*. For information on how to apply for grants in *Grants.gov*, see the instructions available at <https://www.grants.gov/help/html/help/Applicants/HowToApplyForGrants.htm>. Eligible Applicants:

- Native American Tribal Governments (Federally recognized);
- Native American Tribal Organizations (Other than Federally recognized); and
- Indian Tribes and Tribal Organizations, as defined in Section 4 of the Indian Self-Determination and Education Assistance Act (ISDEAA) (25 U.S.C. 5304), including Tribal Consortia.

Bryan Newland,

Assistant Secretary—Indian Affairs.

[FR Doc. 2023-09653 Filed 5-4-23; 8:45 am]

BILLING CODE 4337-15-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[BLM_CA_FRN_MO4500168353]

Notice of Intent To Amend the California Desert Conservation Area Plan Associated With the Mojave Trails National Monument Management Plan and Prepare an Associated Environmental Assessment

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), and the Federal Land Policy and Management Act of 1976, as amended (FLPMA), the Bureau of Land Management (BLM) California State Director intends to prepare a management plan for the Mojave Trails National Monument (MTNM), through an amendment to the approved California Desert Conservation Area (CDCA) land use plan, and an environmental assessment (EA). By this notice, the BLM is announcing the beginning of the scoping period to solicit public comments and identify issues, providing the planning criteria for public review, and issuing a call for nominations for areas of critical environmental concern (ACECs).

DATES: The BLM requests that the public submit comments concerning the scope of the analysis, potential alternatives, and identification of relevant information and studies, and ACEC nominations by June 20, 2023. To afford the BLM the opportunity to consider issues and ACEC nominations raised by

commenters in the draft land use plan amendment/EA, please ensure your comments are received prior to the close of the 45-day scoping period or 15 days after the last public meeting, whichever is later. Scoping meetings are expected to occur in late May to early June 2023 in the cities of Needles, Barstow, and Twentynine Palms. There will be one virtual meeting and three meetings in person. All meetings will be announced through a new release.

ADDRESSES: You may submit comments on issues and planning criteria related to the MTNM Management Plan and nominations of new ACECs by any of the following methods:

- **Website:** <https://eplanning.blm.gov/eplanning-ui/admin/project/2022347/510>.

- **Email:** BLM_CA_NFO_MTNM_Plan@blm.gov.

- **Fax:** 760-326-7099.

- **Mail:** 1303 S U.S. Hwy 95, Needles, CA 92363.

Documents pertinent to this proposal may be examined online at <https://eplanning.blm.gov/eplanning-ui/admin/project/2022347/510> and at the Needles Field Office.

Addresses of meeting locations are not yet determined but one each will be held in the:

- City of Twentynine Palms, CA
- City of Needles, CA
- City of Barstow, CA

FOR FURTHER INFORMATION CONTACT:

Noelle Glines-Bovio, Mojave Trails National Monument Manager, telephone (760) 903-8356; address: Mojave Trails National Monument—Monument Plan Comments, Bureau of Land Management, 1303 U.S.-95, Needles, California 95521-4373; email: BLM_CA_NFO_MTNM_Plan@blm.gov. Contact Noelle Glines-Bovio to have your name added to our mailing list. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services for contacting Noelle Glines-Bovio. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION: This document provides notice that the BLM California State Director intends to prepare a management plan for the MTNM, through an amendment to the approved CDCA land use plan, which will include an EA; announces the beginning of the scoping process; seeks public input on issues and planning criteria; and invites the public to

nominate ACECs. The land use plan amendment would change the approved CDCA plan as amended. In particular, the BLM anticipates potential amendments to decisions associated with special designations, visual resources, lands and realty, cultural resources, and recreation. The planning area is located in San Bernardino and Riverside counties, California, and encompasses approximately 1.6 million acres of public land.

Purpose and Need

The MTNM Management Plan and CDCA land use plan amendment responds to the following overarching requirements and guidance in determining the management framework necessary to protect the monument's resources, objects, and values.

FLPMA provides the basic underpinnings for the BLM's management of public lands. Section 302 of FLPMA states that the BLM is to manage public lands under the principles of multiple-use and sustained yield "except that where a tract of such public land has been dedicated to specific uses according to other provisions of law, it shall be managed in accordance with such law." In section 601 of FLPMA, Congress designated the CDCA with the purpose of "provid[ing] for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." The MTNM is located within the boundaries of the CDCA.

The MTNM is a part of the National Landscape Conservation System, which was established by section 2002 of the Omnibus Public Land Management Act of 2009 "in order to conserve, protect, and restore nationally significant landscapes" and specifically includes national monuments. This section also directs the BLM to manage the lands in the National Landscape Conservation System "in a manner that protects the values for which the components of the system were designated."

In 2016, Presidential Proclamation 9395 established the MTNM. This proclamation identified the resources, objects, and values for protection. In addition, this proclamation required the BLM to prepare and maintain a management plan for the monument.

The BLM needs to modify some of the existing CDCA land use plan decisions and make implementation-level decisions for the MTNM.

The purpose of the MTNM Plan and CDCA land use plan amendment is to provide a management framework,

including goals, objectives, and management direction to guide management of BLM administered lands in the MTNM consistent with applicable laws, regulations, and policy.

The purpose of this action is focused on the protection of the MTNM to preserve its cultural, prehistoric, and historic legacy and maintain its diverse array of natural and scientific resources, ensuring that the prehistoric, historic, and scientific values of the area remain for the benefit of all Americans.

Purpose and need statements serve to frame issue identification, alternative development, and effects analyses for the environmental document. The following additional purposes and desired outcomes are provided for in Proclamation 9395 or have been identified based on key present and/or historical MTNM management challenges. Associated challenges and opportunities that the monument management plan and land use plan amendments will address are also summarized.

1. Manage the National Monument's scarce springs and riparian areas in a manner that provides refuge for a wide variety of plants and animals.

Challenges and opportunities: There are over 30 springs within the MTNM that provide habitat for a variety of plant and wildlife populations. In addition, underlying groundwater resources support both springs and riparian areas. Groundwater pumping (as described in Proclamation 9395), the spread of invasive plants, and climate change all have the potential to impact springs and riparian areas. The BLM will establish management guidance to manage springs and riparian areas to meet the express provisions of law and the proclamation. Implementation-level decisions and modifications to existing land use plan-level decisions can help provide management direction for these springs and riparian areas.

2. Emphasize the MTNM as a landscape for geological, paleontological, hydrological, and ecological research, including studies on the effects of climate change and land management practices on ecological communities and wildlife. The MTNM also provides opportunity for further research on ecological connectivity in the Mojave Desert region.

Challenges and opportunities: The MTNM provides invaluable resources to scientists. The unique area contains a stunning diversity of lava flows, mountains, playas, sand dunes, bajadas, washes, and other features that have been extensively studied and provide insight for numerous disciplines. The

monument also provides opportunity for further research on ecological connectivity in the Mojave Desert region, as it is among the most ecologically intact areas in Southern California. Scientific research plays a crucial role in further understanding the monument's resources, objects, and values and informing BLM management decisions. The BLM needs to establish implementation-level management guidance to allow research to take place while protecting the monument's resources, objects, and values, and establishes a process for the BLM to obtain research results and data collected on the monument.

3. Properly care for and manage the outstanding paleontological resources for their protection.

Challenges and opportunities: The fossil history in the MTNM has been used to understand the climate history of the Mojave Desert. Implementation-level decisions and modifications to existing land use plan-level decisions should be made to support protection of paleontological resources.

4. Protect the specific habitat types found in the MTNM that support plant and wildlife species.

Challenges and opportunities: Uses of the monument include increasing recreational activity, lands and realty activities such as rights-of-ways, and mineral use that can impact various plant and wildlife communities and habitats. Existing ACECs protect plants and wildlife and their associated habitat. Implementation-level decisions and modifications to existing land use plan-level decisions will allow the BLM to manage and maintain the MTNM's diverse array of natural resources.

5. Protect the cultural, prehistoric, and historic legacy of the MTNM.

Challenges and opportunities: Recreational use, permitted activities, and climate change have the potential to impact the cultural, prehistoric, and historic legacy of the Mojave Trails area. The BLM will establish management guidance to help inform the public and protect the cultural, prehistoric, and historic legacy of the Mojave Trails area. Implementation-level decisions and modifications to existing land use plan-level decisions will provide management direction to protect and preserve the cultural, prehistoric, and historic legacy of the MTNM and ensure that the prehistoric, historic, and scientific values of this area remain available for the benefit of all Americans.

6. Provide for use of these public lands while protecting and preserving the area's cultural, prehistoric, and historic legacy, maintaining its diverse

array of natural and scientific resources, and ensuring that the prehistoric, historic, and scientific values of this area remain for the benefit of all Americans.

Challenges and opportunities:

Recreational activities in the area include hiking, camping, wildlife viewing, motorized sight-seeing, horseback riding, picnicking, mountain biking, hunting, target shooting, and off-highway vehicle use. In addition, uses of the monument also include rights-of-way and mineral activities associated with valid existing rights pre-dating designation of the monument. Recreational use accounts for the majority of visitation to the MTNM and is an important land use in the area. Implementation-level decisions and modifications to existing land use plan-level decisions will consider how to protect monument resources, objects, and values when considering other uses of monument lands.

Preliminary Alternatives

The BLM will be analyzing alternatives that explore and evaluate different ways of achieving the purpose and need listed above through both implementation-level decisions in the new monument management plan and modifications to existing land use plan-level decisions. The alternatives will explore different management strategies during this planning effort to understand the trade-offs of different land management approaches. The BLM welcomes comments on all preliminary alternatives as well as suggestions for additional alternatives.

Planning Criteria

The planning criteria guide the planning effort and lay the groundwork for effects analysis by identifying the preliminary issues and their analytical frameworks. Preliminary issues for the planning area have been identified by BLM personnel and from early engagement conducted for this planning effort with Federal, State, and local agencies; Tribes; and stakeholders. The BLM has identified preliminary issues for this planning effort's analysis and will provide them for public review as part of the planning criteria within the timeframe identified in DATES above. The planning criteria are available for public review and comment at the ePlanning website (see **ADDRESSES**).

Public Scoping Process

This notice of intent initiates the scoping period and public review of the planning criteria, which guide the development and analysis of the

management plan, land use plan amendment, and EA.

The BLM will hold four scoping meetings, one virtually, and three in person at the following locations: the cities of Needles, Barstow, and Twentynine Palms. The specific date(s) and location(s) of these scoping meetings will be announced at least 15 days in advance through local media, newspapers, ePlanning project page, the BLM website, and the BLM social media.

Areas of Critical Environmental Concern (ACECs)

The following 15 ACECs are currently designated in the planning area: Afton Canyon (9,194 acres; rare vegetation and wildlife habitat relevant and important values), Amboy Crater (639 acres; rare vegetation and wildlife habitat relevant and important values), Bigelow Cholla Research Natural Area (5,801 acres; wildlife, cultural, and scenic relevant and important values), Bristol Mountains (229,397 acres; scenic values, cultural, and wildlife relevant and important values), Cadiz Valley (171,791 acres; rare vegetation/wildlife habitat [old growth] relevant and important values), Cady Mountains (104,315 acres; rare vegetation relevant and important values), Chemehuevi (471,323 acres; rare vegetation/wildlife habitat [old growth] relevant and important values), Chuckwalla to Chemehuevi Tortoise Linkage (34,777 acres; rare vegetation/wildlife habitat [old growth] relevant and important values), Marble Mountain (231 acres; natural values [active and stabilized sand dunes, wetlands and endangered and BLM sensitive plants] relevant and important values), Mesquite Hills-Crucero (4,388 acres located within the MTNM and 616 acres located outside MTNM; slender Orcutt grass habitat, cultural resources and wildlife relevant and important values), Mojave fringe-toed lizard (11,127 acres located within MTNM and 1,278 acres located outside MTNM; rare habitats, vegetation, wildlife, and cultural resources relevant and important values), Patton Military Camps (14,064 acres located within MTNM and 107 acres located outside MTNM; cultural and historic resources relevant and important values), Pisgah Research Natural Area (20,990 acres; cultural resources and wildlife and plant assemblages relevant and important values), Piute-Fenner (4,706 acres located within MTNM and 151,004 acres located outside MTNM; desert tortoise habitat, vegetation and sensitive botanicals, cultural and historical resources relevant and important values), and Santos Manuel

(800 acres located within MTNM and 26,750 acres located outside MTNM; desert tortoise habitat, culturally significant area relevant and important values). Information about each existing ACEC, including the size, relevant and important values, and other helpful information is available in the CDCA Plan as amended by the Desert Renewable Energy Conservation Plan online at on the project's website (see **ADDRESSES**). The BLM will reevaluate existing designated ACECs in the draft land use plan amendment to determine if relevant and important values still exist and if special management attention is still warranted and analyze additional areas for consideration of designation. No additional areas were identified for consideration as ACECs during preplanning and early engagement. This notice invites the public to nominate additional areas for ACEC consideration within the planning area. To assist the BLM in evaluating nominations for consideration in the draft land use plan amendment, please provide supporting descriptive materials, maps, and evidence of the relevance and importance of resources or hazards by the close of the public comment period to facilitate timely evaluation. The BLM has identified the anticipated issues related to the consideration of ACECs in the planning criteria.

Interdisciplinary Team

The BLM will use an interdisciplinary approach to develop the plan to consider the variety of resource issues and concerns identified. Specialists with expertise in the following disciplines will be involved in this planning effort: rangeland management, minerals and geology, outdoor recreation, archaeology, paleontology, wildlife and fisheries, lands and realty, hydrology, soils, fire and fuels, visual resources, sociology and economics, climate, and air.

Additional Information

The BLM will identify, analyze, and consider mitigation to address the reasonably foreseeable impacts to resources from the proposed monument management plan and land use plan amendment, and all analyzed reasonable alternatives, and, in accordance with 40 CFR 1502.14(e), include appropriate mitigation measures not already included in the proposed management plan and land use plan amendment, or alternatives. Mitigation may include avoidance, minimization, rectification, reduction or elimination over time, and compensation; it may be

considered at multiple scales, including the landscape scale.

The BLM will utilize and coordinate the NEPA and land use planning processes for this planning effort to help support compliance with applicable procedural requirements under the Endangered Species Act (16 U.S.C. 1536) and section 106 of the National Historic Preservation Act (54 U.S.C. 306108) as provided in 36 CFR 800.2(d)(3), including public involvement requirements of section 106. The information about historic and cultural resources and threatened and endangered species within the area potentially affected by the proposed monument management plan and land use plan amendment will assist the BLM in identifying and evaluating impacts to such resources.

The BLM will consult with Tribal Nations on a government-to-government basis in accordance with Executive Order 13175, BLM MS 1780, and other Departmental policies. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, will be given due consideration. Federal, State, and local agencies, along with Tribes and stakeholders that may be interested in or affected by the BLM's proposed MTNM Management Plan and CDCA land use plan amendment are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate in the development of the environmental analysis as a cooperating agency.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

(Authority: 40 CFR 1501.9 and 43 CFR 1610.2.)

Karen E. Mouritsen,
BLM California State Director.

[FR Doc. 2023-09619 Filed 5-4-23; 8:45 am]

BILLING CODE 4331-15-P

DEPARTMENT OF THE INTERIOR

National Park Service

**[NPS-WASO-NAGPRA-NPS0035779;
PPWOCRADN0-PCU00RP14.R50000]**

Notice of Inventory Completion: U.S. Army Corps of Engineers, Mobile District, Mobile, AL

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the U.S. Army Corps of Engineers, Mobile District, has completed an inventory of human remains and associated funerary objects and has determined that there is a cultural affiliation between the human remains and associated funerary objects and Indian Tribes or Native Hawaiian organizations in this notice. The human remains and associated funerary objects were removed from Monroe County, MS.

DATES: Repatriation of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Ms. Alexandria Smith, U.S. Army Corps of Engineers, Mobile District, 109 St. Joseph Street, P.O. Box 2288, Mobile, AL 36628-0001, telephone (251) 690-2728, email Alexandria.N.Smith@usace.army.mil.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the U.S. Army Corps of Engineers, Mobile District. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the U.S. Army Corps of Engineers, Mobile District.

Description

Human remains representing, at minimum, three individuals were removed from Monroe County, MS. During the early phases of mitigation for the Tennessee Tombigbee Waterway, multiple sites, including Sharpley Bottoms (22MO656), were surveyed and evaluated under the direction of Judith A. Bense, and test excavations were performed between December 1978 and May 1979. No follow-up investigations were completed. The age and sex of these individuals is unidentified. The 14 associated funerary objects are nine

lots consisting of lithics, one lot consisting of clay, two lots consisting of faunal remains, one soil sample, and one ferrous sandstone.

Cultural Affiliation

The human remains and associated funerary objects in this notice are connected to one or more identifiable earlier groups, tribes, peoples, or cultures. There is a relationship of shared group identity between the identifiable earlier groups, tribes, peoples, or cultures and one or more Indian Tribes or Native Hawaiian organizations. The following types of information were used to reasonably trace the relationship: archeological, geographical, historical, other relevant information, and expert opinion.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes and Native Hawaiian organizations, the U.S. Army Corps of Engineers, Mobile District has determined that:

- The human remains described in this notice represent the physical remains of three individuals of Native American ancestry.

- The 14 objects described in this notice are reasonably believed to have been placed with or near individual human remains at the time of death or later as part of the death rite or ceremony.

- There is a relationship of shared group identity that can be reasonably traced between the human remains and associated funerary objects described in this notice and the Jena Band of Choctaw Indians; Mississippi Band of Choctaw Indians; The Chickasaw Nation; and The Choctaw Nation of Oklahoma.

Requests for Repatriation

Written requests for repatriation of the human remains and associated funerary objects in this notice must be sent to the Responsible Official identified in

ADDRESSES. Requests for repatriation may be submitted by:

1. Any one or more of the Indian Tribes or Native Hawaiian organizations identified in this notice.

2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization.

Repatriation of the human remains and associated funerary objects in this notice to a requestor may occur on or

after June 5, 2023. If competing requests for repatriation are received, the U.S. Army Corps of Engineers, Mobile District, must determine the most appropriate requestor prior to repatriation. Requests for joint repatriation of the human remains and associated funerary objects are considered a single request and not competing requests. The U.S. Army Corps of Engineers, Mobile District, is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9, 10.10, and 10.14.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023–09583 Filed 5–4–23; 8:45 am]

BILLING CODE 4312–52–P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS–WASO–NAGPRA–NPS0035781;
PPWOCRADNO–PCU00RP14.R50000]

Notice of Inventory Completion: Office of the State Archaeologist, University of Iowa, Iowa City, IA

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the Office of the State Archaeologist Bioarchaeology Program, previously listed as the Office of the State Archaeologist Burials Program, has completed an inventory of human remains and has determined that there is no cultural affiliation between the human remains and any Indian Tribe. The human remains were removed from Crittendon County, AR.

DATES: Disposition of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Dr. Lara Noldner, Office of the State Archaeologist Bioarchaeology Program, University of Iowa, 700 S Clinton Street, Iowa City, IA 52242, telephone (319) 384–0740, email lara.noldner@uiowa.edu.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the Office of the

State Archaeologist Bioarchaeology Program. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the Office of the State Archaeologist Bioarchaeology Program.

Description

At an unknown date, human remains representing a minimum of two individuals were removed from a stone-lined grave at an unknown location in Crittendon County, AR. These human remains cannot be dated or attributed to a particular archeological context. At some point, the human remains came into the possession of a private collector in Fort Madison, IA. After the collector's death in 1994, the human remains were transferred to the Office of the State Archaeologist Bioarchaeology Program. The cranial and dental remains (Burial Project 785) belong to one young-to-middle adult female and one juvenile of unknown age. Dental and facial morphology and dental wear indicate Native ancestry. No known individuals were identified. No associated funerary objects are present.

Aboriginal Land

The human remains and associated funerary objects in this notice were removed from known geographic locations. These locations are the aboriginal lands of one or more Indian Tribes. The following information was used to identify the aboriginal land: treaties.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes, the Office of the State Archaeologist Bioarchaeology Program has determined that:

- The human remains described in this notice represent the physical remains of two individuals of Native American ancestry.
- No relationship of shared group identity can be reasonably traced between the human remains and associated funerary objects and any Indian Tribe.
- The human remains described in this notice were removed from the aboriginal land of the Caddo Nation of Oklahoma; Kaw Nation, Oklahoma; Quapaw Nation; and The Osage Nation.

Requests for Disposition

Written requests for disposition of the human remains in this notice must be sent to the Responsible Official

identified in **ADDRESSES**. Requests for disposition may be submitted by:

1. Any one or more of the Indian Tribes identified in this notice.
2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization, or who shows that the requestor is an aboriginal land Indian Tribe.

Disposition of the human remains described in this notice to a requestor may occur on or after June 5, 2023. If competing requests for disposition are received, the Office of the State Archaeologist Bioarchaeology Program must determine the most appropriate requestor prior to disposition. Requests for joint disposition of the human remains are considered a single request and not competing requests. The Office of the State Archaeologist Bioarchaeology Program is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9 and 10.11.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023–09585 Filed 5–4–23; 8:45 am]

BILLING CODE 4312–52–P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS–WASO–NAGPRA–NPS0035782;
PPWOCRADNO–PCU00RP14.R50000]

Notice of Inventory Completion: Office of the State Archaeologist, University of Iowa, Iowa City, IA

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the Office of the State Archaeologist Bioarchaeology Program, previously listed as the Office of the State Archaeologist Burials Program, has completed an inventory of human remains and associated funerary objects and has determined that there is no cultural affiliation between the human remains and associated funerary objects and any Indian Tribe. The human remains and associated funerary objects were removed from Christian County, KY, and Davidson County, TN.

DATES: Disposition of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Dr. Lara Noldner, Office of the State Archaeologist Bioarchaeology Program, University of Iowa, 700 S Clinton Street, Iowa City, IA 52242, telephone (319) 384-0740, email lara-noldner@uiowa.edu.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the Office of the State Archaeologist Bioarchaeology Program. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the Office of the State Archaeologist Bioarchaeology Program.

Description

At an unknown date, human remains representing, at minimum, three individuals were removed from an unknown site near Hopkinsville, in Christian County, KY. At an unknown date, the human remains came into the possession of a private collector in Fort Madison, IA. After the collector's death in 1994, the human remains were transferred to the Office of the State Archaeologist Bioarchaeology Program. The cranial and dental remains (Burial Project 785) belong to one elderly adult male and two adults of indeterminate age and sex. No known individuals were identified. No associated funerary objects are present.

At an unknown date, human remains representing, at minimum, two individuals were removed from an unknown site in Davidson County, TN. These human remains cannot be attributed to a particular archeological context. At some point, the human remains came into the possession of a private collector in Fort Madison, IA. After the collector's death in 1994, the human remains were transferred to the Office of the State Archaeologist Bioarchaeology Program. The cranial and dental remains (Burial Project 785) belong to one young-to-middle-aged adult male and one adult of undetermined age and sex. No known individuals were identified. The one associated funerary object is a chert projectile point likely dating to the Late Woodland period.

Aboriginal Land

The human remains and associated funerary objects in this notice were

removed from known geographic locations. These locations are the aboriginal lands of one or more Indian Tribes. The following information was used to identify the aboriginal land: treaties.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes, the Office of the State Archaeologist Bioarchaeology Program has determined that:

- The human remains described in this notice represent the physical remains of five individuals of Native American ancestry.
- The one object described in this notice is reasonably believed to have been placed with or near individual human remains at the time of death or later as part of the death rite or ceremony.
- No relationship of shared group identity can be reasonably traced between the human remains and associated funerary objects and any Indian Tribe.
- The human remains and associated funerary object described in this notice were removed from the aboriginal land of the Cherokee Nation; Eastern Band of Cherokee Indians; Shawnee Tribe; The Chickasaw Nation; The Choctaw Nation of Oklahoma; and the United Keetoowah Band of Cherokee Indians in Oklahoma.

Requests for Disposition

Written requests for disposition of the human remains and associated funerary objects in this notice must be sent to the Responsible Official identified in **ADDRESSES**. Requests for disposition may be submitted by:

1. Any one or more of the Indian Tribes identified in this notice.
2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization, or who shows that the requestor is an aboriginal land Indian Tribe.

Disposition of the human remains and associated funerary objects described in this notice to a requestor may occur on or after June 5, 2023. If competing requests for disposition are received, the Office of the State Archaeologist Bioarchaeology Program must determine the most appropriate requestor prior to disposition. Requests for joint disposition of the human remains and associated funerary objects are considered a single request and not

competing requests. The Office of the State Archaeologist Bioarchaeology Program is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9 and 10.11.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023-09586 Filed 5-4-23; 8:45 am]

BILLING CODE 4312-52-P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS-WASO-NAGPRA-NPS0035778; PPWOCRADN0-PCU00RP14.R50000]

Notice of Inventory Completion: U.S. Army Corps of Engineers, Mobile District, Mobile, AL

AGENCY: National Park Service, Interior.
ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the U.S. Army Corps of Engineers, Mobile District, has completed an inventory of human remains and associated funerary objects and has determined that there is a cultural affiliation between the human remains and associated funerary objects and Indian Tribes or Native Hawaiian organizations in this notice. The human remains and associated funerary objects were removed from Clay and Lowndes Counties, MS.

DATES: Repatriation of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Ms. Alexandria Smith, U.S. Army Corps of Engineers, Mobile District, 109 St. Joseph Street, P.O. Box 2288, Mobile, AL 36628-0001, telephone (251) 690-2728, email Alexandria.N.Smith@usace.army.mil.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the U.S. Army Corps of Engineers, Mobile District. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the U.S. Army Corps of Engineers, Mobile District.

Description

Human remains representing, at minimum, 40 individuals were removed from Clay County, MS. The Kellogg Village site (22CL527) was located in the Divide Cut Section of the Tennessee Tombigbee Waterway, and contained Middle Archaic, Woodland, and Mississippian components. The site was excavated by the Department of Anthropology, Mississippi State University under principal investigator James R. Atkinson and field director G. Gerald Berry, between June 29 and September 16, 1978. The age and sex of the individuals are undetermined. No known individuals were identified. The 391 associated funerary objects are 36 lots consisting of soil samples, one burned bone, 66 lots consisting of ceramics, 77 lots consisting of shells, 57 lots consisting of unmodified stones, 85 faunal remains, three intact vessels, four fired clay, five lots consisting of miscellaneous stone/chert, two lots consisting of mixed fill, 11 lithics, five beads, four shell gorgets, one lot consisting of stone/shell fill, one lot consisting of organics/botanicals, four flotation samples, 11 projectile points, one sandstone cobble, one C-14 sample, one firecracked rock, five lots consisting of chipped/miscellaneous stones from pit fill, four lots consisting of burial fill, one groundstone, two conch shell dipper/cups, one fired clay ball, and two celts.

Human remains representing, at minimum, three individuals were removed from Clay County, MS. The Yarborough Site (22CL814) is a small settlement with a midden area containing Late Gulf Formation Stage components, with evidence of a farmstead during the Late Mississippian, Sorrells Phase. The site was excavated by the Office of Archaeological Research, University of Alabama under the direction of Carey B. Oakley, principal investigator, and Carlos Solis, project director. A small number of human skeletal fragments were collected and at least one burial was designated. The age and sex of the individuals are undetermined. No known individuals were identified. The 10 associated funerary objects are three lots consisting of botanicals, five lots consisting of soil samples, one lot consisting of mixed stone, and one lot consisting of lithics.

Human remains representing, at minimum, 30 individuals were removed from Lowndes County, MS. The Shell Bluff site (22LO530) is a shell midden and base camp with Late Woodland and Miller III components. The site was excavated by the University of Southern

Mississippi under principal investigators Drs. David Heisler and Robert Gilbert and field directors Thomas Padgett and Don Crusoe in July and August of 1979 and completed mid-October through late November 1979. The age and sex of the individuals are undetermined. No known individuals were identified. The 345 associated funerary objects are 64 lots consisting of ceramics, 28 lots consisting of shells, 13 lots consisting of daub, 52 lots consisting of lithics, 78 lots consisting of soil samples, 36 lots consisting of faunal remains, two projectile points, one chert pebble, 18 lots consisting of firecracked rock, six lots consisting of burial fill, three lots consisting of unsorted screen material, six pebbles, 18 pollen samples, three C-14 samples, three fired clay, two lots consisting of grinding stone fragments, two lots consisting of ferrous sandstone, three chert cores, one lot consisting of unmodified rock, one hammerstone fragment, three sandstone, one pipe stem fragment, and one lot consisting of preform.

Human remains representing, at minimum, nine individuals were removed from Lowndes County, MS. The Vaughn Mound site (22LO538) has Middle Archaic, Woodland, Miller III, and Miller IV components. The site was identified by Marc D. Rucker as part of a field survey and was excavated by the Mississippi State University's Department of Anthropology under Rucker's direction, with the assistance of James R. Atkinson and Michael D. Walls, over 10 weeks during the summer of 1973. The age and sex of the individuals are undetermined. No known individuals were identified. The 47 associated funerary objects are one lot consisting of firecracked rock, two lots consisting of daub, 14 lots consisting of faunal remains, six lots consisting of shells, one lot consisting of sandstone, 12 lots consisting of soil samples, three pebbles, two lithics, two clay, one possible scooping tool, one sandstone grinding stone, one shell ornament, and one lot consisting of unmodified rock.

Human remains representing, at a minimum, 15 individuals were removed from Lowndes County, MS. The Tibbee Creek site (22LO600) has components from the early Gulf Formational through the Mississippian with the most concentrated occupation during the late Woodland Miller III phase. The site was excavated by the Department of Anthropology, Mississippi State University under the direction of Crawford Blakeman, Principal Investigator, and John O'Hear, Project Director and later Principal Investigator,

beginning in November 1976. The site was completed in August 1977. The age and sex of the individuals are undetermined. No known individuals were identified. The 189 associated funerary objects are 43 lots consisting of faunal remains, 21 lots consisting of lithics, 31 lots consisting of ceramics, 46 lots consisting of shells, two lots consisting of firecracked rock, eight lots consisting of charcoal samples, six lots consisting of unmodified stones, two lots consisting of screened fill, one projectile point, three lots consisting of clay, one seed/corn cob, one chert drill, one stone sphere, one bone ornament, four flotation samples, one lot consisting of pit fill, two pebbles, one grooved stone, one sandstone, one acorn, seven lots consisting of unsorted fill, one turtle shell, one organic material, one wood/charcoal flotation, one bead, and one drilled bear canine.

Cultural Affiliation

The human remains and associated funerary objects in this notice are connected to one or more identifiable earlier groups, tribes, peoples, or cultures. There is a relationship of shared group identity between the identifiable earlier groups, tribes, peoples, or cultures and one or more Indian Tribes or Native Hawaiian organizations. The following types of information were used to reasonably trace the relationship: archeological, geographical, historical, other relevant information, and expert opinion.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes and Native Hawaiian organizations, the U.S. Army Corps of Engineers, Mobile District has determined that:

- The human remains described in this notice represent the physical remains of 97 individuals of Native American ancestry.
- The 982 objects described in this notice are reasonably believed to have been placed with or near individual human remains at the time of death or later as part of the death rite or ceremony.
- There is a relationship of shared group identity that can be reasonably traced between the human remains and associated funerary objects described in this notice and The Chickasaw Nation and The Choctaw Nation of Oklahoma.

Requests for Repatriation

Written requests for repatriation of the human remains and associated funerary objects in this notice must be sent to the

Responsible Official identified in **ADDRESSES**. Requests for repatriation may be submitted by:

1. Any one or more of the Indian Tribes or Native Hawaiian organizations identified in this notice.

2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization.

Repatriation of the human remains and associated funerary objects in this notice to a requestor may occur on or after June 5, 2023. If competing requests for repatriation are received, the U.S. Army Corps of Engineers, Mobile District, must determine the most appropriate requestor prior to repatriation. Requests for joint repatriation of the human remains and associated funerary objects are considered a single request and not competing requests. The U.S. Army Corps of Engineers, Mobile District, is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9, 10.10, and 10.14.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023-09582 Filed 5-4-23; 8:45 am]

BILLING CODE 4312-52-P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS-WASO-NAGPRA-NPS0035777;
PPWOCRADNO-PCU00RP14.R50000]

Notice of Inventory Completion: U.S. Army Corps of Engineers, Mobile District, Mobile, AL

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the U.S. Army Corps of Engineers, Mobile District, has completed an inventory of human remains and associated funerary objects and has determined that there is a cultural affiliation between the human remains and associated funerary objects and Indian Tribes or Native Hawaiian organizations in this notice. The human remains and associated funerary objects were removed from Lowndes and Monroe Counties, MS.

DATES: Repatriation of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Ms. Alexandria Smith, U.S. Army Corps of Engineers, Mobile District, 109 St. Joseph Street, P.O. Box 2288, Mobile, AL 36628-0001, telephone (251) 690-2728, email Alexandria.N.Smith@usace.army.mil.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the U.S. Army Corps of Engineers, Mobile District. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the U.S. Army Corps of Engineers, Mobile District.

Description

Human remains representing, at minimum, one individual were removed from Lowndes County, MS. One of several sites identified during early mitigation measures for the prospective Tennessee Tombigbee Waterway, site 22LO553 (unnamed) was excavated between December 1978 and May 1979 under the direction of Judith A. Bense. No further work was ever conducted. The age and sex of the individual are undetermined. No known individual was identified. The 10 associated funerary objects are one lot consisting of lithics, six lots consisting of ceramics, two lots consisting of unmodified stones, and one lot consisting of shells.

Human remains representing, at minimum, two individuals were removed from Lowndes County, MS. The Barnes Mound (22LO564) likely was a seasonal occupation site from the Early or Middle Archaic to the Middle and Late Woodland periods. It was excavated by the Mississippi State University Department of Anthropology under principal investigator James R. Atkinson and field director G. Gerald Berry during July 6-24, 1974. The age and sex of the individuals are undetermined. No known individuals were identified. The four associated funerary objects are two lots consisting of soil samples, one lot consisting of lithics, and one lot consisting of ceramics.

Human remains representing, at minimum, 21 individuals were removed from Lowndes County, MS. The Cofferdam site (22LO599) is an Early-Late Woodland occupation featuring

some Miller II components. Cofferdam was identified by Army Corps of Engineers personnel during the excavation of the cofferdam for the Columbus Lock and Dam of the Tennessee-Tombigbee Waterway, and it was excavated by the Mississippi State University Department of Anthropology under the direction of James R. Atkinson and field crew chief G. Gerald Berry during August-October of 1975. The age and sex of the individuals are undetermined. No known individuals were identified. The 221 associated funerary objects are one lot consisting of mixed soil and fill, seven lots consisting of unmodified rocks, 37 lots consisting of lithics, 15 lots consisting of pebbles, seven lots consisting of groundstone fragments, 36 lots consisting of ceramics, 24 lots consisting of shells, 33 lots consisting of faunal remains, two lots consisting of clay balls, 12 lots consisting of flotation samples, eight lots consisting of projectile points, two lots consisting of charcoal, one lot consisting of stone cores, one lot consisting of fragmented turtle shell rattles, one lot consisting of pebbles, seven lots consisting of sandstone, three lots consisting of burned wood, two lots consisting of matrix with unidentified fill, six lots consisting of clay, four lots consisting of daub, four lots consisting of unscreened mixed materials, one lot consisting of grog tempered pipe bowls, two lots consisting of firecracked rock, two lots consisting of gravel/concretion, one lot consisting of petrified wood, one lot consisting of nutshells, and one lot consisting of shell gorgets.

Human remains representing, at minimum, four individuals were removed from Lowndes County, MS. The River Cut site (22LO860) is a small village containing Woodland and Mississippian components as well as Miller III, with some signs of possible Miller II habitation. The site was reported to the USACE, Mobile District, in 1983. Following salvage of a burial from an eroding bank in 1984, the site was excavated by the Cobb Institute of Archaeology, Mississippi State University, under principal investigator Janet Rafferty, with Mary Evelyn Starr, during December 29-30, 1985 and July 23-September 29, 1986. The age and sex of the individuals are undetermined. No known individuals were identified. The 14 associated funerary objects are four lots consisting of ceramics, five lots consisting of lithics, four lots consisting of projectile point fragments, and one lot consisting of sandstone.

Human remains representing, at minimum, one individual were removed from Monroe County, MS. One of several sites identified during early

mitigation measures for the prospective Tennessee Tombigbee Waterway, the New Hamilton site (22MO548) was excavated between December of 1978 and May of 1979 under the direction of Judith A. Bense. No further work was ever conducted. The age and sex of the individual are undetermined. No known individual was identified. The 41 associated funerary objects are eight lots consisting of shells, six lots consisting of ceramics, one lot consisting of cobbles, one lot consisting of botanical remains, eight lots consisting of lithics, five lots consisting of faunal remains, six lots consisting of soil samples, one lot consisting of sandstone, one lot consisting of rock fill, one lot consisting of modified bones, one lot consisting of pebbles, one lot consisting of conch shell dippers, and one lot consisting of copper flakes.

Human remains representing, at minimum, two individuals were removed from Monroe County, MS. One of several sites identified during early mitigation measures for the prospective Tennessee Tombigbee Waterway, the SW Amory site (22MO710) was excavated between December of 1978 and May of 1979 under the direction of Judith A. Bense. No further work was ever conducted. The age and sex of the individuals are undetermined. No known individuals were identified. The 58 associated funerary objects are 13 lots consisting of lithics, nine lots consisting of ceramics, four lots consisting of faunal remains, five lots consisting of soil samples, one lot consisting of glass, eight lots consisting of clay, four lots consisting of unmodified stones, three lots consisting of mixed samples, two lots consisting of ferrous sandstone, two lots consisting of firecracked rocks, one lot consisting of projectile points, three lots consisting of sandstone, one lot consisting of groundstone, one lot consisting of shark tooth fragments, and one lot consisting of plant materials.

Human remains representing, at minimum, one individual were removed from Monroe County, MS. The East Aberdeen site (22MO819), located during the 1976 survey, was a prehistoric midden with some historical, nineteenth and twentieth century components. The site was excavated from June 1 to September 29, 1978, by co-principal investigators Janet E. Rafferty and B. Lea Baker. The age and sex of the individual are undetermined. No known individual was identified. The 13 associated funerary objects are two lots consisting of lithics, two lots consisting of faunal remains, two lots consisting of charcoal, two lots consisting of clay, two lots

consisting of gravel, one lot consisting of botanical materials, one float sample, and one lot consisting of sandstone.

Cultural Affiliation

The human remains and associated funerary objects in this notice are connected to one or more identifiable earlier groups, tribes, peoples, or cultures. There is a relationship of shared group identity between the identifiable earlier groups, tribes, peoples, or cultures and one or more Indian Tribes or Native Hawaiian organizations. The following types of information were used to reasonably trace the relationship: archeological, geographical, historical, other relevant information, and expert opinion.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes and Native Hawaiian organizations, the U.S. Army Corps of Engineers, Mobile District has determined that:

- The human remains described in this notice represent the physical remains of 32 individuals of Native American ancestry.
- The 361 objects described in this notice are reasonably believed to have been placed with or near individual human remains at the time of death or later as part of the death rite or ceremony.
- There is a relationship of shared group identity that can be reasonably traced between the human remains and associated funerary objects described in this notice and The Chickasaw Nation.

Requests for Repatriation

Written requests for repatriation of the human remains and associated funerary objects in this notice must be sent to the Responsible Official identified in ADDRESSES. Requests for repatriation may be submitted by:

1. Any one or more of the Indian Tribes or Native Hawaiian organizations identified in this notice.
2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization.

Repatriation of the human remains and associated funerary objects in this notice to a requestor may occur on or after June 5, 2023. If competing requests for repatriation are received, the U.S. Army Corps of Engineers, Mobile District, must determine the most appropriate requestor prior to

repatriation. Requests for joint repatriation of the human remains and associated funerary objects are considered a single request and not competing requests. The U.S. Army Corps of Engineers, Mobile District, is responsible for sending a copy of this notice to the Indian Tribe identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9, 10.10, and 10.14.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023–09581 Filed 5–4–23; 8:45 am]

BILLING CODE 4312–52–P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS–WASO–NAGPRA–NPS0035775;
PPWOCRADN0–PCU00RP14.R50000]

Notice of Inventory Completion: Field Museum of Natural History, Chicago, IL

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the Field Museum of Natural History has completed an inventory of human remains and has determined that there is no cultural affiliation between the human remains and any Indian Tribe. The human remains were removed from Winnebago County, WI.

DATES: Disposition of the human remains in this notice may occur on or after June 5, 2023.

ADDRESSES: Helen Robbins, Repatriation Director, Field Museum of Natural History, 1400 S Lake Shore Drive, Chicago, IL 60605, telephone (312) 665–7317, email hrobbins@fieldmuseum.org.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the Field Museum. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the Field Museum.

Description

Human remains representing, at minimum, 21 individuals were removed

from Winnebago County, WI. In September of 1897, Mr. A.E. Chase exhumed these human remains from Sunset Point, a site located on the north shore of Lake Butte des Morts. The human remains were purchased by the Field Museum in 1898. No associated funerary objects are present.

Based on research and tribal consultation, the site of disinterment belongs to the Oneota culture. It likely dates between 1000 CE and 1400 CE. A detailed assessment of the human remains was made by Field Museum staff in consultation with representatives of the Ho-Chunk Nation of Wisconsin, who have requested disposition of the human remains.

Aboriginal Land

The human remains in this notice were removed from a known geographic location. This location is the aboriginal lands of one or more Indian Tribes. The following information was used to identify the aboriginal land: a treaty and a final judgment of the Indian Claims Commission.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes, the Field Museum has determined that:

- The human remains described in this notice represent the physical remains of 21 individuals of Native American ancestry.
- No relationship of shared group identity can be reasonably traced between the human remains and any Indian Tribe.
- The human remains described in this notice were removed from the aboriginal land of the Ho-Chunk Nation of Wisconsin; Iowa Tribe of Kansas and Nebraska; Iowa Tribe of Oklahoma; Otoe-Missouria Tribe of Indians, Oklahoma; and the Winnebago Tribe of Nebraska.

Requests for Disposition

Written requests for disposition of the human remains in this notice must be sent to the Responsible Official identified in **ADDRESSES**. Requests for disposition may be submitted by:

1. Any one or more of the Indian Tribes identified in this notice.
2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization, or who shows that the requestor is an aboriginal land Indian Tribe.

Disposition of the human remains described in this notice to a requestor may occur on or after June 5, 2023. If competing requests for disposition are received, the Field Museum must determine the most appropriate requestor prior to disposition. Requests for joint disposition of the human remains are considered a single request and not competing requests. The Field Museum is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9 and 10.11.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023-09579 Filed 5-4-23; 8:45 am]

BILLING CODE 4312-52-P

DEPARTMENT OF THE INTERIOR

National Park Service

**[NPS-WASO-NAGPRA-NPS0035780;
PPWOCRADNO-PCU00RP14.R50000]**

Notice of Inventory Completion: Office of the State Archaeologist, University of Iowa, Iowa City, IA

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the Office of the State Archaeologist Bioarchaeology Program, previously listed as the Office of the State Archaeologist Burials Program, has completed an inventory of human remains and has determined that there is no cultural affiliation between the human remains and any Indian Tribe. The human remains were removed from either Kay or Osage County, OK.

DATES: Disposition of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Dr. Lara Noldner, Office of the State Archaeologist Bioarchaeology Program, University of Iowa, 700 S Clinton Street, Iowa City, IA 52242, telephone (319) 384-0740, email lara-noldner@uiowa.edu.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the Office of the State Archaeologist Bioarchaeology Program. The National Park Service is

not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the Office of the State Archaeologist Bioarchaeology Program.

Description

Human remains representing, at minimum, one individual were removed from an unknown location near Ponca City, in either Kay or Osage County, OK. The human remains were reportedly disinterred by animals on a farm belonging to Walter Hawk (now deceased) and located near Ponca City, OK, in 1958. The farmer who collected the human remains gave them to a friend and neighboring landowner, Marvin Clark (now deceased). Subsequently, Mr. Clark passed the human remains on to a grandson, and in 1999, the grandson, who resided in Knoxville, IA, transferred them to the Office of the State Archaeologist Bioarchaeology Program. The cranial human remains (Burial Project 1291) belong to a juvenile approximately 10–11 years old. Craniofacial morphology suggests Native ancestry, and the low level of dental wear suggests the individual lived during the late pre-contact or early contact period. No known individual was identified. No associated funerary objects are present.

Aboriginal Land

The human remains and associated funerary objects in this notice were removed from known geographic locations. These locations are the aboriginal lands of one or more Indian Tribes. The following information was used to identify the aboriginal land: treaties, including the 1825 Treaty with Great and Little Osage.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes, the Office of the State Archaeologist Bioarchaeology Program has determined that:

- The human remains described in this notice represent the physical remains of one individual of Native American ancestry.
- No relationship of shared group identity can be reasonably traced between the human remains and any Indian Tribe.
- The human remains described in this notice were removed from the aboriginal land of the Caddo Nation of Oklahoma; Kiowa Indian Tribe of Oklahoma; and The Osage Nation.

Requests for Disposition

Written requests for disposition of the human remains in this notice must be sent to the Responsible Official identified in **ADDRESSES**. Requests for disposition may be submitted by:

1. Any one or more of the Indian Tribes identified in this notice.
2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization, or who shows that the requestor is an aboriginal land Indian Tribe.

Disposition of the human remains described in this notice to a requestor may occur on or after June 5, 2023. If competing requests for disposition are received, the Office of the State Archaeologist Bioarchaeology Program must determine the most appropriate requestor prior to disposition. Requests for joint disposition of the human remains are considered a single request and not competing requests. The Office of the State Archaeologist Bioarchaeology Program is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9 and 10.11.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023-09584 Filed 5-4-23; 8:45 am]

BILLING CODE 4312-52-P

DEPARTMENT OF THE INTERIOR

National Park Service

[NPS-WASO-NAGPRA-NPS0035776;
PPWOCRADNO-PCU00RP14.R50000]

Notice of Inventory Completion: U.S. Army Corps of Engineers, Mobile District, Mobile, AL

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: In accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), the U.S. Army Corps of Engineers, Mobile District, has completed an inventory of human remains and associated funerary objects and has determined that there is a cultural affiliation between the human remains and associated funerary objects and Indian Tribes or Native Hawaiian organizations in this notice. The human remains and associated funerary objects

were removed from Itawamba and Tishomingo Counties, MS.

DATES: Repatriation of the human remains and associated funerary objects in this notice may occur on or after June 5, 2023.

ADDRESSES: Ms. Alexandria Smith, U.S. Army Corps of Engineers, Mobile District, 109 St. Joseph Street, P.O. Box 2288, Mobile, AL 36628-0001, telephone (251) 690-2728, email Alexandria.N.Smith@usace.army.mil.

SUPPLEMENTARY INFORMATION: This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA. The determinations in this notice are the sole responsibility of the U.S. Army Corps of Engineers, Mobile District. The National Park Service is not responsible for the determinations in this notice. Additional information on the determinations in this notice, including the results of consultation, can be found in the inventory or related records held by the U.S. Army Corps of Engineers, Mobile District.

Description

Human remains representing, at minimum, 26 individuals were removed from Itawamba County, MS. The White Springs site (22IT537) was originally recorded by Joseph Caldwell and S.D. Lewis in 1971, during a survey of the Canal Section of the Tennessee-Tombigbee Waterway. The site was identified as a 15-20-acre village. Archeological phases identified at the site include Early Archaic, Gulf Formational, Middle and Late Woodland, and Mississippian. Testing excavations were conducted in April of 1971, and full-scale excavation was conducted between July and August of the same year by the University of Southern Mississippi. The age and sex of these individuals are unidentified. No known individuals were identified. The 240 associated funerary objects are 51 lots consisting of ceramics, 53 lots consisting of lithics, 22 lots consisting of projectile points, 23 lots consisting of faunal remains, eight lots consisting of shells, 38 lots consisting of soil samples, 16 lots consisting of float samples, three lots consisting of fire cracked rock, one lot consisting of stone fragments, two lots consisting of preforms, five lots consisting of sandstone, four lots consisting of pebbles, four lots consisting of burial fill, three lots consisting of petrified wood, three lots consisting of ferrous sandstone, one lot consisting of scrapers, and three lots consisting of charcoal.

Human remains representing, at minimum, six individuals were

removed from Itawamba County, MS. In November of 1971, Joseph Caldwell and S.D. Lewis identified the Walnut site (22IT539), located in a floodplain near the confluence of Mackeys and Big Brown Creeks and within the operational boundaries of the Canal Section of the Tennessee-Tombigbee Waterway. This site has been described as a village measuring 100 feet-by-150 feet on a rise in swamp and low forest. According to the site form, the Walnut site had been looted and partly cleared for a powerline. Archeological phases associated with the site include Middle Archaic, Late Archaic, Middle Gulf Formational, and Woodland. The age and sex of these individuals are unidentified. No known individuals were identified. The nine associated funerary objects are one lot consisting of beads, one lot consisting of lithics, one lot consisting of daub, three lots consisting of perpetuity samples, one lot consisting of charcoal, one lot consisting of unmodified cobbles, and one lot consisting of clay.

Human remains representing, at minimum, 10 individuals were removed from Itawamba County, MS. In 1975, the Poplar site (22IT576) was recorded by J.R. Atkinson in the Canal Section of the Tennessee-Tombigbee Waterway. Atkinson described the site as a circular Woodland midden mound with black soil approximately one-half acre in size. The University of Alabama conducted archeological testing at the site in 1979 and full-scale excavations in 1980. Poplar is a multi-component site with Paleoindian, Archaic, and Woodland components. The age and sex of these individuals are unidentified. No known individuals were identified. The 64 associated funerary objects are one lot consisting of ceramic, 21 lots consisting of lithics, nine lots consisting of faunal remains, nine lots consisting of ferrous sandstone, two lots consisting of projectile points, eight lots consisting of flotation samples, two lots consisting of pebbles, two lots consisting of soil samples, three lots consisting of clay, three lots consisting of pollen samples, one lot consisting of petrified wood, two lots consisting of biosilicate samples, and one lot consisting of groundstone fragments.

Human remains representing, at minimum, two individuals were removed from Tishomingo County, MS. The W.C. Mann Site (22TS565) is a Middle/Late Archaic site located in the Divide Cut Section of the Tennessee-Tombigbee Waterway. The Department of Anthropology of Memphis State University excavated the site from October of 1977 to May of 1978, under principal investigator Drexel A.

Peterson, Jr., and field director William McKinney. The age and sex of these individuals are unidentified. No known individuals were identified. The 63 associated funerary objects are three lots consisting of ceramics, 26 lots consisting of lithics, two lots consisting of faunal remains, one lot consisting of cobbles, eight lots consisting of miscellaneous stones, one lot consisting of limonite fragments, two lots consisting of soil samples, two lots consisting of flotation samples, one lot consisting of daub, three lots consisting of clay, two lots consisting of stone cores, three lots consisting of projectile points, four lots consisting of sandstone, three lots consisting of fire cracked rock, one lot consisting of red ochre, and one lot consisting of abraders.

Human remains representing, at a minimum, five individuals were removed from Tishomingo County, MS. Site 22TS956, also referred to as "the" Bay Springs Rockshelter, is just one of several rockshelters situated along the Divide Cut Section of the Tennessee-Tombigbee Waterway. These sites were excavated in several stages by the Cultural Resource Program of the Department of Anthropology at the University of Pittsburgh under the direction of Principal Investigator J.M. Adovasio (October 1–13, 1979; October 16–November 23, 1979; December 3, 1979–February 25, 1980; and February 26–June 3, 1980). The age and sex of these individuals are unidentified. No known individuals were identified. The three associated funerary objects are two lots consisting of soil samples and one lot consisting of dense stone fragments.

Cultural Affiliation

The human remains and associated funerary objects in this notice are connected to one or more identifiable earlier groups, tribes, peoples, or cultures. There is a relationship of shared group identity between the identifiable earlier groups, tribes, peoples, or cultures and one or more Indian Tribes or Native Hawaiian organizations. The following types of information were used to reasonably trace the relationship: archeological, geographical, historical, other relevant information, and expert opinion.

Determinations

Pursuant to NAGPRA and its implementing regulations, and after consultation with the appropriate Indian Tribes and Native Hawaiian organizations, the U.S. Army Corps of Engineers, Mobile District has determined that:

- The human remains described in this notice represent the physical

remains of 49 individuals of Native American ancestry.

- The 379 objects described in this notice are reasonably believed to have been placed with or near individual human remains at the time of death or later as part of the death rite or ceremony.

- There is a relationship of shared group identity that can be reasonably traced between the human remains and associated funerary objects described in this notice and the Alabama-Coushatta Tribe of Texas; Alabama-Quassarte Tribal Town; Coushatta Tribe of Louisiana; and The Chickasaw Nation.

Requests for Repatriation

Written requests for repatriation of the human remains and associated funerary objects in this notice must be sent to the Responsible Official identified in **ADDRESSES**. Requests for repatriation may be submitted by:

1. Any one or more of the Indian Tribes or Native Hawaiian organizations identified in this notice.
2. Any lineal descendant, Indian Tribe, or Native Hawaiian organization not identified in this notice who shows, by a preponderance of the evidence, that the requestor is a lineal descendant or a culturally affiliated Indian Tribe or Native Hawaiian organization.

Repatriation of the human remains and associated funerary objects in this notice to a requestor may occur on or after June 5, 2023. If competing requests for repatriation are received, the U.S. Army Corps of Engineers, Mobile District, must determine the most appropriate requestor prior to repatriation. Requests for joint repatriation of the human remains and associated funerary objects are considered a single request and not competing requests. The U.S. Army Corps of Engineers, Mobile District, is responsible for sending a copy of this notice to the Indian Tribes identified in this notice.

Authority: Native American Graves Protection and Repatriation Act, 25 U.S.C. 3003, and the implementing regulations, 43 CFR 10.9, 10.10, and 10.14.

Dated: April 25, 2023.

Melanie O'Brien,

Manager, National NAGPRA Program.

[FR Doc. 2023–09580 Filed 5–4–23; 8:45 am]

BILLING CODE 4312–52–P

INTERNATIONAL TRADE COMMISSION

[USITC SE–23–022]

Sunshine Act Meetings

Agency Holding the Meeting:
United States International Trade Commission.

TIME AND DATE: May 11, 2023 at 11 a.m.

PLACE: Room 101, 500 E Street SW, Washington, DC 20436, Telephone: (202) 205–2000.

STATUS: Open to the public.

MATTERS TO BE CONSIDERED:

1. Agendas for future meetings: none.
2. Minutes.
3. Ratification List.
4. Commission vote on Inv. Nos. 701–TA–565 and 731–TA–1341 (Review) (Hardwood Plywood from China). The Commission currently is scheduled to complete and file its determinations and views of the Commission on May 19, 2023.
5. *Outstanding action jackets:* none.

CONTACT PERSON FOR MORE INFORMATION: Sharon Bellamy, Acting Supervisory Hearings and Information Officer, 202–205–2000.

The Commission is holding the meeting under the Government in the Sunshine Act, 5 U.S.C. 552(b). In accordance with Commission policy, subject matter listed above, not disposed of at the scheduled meeting, may be carried over to the agenda of the following meeting.

By order of the Commission.

Issued: May 2, 2023.

Lisa Barton,

Secretary to the Commission.

[FR Doc. 2023–09675 Filed 5–3–23; 11:15 am]

BILLING CODE 7020–02–P

INTERNATIONAL TRADE COMMISSION

[Inv. No. 337–TA–1218 (Rescission 2)]

Certain Variable Speed Wind Turbine Generators and Components Thereof; Notice of Commission Determination To Institute a Rescission Proceeding; Rescission of a Limited Exclusion Order and a Cease and Desist Order; Termination of the Rescission Proceeding

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to institute a rescission proceeding and to grant a

petition to rescind a limited exclusion order (“LEO”) and cease and desist order (“CDO”) issued in the underlying investigation. The rescission proceeding is terminated.

FOR FURTHER INFORMATION CONTACT:

Robert Needham, Office of the General Counsel, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, telephone (202) 708–5468. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission’s electronic docket (EDIS) at <https://edis.usitc.gov>. For help accessing EDIS, please email EDIS3Help@usitc.gov. General information concerning the Commission may also be obtained by accessing its internet server at <https://www.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission’s TDD terminal on (202) 205–1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on September 8, 2020, based on a complaint filed on behalf of General Electric Company of Boston, Massachusetts (“GE”). 85 FR 55492–93 (Sept. 8, 2020). The complaint alleged violations of section 337 of the Tariff Act of 1930, as supplemented and amended, 19 U.S.C. 1337, based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain variable speed wind turbine generators and components thereof by reason of infringement of one or more of claims 1, 3, 6, 7, 12, 15–16, 21–24, 29, 30, and 33–38 of U.S. Patent No. 6,921,985 (“the ‘985 patent”) and claims 1 and 2 of the U.S. Patent No. 7,629,705 (“the ‘705 patent”). *Id.* at 55493; Order No. 10 (Dec. 2, 2020), *unreviewed by Comm’n* Notice (Dec. 22, 2020). The Commission’s notice of investigation named as respondents Siemens Gamesa Renewable Energy Inc. of Orlando, Florida (“SGRE Inc.”); Siemens Gamesa Renewable Energy A/S of Brande, Denmark (“SGRE A/S”); and Gamesa Electric, S.A.U. of Zamudio, Spain (“Gamesa”) (collectively, “SGRE”). 85 FR 55493. The Office of Unfair Import Investigations is not a party to the investigation. *Id.*

On January 18, 2022, the Commission determined that GE showed a violation of section 337 by SGRE with respect to claims 29, 30, 33–35, and 37 of the ‘985 patent, but did not show a violation with respect to claims 1, 6, and 12 of the ‘985 patent or any claim of the ‘705 patent. 87 FR 3586–87 (Jan. 24, 2022).

The Commission further found that GE showed that SGRE’s full-converter wind turbine products with early versions of software infringe claims 29, 30, 33–35, and 37 of the ‘985 patent, but did not show that SGRE’s full-converter wind turbine products with later versions of software or SGRE’s doubly-fed induction generator wind turbine products infringe those claims. The Commission issued an LEO and three CDOs (the “SGRE Inc. CDO,” the “SGRE A/S CDO,” and “Gamesa CDO”) against the three SGRE entities.

On June 24, 2022, GE filed a petition to rescind the SGRE A/S CDO and the Gamesa CDO. On July 6, 2022, SGRE filed a response indicating that it did not oppose the rescission of the CDOs. On July 26, 2022, the Commission instituted a rescission proceeding, rescinded the SGRE A/S CDO and the Gamesa CDO, and terminated the rescission proceeding. The LEO and SGRE Inc. CDO remained in effect.

On March 30, 2023, GE filed an unopposed petition to rescind the LEO and the SGRE Inc. CDO. SGRE did not respond to the petition.

Having reviewed GE’s unopposed petition seeking to rescind the LEO and SGRE Inc. CDO, and SGRE’s lack of a response to the petition, the Commission finds that the conditions which led to the issuance of the LEO and the SGRE Inc. CDO no longer exist, and therefore, granting the petition to rescind is warranted under section 337(k) (19 U.S.C. 1337(k)). The Commission also finds that the requirements of Commission Rule 210.76(a) (19 CFR 210.76(a)) are satisfied.

Accordingly, the Commission has determined to institute a rescission proceeding and to grant the petition to rescind the LEO and the SGRE Inc. CDO. The Commission Order issued concurrently herewith rescinds the LEO and the SGRE Inc. CDO. The rescission proceeding is terminated.

The Commission vote for this determination took place on May 1, 2023.

The authority for the Commission’s determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in part 210 of the Commission’s Rules of Practice and Procedure (19 CFR part 210).

By order of the Commission.

Issued: May 1, 2023.

Lisa Barton,

Secretary to the Commission.

[FR Doc. 2023–09555 Filed 5–4–23; 8:45 am]

BILLING CODE 7020–02–P

DEPARTMENT OF JUSTICE

[OMB Number 1123–0014]

Agency Information Collection Activities; Proposed eCollection eComments Requested; Extension of a Previously Approved Collection Application for Certificates of Pardon for the Offense of Simple Possession of Marijuana—E.O.

AGENCY: Office of Pardon Attorney, Department of Justice.

ACTION: 60-Day notice.

SUMMARY: The Department of Justice (DOJ), The Office of the Pardon Attorney, will be submitting the following information collection request to the Office of Management and Budget (OMB) for review and approval in accordance with the Paperwork Reduction Act of 1995.

DATES: Comments are encouraged and will be accepted for 60 days until July 5, 2023.

FOR FURTHER INFORMATION CONTACT: If you have additional comments especially on the estimated public burden or associated response time, suggestions, or need a copy of the proposed information collection instrument with instructions or additional information, please contact Kira Gillespie, Deputy Pardon Attorney, Office of the Pardon Attorney, 950 Pennsylvania Avenue NW, Main Justice—RFK Building, Washington, DC 20530; kira.gillespie@usdoj.gov; (202) 616–6073.

SUPPLEMENTARY INFORMATION: Written comments and suggestions from the public and affected agencies concerning the proposed collection of information are encouraged. Your comments should address one or more of the following four points:

- Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the Bureau of Justice Statistics, including whether the information will have practical utility;
- Evaluate the accuracy of the agency’s estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;
- Evaluate whether and if so how the quality, utility, and clarity of the information to be collected can be enhanced; and
- Minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms

of information technology, *e.g.*, permitting electronic submission of responses.

Abstract: The purpose of this collection is to gather information necessary to enable the Office of the Pardon Attorney, U.S. Department of Justice to expeditiously administer the provisions of the Executive Order 10467, a proclamation granting pardons to individuals charged or convicted of simple possession of marijuana. The collection will enable individuals to apply for certificates of pardon, restoring political, civil, and other rights by implementing a process to provide certificates of pardon as provided by the order.

Overview of This Information Collection

1. *Type of Information Collection:* Extension of a currently approved collection.

2. *The Title of the Form/Collection:* Application for Certificates of Pardon

for the Offense of Simple Possession of Marijuana.

3. *The agency form number, if any, and the applicable component of the Department sponsoring the collection:* There is no agency form number for this collection. The applicable component within the Department of Justice is the Office of the Pardon Attorney.

4. *Affected public who will be asked or required to respond, as well as the obligation to respond:*

Affected Public: Individuals or households will be asked to respond to this request. The President issued a proclamation on October 6, 2022, pardoning many persons who had been convicted federally of a simple possession of marijuana offense. If a person wants proof of their pardon, they can submit the Application to verify their eligibility under the proclamation. The obligation to respond is voluntary, and a person who qualified under the proclamation is pardoned regardless if they submit an Application.

5. *An estimate of the total number of respondents and the amount of time estimated for an average respondent to respond:* the Office of the Pardon Attorney estimate that a potential pool of at least 20,000 applicants may apply. The application for the certificate is simple, and will not take long to complete, between 10 and 30 minutes. The applicants must also provide proof of their prior convictions or charges, which we estimate would take anywhere between 10 minutes to two hours of effort, including research, phone calls, and conversations with necessary personnel to attain the appropriate documentation.

6. *An estimate of the total public burden (in hours) associated with the collection:* The estimated public burden associated with this collection is 40,000 hours. It is estimated that respondents will take two hours to complete the certificate.

TOTAL BURDEN HOURS

Activity	Number of respondents	Frequency	Total annual responses	Time per response	Total annual burden (hours)
Application	20,000	1	20,000	2 hours	40,000
Unduplicated Totals	20,000	1	20,000	.....	40,000

If additional information is required contact: John R. Carlson, Department Clearance Officer, United States Department of Justice, Justice Management Division, Policy and Planning Staff, Two Constitution Square, 145 N Street NE, 4W-218, Washington, DC 20530.

Dated: May 2, 2023.

John Carlson,

Department Clearance Officer for PRA, U.S. Department of Justice.

[FR Doc. 2023-09644 Filed 5-4-23; 8:45 am]

BILLING CODE 4410-29-P

DEPARTMENT OF LABOR

Agency Information Collection Activities; Submission for OMB Review; Comment Request; Cadmium in Construction Standard

ACTION: Notice of availability; request for comments.

SUMMARY: The Department of Labor (DOL) is submitting this Occupational Safety & Health Administration (OSHA)-sponsored information collection request (ICR) to the Office of

Management and Budget (OMB) for review and approval in accordance with the Paperwork Reduction Act of 1995 (PRA). Public comments on the ICR are invited.

DATES: The OMB will consider all written comments that the agency receives on or before June 5, 2023.

ADDRESSES: Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice to www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under 30-day Review—Open for Public Comments" or by using the search function.

Comments are invited on: (1) whether the collection of information is necessary for the proper performance of the functions of the Department, including whether the information will have practical utility; (2) the accuracy of the agency's estimates of the burden and cost of the collection of information, including the validity of the methodology and assumptions used; (3) ways to enhance the quality, utility and clarity of the information collection; and (4) ways to minimize the burden of the

collection of information on those who are to respond, including the use of automated collection techniques or other forms of information technology.

FOR FURTHER INFORMATION CONTACT:

Nicole Bouchet by telephone at 202-693-0213, or by email at DOL_PRA_PUBLIC@dol.gov.

SUPPLEMENTARY INFORMATION: The standard requires employers to monitor worker exposure to cadmium, to provide medical surveillance to workers, and to establish and maintain accurate worker and exposure records. These records are used by employers, workers, physicians, and the Government to ensure that workers are not being harmed by exposure to Cadmium. For additional substantive information about this ICR, see the related notice published in the **Federal Register** on February 6, 2023 (88 FR 7760).

This information collection is subject to the PRA. A Federal agency generally cannot conduct or sponsor a collection of information, and the public is generally not required to respond to an information collection, unless the OMB approves it and displays a currently valid OMB Control Number. In addition,

notwithstanding any other provisions of law, no person shall generally be subject to penalty for failing to comply with a collection of information that does not display a valid OMB Control Number. See 5 CFR 1320.5(a) and 1320.6.

DOL seeks PRA authorization for this information collection for three (3) years. OMB authorization for an ICR cannot be for more than three (3) years without renewal. The DOL notes that information collection requirements submitted to the OMB for existing ICRs receive a month-to-month extension while they undergo review.

Agency: DOL-OSHA.

Title of Collection: Cadmium in Construction Standard.

OMB Control Number: 1218-0186.

Affected Public: Private sector—Businesses or other for-profits.

Total Estimated Number of Respondents: 10,000.

Total Estimated Number of Responses: 335,082.

Total Estimated Annual Time Burden: 50,226 hours.

Total Estimated Annual Other Costs Burden: \$2,082,199.

(Authority: 44 U.S.C. 3507(a)(1)(D).)

Nicole Bouchet,

Senior PRA Analyst.

[FR Doc. 2023-09545 Filed 5-4-23; 8:45 am]

BILLING CODE 4510-26-P

NATIONAL CREDIT UNION ADMINISTRATION

Renewal of Agency Information Collections for Comments Request: Proposed Collections

AGENCY: National Credit Union Administration (NCUA).

ACTION: Notice and request for comments.

SUMMARY: The National Credit Union Administration (NCUA) will submit the following information collection requests to the Office of Management and Budget (OMB) for review and clearance in accordance with the Paperwork Reduction Act of 1995, on or after the date of publication of this notice.

DATES: Written comments should be received on or before July 5, 2023 to be assured consideration.

ADDRESSES: Interested persons are invited to submit written comments on the information collection to Mahala Vixamar, National Credit Union Administration, 1775 Duke Street, Alexandria, Virginia 22314, Suite 5067; Fax No. 703-519-8579; or Email at PRAComments@NCUA.gov.

FOR FURTHER INFORMATION CONTACT: Requests for additional information should be directed to the address above.

SUPPLEMENTARY INFORMATION:

OMB Number: 3133-0135.

Title: Authorization Agreement for Electronic Funds Transfers Payments.

Type of Review: Extension of a previously approved collection.

Abstract: NCUA is required under the Debt Collection Improvement Act of 1996 to issue payments to credit unions electronically. NCUA needs information to maintain up-to-date and accurate electronic payment data for new and existing credit unions. NCUA used the information on the Authorization Agreement for Electronic Funds Transfer Payments form to update their electronic routing and transit database to enable transmittal of funds and payments.

Affected Public: Private Sector: Not-for-profit institutions.

Estimated Total Annual Burden Hours: 25.

OMB Number: 3133-0151.

Type of Review: Extension of a previously approved collection.

Title: Leasing—12 CFR part 714.

Abstract: NCUA requires the financially responsible party to guarantee the excess when the residual value of a lease will exceed twenty-five percent of the original cost of the leased property. The federal credit union must obtain and have on file financial documentation demonstrating that the guarantor has the resources to meet the guarantee. If a manufacturer is involved, the federal credit union must review financial statements for the period that would establish a reasonable financial trend. If an insurance company is involved, it must have a major company rating of at least a B plus. The federal credit union will use the information as part of the risk assessment process to analyze and evaluate the financial capabilities and resources of a party that guarantees the residual value used in a leasing arrangement.

Affected Public: Private Sector: Not-for-profit institutions.

Estimated Total Annual Burden Hours: 830.

Request for Comments: Comments submitted in response to this notice will be summarized and included in the request for Office of Management and Budget approval. All comments will become a matter of public record. The public is invited to submit comments concerning: (a) whether the collection of information is necessary for the proper performance of the function of the agency, including whether the information will have practical utility;

(b) the accuracy of the agency's estimate of the burden of the collection of information, including the validity of the methodology and assumptions used; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of the information on the respondents, including the use of automated collection techniques or other forms of information technology.

By the National Credit Union Administration Board.

Melane Conyers-Ausbrooks,

Secretary of the Board.

[FR Doc. 2023-09533 Filed 5-4-23; 8:45 am]

BILLING CODE 7535-01-P

NATIONAL SCIENCE FOUNDATION

Sunshine Act Meetings

The National Science Board (NSB) and the NSB Committee on Strategy (CS) hereby give notice of the scheduling of meetings for the transaction of National Science Board business pursuant to the National Science Foundation Act and the Government in the Sunshine Act.

TIME AND DATE: Tuesday, May 9, 2023, from 8:30 a.m.–3:55 p.m. and Wednesday, May 10, 2023, from 8:30 a.m.–3:00 p.m. EDT.

PLACE: These meetings will be held at NSF headquarters, 2415 Eisenhower Avenue, Alexandria, VA 22314, and by videoconference. To attend in-person, please email your name as it appears on your photo ID, along with your affiliation, at least 24 hours in advance to nationalsciencebrd@nsf.gov. If the COVID status for Alexandria, Virginia goes to “high,” please fill out and bring OMB’s certification of vaccination form with you. All open sessions of the meeting will be webcast live on the NSB YouTube channel.

May 9, 2023—<https://www.youtube.com/watch?v=hydV2SXt6eA>

May 10, 2023—<https://www.youtube.com/watch?v=iFZ7N88SjB8>

STATUS: Parts of these meetings will be open to the public. The rest of the meetings will be closed to the public. See full description below.

MATTERS TO BE CONSIDERED:

Tuesday, May 9, 2023

Plenary Board meeting

Open session: 8:30–11:35 a.m.

- NSB Chair’s Opening Remarks
- NSF Director’s Remarks

- Senior Executive Updates
- Approval of February 2023 open meeting minutes
- National Center for Science and Engineering Statistics Briefing
 - Briefing, Women, Minorities, and Persons with Disabilities, 2023 Report
- Response, Committee on Equal Opportunities in Science and Engineering
 - NSB Chair's Opening Remarks
- Committee on National Science and Engineering Policy Report
 - SEP Activities and Discussion on Quadrennial Review
- Q&A Session with 2023 Vannevar Bush, NSB Science and Society, and Alan T. Waterman Awardees

Open session: 12:35–1:05 p.m.

- NSF Update—Sexual Assault and Harassment Prevention (SAHPR) Report

Closed session: 1:05–1:55 p.m.

- NSB Chair's Remarks
- Approval of February 2023 Closed Meeting Minutes
- NSF Update—SAHPR Report Issues
- NSF Director's Remarks
 - Agency Operating Status

Committee on Strategy

Closed meeting: 2:10–3:25 p.m.

- FY 2025 Budget Update

Closed session: 3:25–3:55 p.m.

- Subcommittee on Technology Innovation, and Partnerships
 - NSF Engines, Review/Award Process
- NSB Chair's Remarks

Wednesday, May 10, 2023

Plenary Board meeting

Open session: 8:30–9:05 a.m.

- NSB Chair's Opening Remarks
- NSF Office of the Inspector General Report
 - Overview of the OIG and its Responsibilities

Plenary Board meeting

Closed session: 9:05–10:25 a.m.

- Committee on Awards and Facilities Report
 - Antarctic Infrastructure Recapitalization program
- National Center for Atmospheric Research Operations and Management award
- Ocean Observatories Initiative Operations and Management award
- National Ecological Observatory Network Recompeted Operations and Management award

- Antarctic Research Vessel (ARV) Integrator
- Renewal of Laser Interferometer Gravitational-Wave Observatory (LIGO) Operations and Management Award
- Arecibo Record of Decision

Plenary Board

Open session: 10:40–11:55 a.m.

- Committee on External Engagement Report
 - STEM Talent Engagement Plan
 - Science and Engineering 2024 Engagement Plan
- Committee on Oversight Report
 - NSB Overview to the Merit Review Digest
- NSB–NSF Merit Review Commission Report Vote on Mid-scale Research Infrastructure Track 2 Portfolio Award
 - Committee on Strategy Report
 - Committee on Oversight Report
 - Subcommittee on Technology, Innovation, and Partnerships Report

Plenary Board

Open session: 1:00–1:30 p.m.

- Working Group Reports
 - Socioeconomic Status
 - K–12 STEM Education Exploratory Group Update
- Vote to Enter Executive Plenary Closed

Plenary Board

Closed (executive) session: 1:30 p.m.–3:00 p.m.

- NSB Chair's Opening Remarks
- Approval of February 2023 Executive Plenary closed meeting minutes
- Executive Committee Elections
- Committee on Nominations, Class of 2024–2030
- NSF Director's Remarks
- NSB Chair's Closing Remarks

Meeting Adjourns: 3:00 p.m.

Portions Open to the Public

Tuesday, May 9, 2023

8:30 a.m.–11:35 a.m. Plenary NSB
12:35 p.m.–1:05 p.m. Plenary NSB

Wednesday, May 10, 2023

8:30 a.m.–9:05 a.m. Plenary NSB
10:40 a.m.–11:55 a.m. Plenary NSB
1:00 p.m.–1:30 p.m. Plenary NSB

Portions Closed to the Public

Tuesday, May 9, 2023

1:05 p.m.–1:55 p.m. Plenary NSB
2:10 p.m.–3:25 p.m. Committee on Strategy
3:25 p.m.–3:55 p.m. Plenary NSB

Wednesday, May 10, 2023

9:05 a.m.–10:25 a.m. Plenary NSB

1:30 p.m.–3:00 p.m. Plenary NSB (executive session)

Members of the public are advised that the NSB provides some flexibility around start and end times. A session may be allowed to run over by as much as 15 minutes if the Chair decides the extra time is warranted. The next session will start no later than 15 minutes after the noticed start time. If a session ends early, the next meeting may start up to 15 minutes earlier than the noticed start time. Sessions will not vary from noticed times by more than 15 minutes.

CONTACT PERSON FOR MORE INFORMATION:

The NSB Office contact is Chris Blair, cblair@nsf.gov, 703–292–7000. The NSB Public Affairs contact is Nadine Lymn, nlymn@nsf.gov, 703–292–2490. Please refer to the NSB website for additional information: <https://www.nsf.gov/nsb>.

Christopher Blair,

Executive Assistant to the National Science Board Office.

[FR Doc. 2023–09687 Filed 5–3–23; 11:15 am]

BILLING CODE 7555–01–P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on the Medical Uses of Isotopes: Meeting Notice

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Notice of meeting.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) will convene a meeting of the Advisory Committee on the Medical Uses of Isotopes (ACMUI) on May 15–16, 2023. A sample of agenda items to be discussed during the public session includes: an overview of medical related events; status update on the limited revisions to the abnormal occurrence criteria; a discussion of the potential impacts of the American Board of Radiology's request to cease NRC recognition of their board certification processes; an overview of the current rulemaking to require reporting of certain nuclear medicine injection extravasations; and a review of the draft proposed rule for decommissioning financial assurance for sealed and unsealed radioactive materials. *The agenda is subject to change.* The current agenda and any updates will be available on the ACMUI's Meetings and Related Documents web page at <https://www.nrc.gov/reading-rm/doc-collections/acmui/meetings/2023.html> or by emailing Dr. Celimar Valentin-

Rodriguez at the contact information below.

Purpose: Discuss issues related to 10 CFR part 35, Medical Use of Byproduct Material.

Date and Time for Open Sessions: May 15, 2023, from 8:30 a.m. to 5 p.m. EDT.

Date and Time for Closed Session: May 16, 2023, from 9 p.m. to 12 p.m. EDT. This session will be closed to conduct the ACMUI's biennial evaluation and presentations for new ACMUI members.

Address for Public Meeting: U.S. Nuclear Regulatory Commission, One White Flint North Building, Commissioner's Hearing Room, 11555 Rockville Pike, Rockville, Maryland 20852.

Date	Webinar information (microsoft teams)
May 15, 2023 ..	Link: https://teams.microsoft.com/l/meetup-join/19%3ameeting_YjczZTBhYTAzMDE2Ny00YjI3LWI4MGYtZTBkNmQyY2MzYWQw%40thread.v2/0?context=%7b%22Tid%22%3a%22e8d01475-c3b5-436a-a065-5def4c64f52e%22%2c%22Oid%22%3a%225b3cab2a-da77-46d1-b0df-ca02d21f6361%22%7d. Meeting ID: 274 828 149 496. Passcode: eX9sqR. Call in number (audio only): +1 301-576-2978 (Silver Spring, MD, US). Phone Conference ID: 571 779 324#.

Public Participation: Any member of the public who wishes to participate in the meeting in person, via Microsoft Teams, or via phone should contact Dr. Valentin-Rodriguez using the information below. Members of the public should also monitor the NRC's Public Meeting Schedule at <https://www.nrc.gov/pmns/mtg> for any meeting updates.

Contact Information: Dr. Celimar Valentin-Rodriguez, email: cvr2@nrc.gov.

Conduct of the Meeting

The ACMUI Chair, Darlene F. Metter, M.D., will preside over the meeting. Dr. Metter will conduct the meeting in a manner that will facilitate the orderly conduct of business. The following procedures apply to public participation in the meeting:

1. Persons who wish to provide a written statement should submit an electronic copy to Dr. Celimar Valentin-Rodriguez using the contact information listed above. All submittals must be received by the close of business on May 9, 2023, and must only pertain to the topics on the agenda.

2. Questions and comments from members of the public will be permitted during the meeting, at the discretion of the ACMUI Chair.

3. The draft transcript and meeting summary will be available on ACMUI's website <https://www.nrc.gov/reading-rm/doc-collections/acmui/meetings/2023.html> on or about June 30, 2023.

4. Persons who require special services, such as those for the hearing impaired, should notify Dr. Celimar Valentin-Rodriguez of their planned participation.

This meeting will be held in accordance with the Atomic Energy Act of 1954, as amended (primarily section 161a); the Federal Advisory Committee Act (5 U.S.C. app); and the

Commission's regulations in title 10 of the *Code of Federal Regulations*, part 7. This meeting notice is late because the NRC needed additional time to ensure that the closed session met the Federal Advisory Committee Act guidelines.

Dated at Rockville, Maryland, this 1st day of May, 2023.

For the U.S. Nuclear Regulatory Commission.

Russell E. Chazell,

Federal Advisory Committee Management Officer.

[FR Doc. 2023-09559 Filed 5-4-23; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

[NRC-2023-0001]

Sunshine Act Meetings

TIME AND DATE: Weeks of May 8, 15, 22, 29, June 5, 12, 2023. The schedule for Commission meetings is subject to change on short notice. The NRC Commission Meeting Schedule can be found on the internet at: <https://www.nrc.gov/public-involve/public-meetings/schedule.html>.

PLACE: The NRC provides reasonable accommodation to individuals with disabilities where appropriate. If you need a reasonable accommodation to participate in these public meetings or need this meeting notice or the transcript or other information from the public meetings in another format (e.g., braille, large print), please notify Anne Silk, NRC Disability Program Specialist, at 301-287-0745, by videophone at 240-428-3217, or by email at Anne.Silk@nrc.gov. Determinations on requests for reasonable accommodation will be made on a case-by-case basis.

STATUS: Public.

Members of the public may request to receive the information in these notices electronically. If you would like to be added to the distribution, please contact the Nuclear Regulatory Commission, Office of the Secretary, Washington, DC 20555, at 301-415-1969, or by email at Wendy.Moore@nrc.gov or Tyesha.Bush@nrc.gov.

MATTERS TO BE CONSIDERED:

Week of May 8, 2023

There are no meetings scheduled for the week of May 8, 2023.

Week of May 15, 2023—Tentative

Tuesday, May 16, 2023

9:00 a.m. Update on 10 CFR part 53 Licensing and Regulation of Advanced Nuclear Reactors (Public Meeting); (Contact: Scott Tonsfeldt: 301-415-1783)

Additional Information: The meeting will be held in the Commissioners' Conference Room, 11555 Rockville Pike, Rockville, Maryland. The public is invited to attend the Commission's meeting in person or watch live via webcast at the Web address—<https://video.nrc.gov/>.

Thursday, May 18, 2023

10:00 a.m. Meeting with the Organization of Agreement States and the Conference of Radiation Control Program Directors (Public Meeting); Contact: Jeffrey Lynch: 301-415-5041)

Additional Information: The meeting will be held in the Commissioners' Conference Room, 11555 Rockville Pike, Rockville, Maryland. The public is invited to attend the Commission's meeting in person or watch live via webcast at the Web address—<https://video.nrc.gov/>.

Week of May 22, 2023—Tentative

There are no meetings scheduled for the week of May 22, 2023.

Week of May 29, 2023—Tentative

There are no meetings scheduled for the week of May 29, 2023.

Week of June 5, 2023—Tentative

Friday, June 9, 2023

10:00 a.m. Meeting with Advisory Committee on Reactor Safeguards (Public Meeting); (Contact: Larry Burkhart: 301-287-3775)

Additional Information: The meeting will be held in the Commissioners' Conference Room, 11555 Rockville Pike, Rockville, Maryland. The public is invited to attend the Commission's meeting in person or watch live via webcast at the Web address—<https://video.nrc.gov/>.

Week of June 12, 2023—Tentative

Tuesday, June 13, 2023

10:00 a.m. Briefing on Human Capital and Equal Employment Opportunity (Public Meeting); (Contact: Angie Randall: 301-415-6806)

Additional Information: The meeting will be held in the Commissioners' Conference Room, 11555 Rockville Pike, Rockville, Maryland. The public is invited to attend the Commission's meeting in person or watch live via webcast at the Web address—<https://video.nrc.gov/>.

CONTACT PERSON FOR MORE INFORMATION:

For more information or to verify the status of meetings, contact Wesley Held at 301-287-3591 or via email at Wesley.Held@nrc.gov.

The NRC is holding the meetings under the authority of the Government in the Sunshine Act, 5 U.S.C. 552b.

Dated: May 3, 2023.

For the Nuclear Regulatory Commission.

Wesley W. Held,

Policy Coordinator, Office of the Secretary.

[FR Doc. 2023-09700 Filed 5-3-23; 11:15 am]

BILLING CODE 7590-01-P

POSTAL REGULATORY COMMISSION

[Docket Nos. MC2023-140 and CP2023-143]

New Postal Products

AGENCY: Postal Regulatory Commission.

ACTION: Notice.

SUMMARY: The Commission is noticing a recent Postal Service filing for the Commission's consideration concerning a negotiated service agreement. This

notice informs the public of the filing, invites public comment, and takes other administrative steps.

DATES: *Comments are due:* May 8, 2023.

ADDRESSES: Submit comments electronically via the Commission's Filing Online system at <http://www.prc.gov>. Those who cannot submit comments electronically should contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section by telephone for advice on filing alternatives.

FOR FURTHER INFORMATION CONTACT: David A. Trissell, General Counsel, at 202-789-6820.

SUPPLEMENTARY INFORMATION:**Table of Contents**

- I. Introduction
- II. Docketed Proceeding(s)

I. Introduction

The Commission gives notice that the Postal Service filed request(s) for the Commission to consider matters related to negotiated service agreement(s). The request(s) may propose the addition or removal of a negotiated service agreement from the Market Dominant or the Competitive product list, or the modification of an existing product currently appearing on the Market Dominant or the Competitive product list.

Section II identifies the docket number(s) associated with each Postal Service request, the title of each Postal Service request, the request's acceptance date, and the authority cited by the Postal Service for each request. For each request, the Commission appoints an officer of the Commission to represent the interests of the general public in the proceeding, pursuant to 39 U.S.C. 505 (Public Representative). Section II also establishes comment deadline(s) pertaining to each request.

The public portions of the Postal Service's request(s) can be accessed via the Commission's website (<http://www.prc.gov>). Non-public portions of the Postal Service's request(s), if any, can be accessed through compliance with the requirements of 39 CFR 3011.301.¹

The Commission invites comments on whether the Postal Service's request(s) in the captioned docket(s) are consistent with the policies of title 39. For request(s) that the Postal Service states concern Market Dominant product(s), applicable statutory and regulatory requirements include 39 U.S.C. 3622, 39

U.S.C. 3642, 39 CFR part 3030, and 39 CFR part 3040, subpart B. For request(s) that the Postal Service states concern Competitive product(s), applicable statutory and regulatory requirements include 39 U.S.C. 3632, 39 U.S.C. 3633, 39 U.S.C. 3642, 39 CFR part 3035, and 39 CFR part 3040, subpart B. Comment deadline(s) for each request appear in section II.

II. Docketed Proceeding(s)

1. *Docket No(s):* MC2023-140 and CP2023-143; *Filing Title:* USPS Request to Add Priority Mail Express, Priority Mail, First-Class Package Service & Parcel Select Contract 116 to Competitive Product List and Notice of Filing Materials Under Seal; *Filing Acceptance Date:* April 28, 2023; *Filing Authority:* 39 U.S.C. 3642, 39 CFR 3040.130 through 3040.135, and 39 CFR 3035.105; *Public Representative:* Arif Hafiz; *Comments Due:* May 8, 2023.

This Notice will be published in the **Federal Register**.

Erica A. Barker,

Secretary.

[FR Doc. 2023-09550 Filed 5-4-23; 8:45 am]

BILLING CODE 7710-FW-P

SMALL BUSINESS ADMINISTRATION**Meeting of the Advisory Committee on Veterans Business Affairs**

AGENCY: U.S. Small Business Administration (SBA).

ACTION: Notice of open Federal advisory committee meeting.

SUMMARY: The SBA is issuing this notice to announce the date, time, and agenda for a meeting of the Advisory Committee on Veterans Business Affairs (ACVBA).

DATES: Thursday, June 8, 2023, from 9:00 a.m. to 1:00 p.m. EST.

ADDRESSES: Due to the coronavirus pandemic, the meeting will be held via Microsoft Teams using a call-in number listed below.

FOR FURTHER INFORMATION CONTACT: The meeting is open to the public; however advance notice of attendance is strongly encouraged. To RSVP and confirm attendance, the general public should email veteransbusiness@sba.gov with subject line—"RSVP for June 8, 2023, ACVBA Public Meeting." To submit a written comment, individuals should email veteransbusiness@sba.gov with subject line—"Response for June 8, 2023, ACVBA Public Meeting" no later than May 31, 2023, or contact Timothy Green, Deputy Associate Administrator, Office of Veterans Business Development (OVBD) at (202) 205-6773.

¹ See Docket No. RM2018-3, Order Adopting Final Rules Relating to Non-Public Information, June 27, 2018, Attachment A at 19-22 (Order No. 4679).

Comments received in advanced will be addressed as time allows during the public comment period. All other submitted comments will be included in the meeting record. During the live meeting, those who wish to comment will be able to do so during the public comment period.

Participants can join the meeting via computer <https://bit.ly/ACVBA-June2023> or by phone. Call in (audio only): Dial: 206-413-7980; Phone Conference 736670559#.

Special accommodation requests should be directed to OVBD at (202) 205-6773 or veteransbusiness@sba.gov. All applicable documents will be posted on the ACVBA website prior to the meeting: <https://www.sba.gov/page/advisory-committee-veterans-business-affairs>. For more information on veteran-owned small business programs, please visit www.sba.gov/ovbd.

SUPPLEMENTARY INFORMATION: Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (5 U.S.C. appendix 2), SBA announces the meeting of the Advisory Committee on Veterans Business Affairs. The ACVBA is established pursuant to 15 U.S.C. 657(b) note and serves as an independent source of advice and policy. The purpose of this meeting is to discuss efforts that support veteran-owned small businesses, updates on past and current events, and the ACVBA's objectives for fiscal year 2023.

Dated: May 1, 2023.

Andrienne Johnson,
Committee Manager Officer.

[FR Doc. 2023-09617 Filed 5-4-23; 8:45 am]

BILLING CODE P

SMALL BUSINESS ADMINISTRATION

Meeting of the Interagency Task Force on Veterans Small Business Development

AGENCY: U.S. Small Business Administration (SBA).

ACTION: Notice of open Federal advisory committee meeting.

SUMMARY: The SBA is issuing this notice to announce the date, time, and agenda for the next meeting of the Interagency Task Force on Veterans Small Business Development (IATF).

DATES: Wednesday, June 7, 2023, from 1:00 p.m. to 3:00 p.m. EST.

ADDRESSES: The meeting will be held virtually via Microsoft Teams.

FOR FURTHER INFORMATION CONTACT: The meeting is open to the public; however advance notice of attendance is strongly encouraged. To RSVP and confirm

attendance, the public should email veteransbusiness@sba.gov with subject line—"RSVP for June 7, 2023, IATF Public Meeting." To submit a written comment, individuals should email veteransbusiness@sba.gov with subject line—"Response for June 7, 2023, IATF Public Meeting" no later than May 31, 2023, or contact Timothy Green, Deputy Associate Administrator, Office of Veterans Business Development (OVBD) at (202) 205-6773. Comments received in advanced will be addressed as time allows during the public comment period. All other submitted comments will be included in the meeting record. During the live meeting, those who wish to comment will be able to do so during the public comment period. Participants can join the meeting via computer at this link: <https://bit.ly/IATF-June2023> or by phone. Call in (audio only): Dial: 206-413-7980; Phone Conference ID: 53263813#. Special accommodation requests should be directed to OVBD at (202) 205-6773 or veteransbusiness@sba.gov. All applicable documents will be posted on the IATF website prior to the meeting: <https://www.sba.gov/page/interagency-task-force-veterans-small-business-development>. For more information on veteran-owned small business programs, please visit www.sba.gov/ovbd.

SUPPLEMENTARY INFORMATION: Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (5 U.S.C. appendix 2), SBA announces the meeting of the Interagency Task Force on Veterans Small Business Development (IATF). The IATF is established pursuant to Executive Order 13540 to coordinate the efforts of Federal agencies to improve capital, business development opportunities, and pre-established Federal contracting goals for small business concerns owned and controlled by veterans and service-disabled veterans. The purpose of this meeting is to discuss efforts that support veteran-owned small businesses, updates on past and current events, and the IATF's objectives for fiscal year 2023.

Dated: May 1, 2023.

Andrienne Johnson,
Committee Manager Officer.

[FR Doc. 2023-09616 Filed 5-4-23; 8:45 am]

BILLING CODE P

DEPARTMENT OF STATE

[Public Notice: 12065]

Privacy Act of 1974; System of Records

AGENCY: Department of State.

ACTION: Notice of a modified system of records.

SUMMARY: The information of the Bureau of Medical Services (MED) system is used and reviewed by medical and administrative personnel to provide health care to the individuals eligible to participate in the medical program, make clearance decisions for individuals eligible to participate in the health care program and for applicants to the Department of State, and as a reference for local medical capabilities. The system also serves to record and monitor the status of the professional credentials of Department of State Foreign Service, Civil Service and Locally Employed Staff healthcare providers.

DATES: In accordance with 5 U.S.C. 552a(e)(4) and (11), this modified system of records will be effective upon publication, except for the routine uses (u), (v), and (w) that are subject to a 30-day period during which interested persons may submit comments to the Department. Please submit any comments by June 5, 2023. Unless comments are received that would require a revision, this system of records will become effective on June 5, 2023.

ADDRESSES: Questions can be submitted by mail, email, or by calling Eric F. Stein, the Senior Agency Official for Privacy, on (202) 485-2051. If mail, please write to: U.S. Department of State; Office of Global Information Systems, A/GIS; Room 4534, 2201 C St. NW, Washington, DC 20520. If email, please address the email to the Senior Agency Official for Privacy, Eric F. Stein, at privacy@state.gov. Please write "Medical Records, State-24" on the envelope or the subject line of your email.

FOR FURTHER INFORMATION CONTACT: Eric F. Stein, Senior Agency Official for Privacy; U.S. Department of State; Office of Global Information Services, A/GIS; Room 4534, 2201 C St. NW, Washington, DC 20520 or by calling (202) 485-2051.

SUPPLEMENTARY INFORMATION: The purpose of this modification is twofold: (1) to consolidate two existing records systems (State-71—Post Capabilities Database and State-24—Medical Records) into a single modified State-24, to accurately reflect the scope of Department medical records; and (2) to reflect the expansion of Medical Records to FedRAMP-authorized Cloud environments. The proposed merged System of Records will include substantive modifications to the following sections: Routine Uses, Categories of Records, Storage,

Retrievability, and Record Access Procedures. In addition, the Department is taking this opportunity to make minor administrative updates to the notice in the Security Classification and System Location sections.

SYSTEM NAME AND NUMBER:

Medical Records, State-24.

SECURITY CLASSIFICATION:

Sensitive but unclassified.

SYSTEM LOCATION:

The Enterprise Server Operations Center (ESOC WEST) in Denver, Colorado. Some records may be stored within a government cloud provided system (Amazon Web Services and Microsoft Azure Gov) and within a FedRAMP authorized government cloud system provided, implemented, and overseen by the Department's Enterprise Server Operations Center (ESOC), 2201 C Street NW, Washington, DC 20520.

SYSTEM MANAGER(S):

Director for Medical Informatics, Bureau of Medical Services, 2401 E Street NW, Washington, DC 20522, *HerringED@state.gov*.

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Foreign Service Act of 1980, Sec. 904 (22 U.S.C. 4084); and 5 CFR part 792 (Federal Employees' Health, Counseling, and Work/Life Programs).

PURPOSE(S) OF THE SYSTEM:

The records maintained in the systems include Personally Identifiable Information (PII) and Protected Health Information (PHI) and are used to enable MED's practitioners to provide the best medical care possible to a globally dispersed patient population. Records include patients' medical history/records, which are used to provide medical care, adjudicate medical clearances, and support medical evacuations. Additionally, the system describes the medical capabilities available at each Post to support employees under Chief of Mission authority. Moreover, the system also serves to provide medical clearances of applicants to the Department of State. The system also serves to record and monitor the current status of the professional credentials of Department of State Foreign Service, Civil Service and Locally Employed Staff healthcare providers.

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Applicants to the Department of State and their family members, U.S. Government employees and their family members, Locally Employed Staff, and

any other individuals eligible to participate in the medical program of the U.S. Department of State as authorized by either section 904 of the Foreign Service Act of 1980 (22 U.S.C. 4084) or other applicable legal authority. The Privacy Act defines an individual at 5 U.S.C. 552a(a)(2) as a United States citizen or lawful permanent resident.

CATEGORIES OF RECORDS IN THE SYSTEM:

Categories of records include full name; Social Security number (Department of State Employees and applicants only); date of birth; address; email address; phone number; State Global Identifier (SGID); reports of medical examinations and related documents, images, and other items; reports of treatments and other health services rendered to individuals; immunization records; narrative summaries of hospital treatments; personal medical histories; reports of on-the-job injuries or illnesses; reports on medical evacuation; and/or any other types of individually identifiable health information generated or used in the course of conducting health care operations. This system includes records that contain protected health information and does not include records maintained by the Department of State and/or other employers in their capacity as employers.

This system also includes certain records maintained as part of the Department's Employee Assistance Program pursuant to 5 CFR part 792. The system also includes a directory of MED staff, and professional credentials of MED providers. The directory may include addresses, emails, and phone numbers for direct-hire Foreign Service, Civil Service, and Locally Employed Staff medical personnel. The credentials that are maintained include copies of licenses and certifications (Professional, Clinical, Drug Enforcement Administration (DEA), clinical privileges information, and National Provider Identifier (NPI)). For use by MED clinical staff, the system maintains directories and high-level assessments of the location and quality of medical resources offered in the areas surrounding most Post locations. This system also includes the medical clearance records of applicants to the Department of State who are in the final stages of their application process and may further include the medical clearance records of their family members.

RECORD SOURCE CATEGORIES:

Information contained in these records comes from applicants, patients,

hospitals, clinics, laboratories, private medical providers, employers, and medical professionals employed by the Department of State.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND PURPOSES OF SUCH USES:

Medical Records may be disclosed:

A. To another health care provider, a group health plan, a health insurance issuer, or a health maintenance organization for purposes of carrying out treatment, payment, or health care operations;

B. To a parent, guardian or other person acting in loco parentis with respect to the subject of the information;

C. To a health oversight agency or public health authority authorized by law to investigate or otherwise oversee the relevant conduct or conditions of the Department of State's medical program, or for such oversight activities as audits; civil, administrative, or criminal proceedings or actions; inspections; and licensure or disciplinary action;

D. To a public health authority (domestic or foreign) that is authorized by law to collect or receive protected health information for the purpose of preventing or controlling disease, injury, or disability, including, but not limited to, the reporting of disease, injury, vital events such as birth or death, and the conduct of public health surveillance, public health investigations, and public health interventions;

E. To the U.S. Department of Health and Human Services (HHS), when required by the Secretary of HHS;

F. To a public health authority or other appropriate government authority (domestic or foreign) authorized by law to receive reports of child abuse or neglect;

G. To a person subject to the jurisdiction of the Food and Drug Administration (FDA) with respect to an FDA-regulated product or activity for which that person has responsibility, for the purpose of activities related to the quality, safety, or effectiveness of such FDA-regulated product or activity;

H. To a person who may have been exposed to a communicable disease or may otherwise be at risk of contracting or spreading a disease or condition, to the extent MED is authorized by law to notify such person and as necessary in the conduct of a public health intervention or investigation;

I. To a government authority (domestic or foreign), including a social service or protective services agency, authorized by law to receive reports of abuse, neglect or domestic violence (1)

to the extent such a disclosure is required by law; (2) where in the exercise of professional judgment, the disclosure is necessary to prevent serious harm to the individual or other potential victims; or (3) where, if the subject of the information is incapacitated, a law enforcement, or other public official authorized to receive the report, represents that the information sought is not intended to be used against the individual and that an immediate enforcement activity that depends upon the disclosure would be adversely affected by waiting until the individual is able to agree to the disclosure;

J. To the Department of Justice, as required by law, for the purpose of submitting information to the National Instant Criminal Background Check System;

K. In the course of any judicial or administrative proceeding in response to an order of a court or administrative tribunal;

L. To a law enforcement official (1) as required by law or in compliance with a court order or court-ordered warrant, a subpoena or summons issued by a judicial officer, a grand jury subpoena, or an administrative request, including an administrative subpoena or summons; (2) in response to a request for the purposes of identifying or locating a suspect, fugitive, material witness, or missing person; in response to a request for such information about an individual who is or is suspected to be a victim of a crime; (3) to provide notice of the death of an individual if there is a belief that the death may have resulted from criminal conduct; (4) where it is believed in good faith that such information constitutes evidence of criminal conduct; or (5) in response to an emergency, where it is believed such disclosure is necessary to alert law enforcement to the commission and nature of a crime, the location of such crime or of the victim(s) of such crime, and the identity, description, and location of the perpetrator of such crime;

M. As necessary in order to prevent or lessen a serious and imminent threat to the health or safety of a person or the public or to a person or persons reasonably able to prevent or lessen the threat, including the target of the threat;

N. To authorized federal officials for the conduct of lawful intelligence, counter-intelligence, and other national security activities authorized by the National Security Act (50 U.S.C. 401, *et seq.*) and other applicable authorities (*e.g.*, Executive Order 12333);

O. To authorized federal officials for the provision of protective services to

the President or other persons authorized by 18 U.S.C. 3056 or to foreign heads of state or other persons authorized by 22 U.S.C. 2709(a)(3), or for the conduct of investigations authorized by 18 U.S.C. 871 and 879;

P. To Department of State officials for the purposes of clearance and suitability determinations, including (1) for a national security clearance conducted pursuant to Executive Orders 10450 and 12698; (2) for medical clearance determinations, consistent with the Foreign Service Act, including sections 101(a)(4), 101(b)(5), 504, and 904;

Q. To a medical transcription or translation service for MED's purposes of carrying out treatment or health care operations;

R. To a correctional institution or a law enforcement official having lawful custody of an individual, if the correctional institution or law enforcement official represents that such information is necessary for the provision of health care to such individual, the health and safety of other individuals (including others at the correctional institution), or the administration and maintenance of the safety, security, and good order of the correctional institution;

S. To a coroner or medical examiner for the purpose of identifying a deceased person, determining a cause of death, or other duties as authorized by law;

T. To appropriate domestic or foreign government officials (including but not limited to the U.S. Department of Labor), as authorized by and to the extent necessary to comply with laws relating to workers' compensation or other similar programs, established by law, that provide benefits for work-related injuries or illnesses without regard to fault.

U. To appropriate agencies, entities, and persons when (1) the Department of State suspects or has confirmed that there has been a breach of the system of records; (2) the Department of State has determined that as a result of the suspected or confirmed breach there is a risk of harm to individuals, the Department of State (including its information systems, programs, and operations), the Federal Government, or national security; and (3) the disclosure made to such agencies, entities, and persons is reasonably necessary to assist in connection with the Department of State efforts to respond to the suspected or confirmed breach or to prevent, minimize, or remedy such harm.

V. To another Federal agency or Federal entity, when the Department of State determines that information from this system of records is reasonably

necessary to assist the recipient agency or entity in (1) responding to a suspected or confirmed breach or (2) preventing, minimizing, or remedying the risk of harm to individuals, the recipient agency or entity (including its information systems, programs, and operations), the Federal Government, or national security, resulting from a suspected or confirmed breach.

W. To private sector entities when required as part of U.S. Embassy services or the operations of the State Department Medical Program.

The Department of State periodically publishes in the **Federal Register** its standard routine uses that apply to all of its Privacy Act systems of records. These notices appear in the form of a Prefatory Statement (published in Volume 73, Number 136, Public Notice 6290, on July 15, 2008). All these standard routine uses apply to Medical Records, State-24.

POLICIES AND PRACTICES FOR STORAGE OF RECORDS:

Records are stored electronically. A description of standard Department of State policies concerning storage of electronic records is found at <https://fam.state.gov/FAM/05FAM/05FAM0440.html>.

POLICIES AND PRACTICES FOR RETRIEVAL OF RECORDS:

Patient records are retrievable by individual name and/or date of birth, or patient identification number. MED practitioner records are retrieval by name or Post. Post capability records are retrievable by Post name.

POLICIES AND PRACTICES FOR RETENTION AND DISPOSAL OF RECORDS:

Records are retired and destroyed in accordance with published Department of State Records Disposition Schedules as approved by the National Archives and Records Administration (NARA) and outlined at <https://foia.state.gov/Learn/RecordsDisposition.aspx>. Additionally, patient information will be retained in the system for no less than the period of time specified in Disposition Authorities and will be archived rather than destroyed when the retention period has passed. Medical Program Files (permanent) will be transferred to the National Archives 25 years after the end of the calendar year in which the file was last updated. Non-Occupational Individual Medical Case Files (temporary) will be archived by MED no earlier than 10 years after the most recent encounter. Occupational Individual Medical Case Files (long term—temporary) will be archived by MED no earlier than 30 years after employee separation or when the

Official Personnel Folder is destroyed, whichever is longer. More specific information may be obtained by writing to the following address: U.S.

Department of State; Director, Office of Information Programs and Services; A/GIS/IPS; 2201 C Street NW, Room B-266; Washington, DC 20520.

ADMINISTRATIVE, TECHNICAL, AND PHYSICAL SAFEGUARDS:

All Department of State network users are given cyber security awareness training which covers the procedures for handling Sensitive but Unclassified (SBU) information, including personally identifiable information (PII). Annual refresher training is mandatory. In addition, all Department OpenNet users are required to take the Foreign Service Institute distance learning course instructing employees on privacy and security requirements, including the rules of behavior for handling PII and the potential consequences if it is handled improperly. Before being granted access to Medical Records, a user must first be granted access to the Department of State computer systems.

Department of State employees and contractors may remotely access this system of records using non-Department owned information technology. Such access is subject to approval by the Department's mobile and remote access program and is limited to information maintained in unclassified information systems. Remote access to the Department's information systems is configured in compliance with OMB Circular A-130 multifactor authentication requirements and includes a time-out function. All Department of State employees and contractors with authorized access to records maintained in this system of records have undergone a thorough background security investigation. Access to the Department of State, its annexes, and Posts abroad is controlled by security guards and admission is limited to those individuals possessing a valid identification card or individuals under proper escort. Access to computerized files is password-protected and under the direct supervision of the system manager. The system manager has the capability of printing audit trails of access from the computer media, thereby permitting regular and ad hoc monitoring of computer usage. When it is determined that a user no longer needs access, the user account is disabled.

The safeguards in the following paragraphs apply only to records that are maintained in government-certified cloud systems. All cloud systems that provide IT services and process

Department of State information must be specifically authorized by the Department of State Authorizing Official and Senior Agency Official for Privacy.

Information that conforms with Department-specific definitions for Federal Information Security Modernization Act (FISMA) low, moderate, or high categorization are permissible for cloud usage and must specifically be authorized by the Department's Cloud Program Management Office and the Department of State Authorizing Official. Specific security measures and safeguards will depend on the FISMA categorization of the information in a given cloud system. In accordance with Department policy, systems that process more sensitive information will require more stringent controls and review by Department cybersecurity experts prior to approval. Prior to operation, all Cloud systems must comply with applicable security measures that are outlined in FISMA, FedRAMP, OMB regulations, National Institute of Standards and Technology's (NIST) Special Publications (SP) and Federal Information Processing Standards (FIPS) and Department of State policies and standards.

All data stored in cloud environments categorized above a low FISMA impact risk level must be encrypted at rest and in-transit using a federally-approved encryption mechanism. The encryption keys shall be generated, maintained, and controlled in a Department data center by the Department key management authority. Deviations from these encryption requirements must be approved in writing by the Department of State Authorizing Official. High FISMA impact risk level systems will additionally be subject to continual auditing and monitoring, multifactor authentication mechanism utilizing Public Key Infrastructure (PKI) and NIST 800 53 controls concerning virtualization, servers, storage, and networking, as well as stringent measures to sanitize data from the cloud service once the contract is terminated.

RECORD ACCESS PROCEDURES:

Individuals who wish to gain access to or amend records pertaining to themselves should write to U.S. Department of State; Director, Office of Information Programs and Services; A/GIS/IPS; 2201 C Street NW, Room B-266; Washington, DC 20520. The individual must specify that he or she wishes the Medical Records to be checked. At a minimum, the individual must include: full name (including maiden name, if appropriate) and any other names used; current mailing address and zip code; date and place of

birth; notarized signature or statement under penalty of perjury; a brief description of the circumstances that caused the creation of the record (including the city and/or country and the approximate dates) which gives the individual cause to believe that Medical Records include records pertaining to the individual. Detailed instructions on Department of State procedures for accessing and amending records can be found on the Department's FOIA website at <https://foia.state.gov/Request/Guide.aspx>.

Further, patients can access their medical records through the patient portal, My Global Health (MGH). Patients can seek a printed copy of their medical records by submitting a request to Medical Records, Bureau of Medical Services (address above). Parents may also request medical records of dependent children. At a minimum, the individual requesting a copy of his or her medical records must include the following: name, date and place of birth, current mailing address and zip code, signature, a brief description of the circumstances that may have caused the creation of the records that are the subject of the request, and the approximate date(s) of those records.

CONTESTING RECORD PROCEDURES:

Individuals who wish to contest record procedures should write to U.S. Department of State; Director, Office of Information Programs and Services; A/GIS/IPS; 2201 C Street NW, Room B-266; Washington, DC 20520.

NOTIFICATION PROCEDURES:

Individuals who have cause to believe that the Bureau of Medical Services might have medical records pertaining to them and want to request a copy of those medical records should write to write to U.S. Department of State; Director, Office of Information Programs and Services; A/GIS/IPS; 2201 C Street NW, Room B-266; Washington, DC 20520. The individual must specify that he/she wishes the Medical Records to be checked. At a minimum, the individual must include: full name (including maiden name, if appropriate) and any other names used; current mailing address and zip code; date and place of birth; notarized signature or statement under penalty of perjury; a brief description of the circumstances that caused the creation of the record (including the city and/or country and the approximate dates) which gives the individual cause to believe that Medical Records include records pertaining to the individual.

EXEMPTIONS PROMULGATED FOR THE SYSTEM:

None.

HISTORY:

Post Capability Database (State-71)—previously published at 74 FR 65586; Medical Records (State-24)—previously published at 74 FR 24891.

Eric F. Stein,

Deputy Assistant Secretary, Global Information Services (A/GIS), Department of State.

[FR Doc. 2023–09596 Filed 5–4–23; 8:45 am]

BILLING CODE 4710–36–P

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration**

[Docket No.: FAA–2016–4042; Summary Notice No. 2023–12]

Petition for Exemption; Summary of Petition Received; Wittman Regional Airport

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice.

SUMMARY: This notice contains a summary of a petition seeking relief from specified requirements of Federal Aviation Regulations. The purpose of this notice is to improve the public's awareness of, and participation in, the FAA's exemption process. Neither publication of this notice nor the inclusion nor omission of information in the summary is intended to affect the legal status of the petition or its final disposition.

DATES: Comments on this petition must identify the petition docket number and must be received on or before May 25, 2023.

ADDRESSES: Send comments identified by docket number FAA–2016–4042 using any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov> and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M–30; U.S. Department of Transportation, 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.

- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC 20590–0001, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Fax:* Fax comments to Docket Operations at (202) 493–2251.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to <http://www.regulations.gov>, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at <http://www.dot.gov/privacy>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC 20590–0001, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Nia Daniels, (202) 267–7626, Office of Rulemaking, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591.

This notice is published pursuant to 14 CFR 11.85.

Issued in Washington, DC, on April 26, 2023.

Brandon L. Roberts,

Executive Director, Office of Rulemaking.

Petition for Exemption

Docket No.: FAA–2016–4042.

Petitioner: Wittman Regional Airport.

Section of 14 CFR Affected: § 139.101.

Description of Relief Sought: Wittman Regional Airport seeks an exemption from 14 Code of Federal Regulations § 139.101, general requirements for airport certification. The relief sought under the exemption is to permit certain unscheduled air carrier operations at KOSH at limited times during the week of Experimental Aircraft Association (EAA) AirVenture Oshkosh, July 24 through July 30, 2023.

[FR Doc. 2023–09632 Filed 5–4–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration**

[Summary Notice No. PE–2023–14]

Petition for Exemption; Summary of Petition Received; Rols-Royce Deutschland Ltd & Co KG

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of petition for exemption received.

SUMMARY: This notice contains a summary of a petition seeking relief from specified requirements of Federal Aviation Regulations. The purpose of this notice is to improve the public's awareness of, and participation in, the FAA's exemption process. Neither publication of this notice nor the inclusion or omission of information in the summary is intended to affect the legal status of the petition or its final disposition.

DATES: Comments on this petition must identify the petition docket number and must be received on or before May 25, 2023.

ADDRESSES: Send comments identified by docket number FAA–2023–0993 using any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov> and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC, 20590–0001.

- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to <http://www.regulations.gov>, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at <http://www.dot.gov/privacy>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Michael H. Harrison, AIR–646, Federal Aviation Administration, 2200 S 216th St., Des Moines, WA 98198, phone and fax (206) 231–3368, email Michael.Harrison@faa.gov.

This notice is published pursuant to 14 CFR 11.85.

Issued in Washington, DC, on May 2, 2023.
Candace Keefe,
Acting Manager, Technical Writing Section.

Petition for Exemption

Docket No.: FAA–2023–0993.
Petitioner: Rolls-Royce Deutschland Ltd & Co KG.

Section(s) of 14 CFR Affected:
 § 33.27(c).

Description of Relief Sought: Harald Lackner on behalf of Rolls-Royce Deutschland Ltd & Co KG (RRD) is seeking relief from 14 CFR 33.27(c), which requires the highest overspeed that results from a complete loss of load on a turbine rotor, except as provided by paragraph (f) of this section, must be included in the overspeed conditions considered by paragraphs (b)(3)(i), (b)(3)(ii), and (b)(4) of this section, regardless of whether that overspeed results from a failure within the engine or external to the engine. The overspeed resulting from any other single failure must be considered when selecting the most limiting overspeed conditions applicable to each rotor. Overspeeds resulting from combinations of failures must also be considered unless the applicant can show that the probability of occurrence is not greater than extremely remote (probability range of 10^{−7} to 10^{−9} per engine flight hour).

Specifically, RRD is proposing the FAA grant relief to exclude the integral disc drive arm connecting the flange of the low pressure shaft to the stage 3 disc of the low pressure turbine rotor on the Model BR700–730B2–14 engine from failure consideration in determining the highest overspeed that would result from a complete loss of load on a turbine rotor.

[FR Doc. 2023–09649 Filed 5–4–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket Number FRA–2023–0031]

Petition for Waiver of Compliance

Under part 211 of title 49 Code of Federal Regulations (CFR), this document provides the public notice that by letter dated April 5, 2023, Amtrak petitioned the Federal Railroad Administration (FRA) for a waiver of compliance from certain provisions of the Federal railroad safety regulations contained at 49 CFR parts 215 (Railroad Freight Car Safety Standards), 229 (Railroad Locomotive Safety Standards), 232 (Brake System Safety Standards for Freight and Other Non-Passenger Trains and Equipment; End-of-Train Devices),

and 238 (Passenger Equipment Safety Standards). The relevant Docket Number is FRA–2023–0031.

Specifically, Amtrak requests to use virtual reality simulation assessments to satisfy the “hands-on” portion of periodic refresher training to remain qualified under §§ 215.11(b), 229.5, 232.203(b)(8), and 238.109. Amtrak has partnered with “a recognized vendor” to create virtual simulations for brake system testing, pre-departure inspections, and locomotive calendar day air brake test and inspection. Amtrak further states that the simulations will complement other Amtrak training and testing, “creating a blended learning curriculum that presents and reinforces through tactile, auditory, and visual methods.”

In support of its petition, Amtrak explains that it “believe[s] the training curriculum afforded by Amtrak’s new virtual simulations exceed the training objectives specified in each of [the] regulations noted above and will serve to enhance learner proficiency at performing the specified tests and inspections.” It also states that “when used as an evaluation tool, the virtual simulation is a better method to evaluate our students than our current state of training, as it simulates random complex defects in a virtual environment not impacting the safety of our employees or trains.”

A copy of the petition, as well as any written communications concerning the petition, is available for review online at www.regulations.gov.

Interested parties are invited to participate in these proceedings by submitting written views, data, or comments. FRA does not anticipate scheduling a public hearing in connection with these proceedings since the facts do not appear to warrant a hearing. If any interested party desires an opportunity for oral comment and a public hearing, they should notify FRA, in writing, before the end of the comment period and specify the basis for their request.

All communications concerning these proceedings should identify the appropriate docket number and may be submitted at <http://www.regulations.gov>. Follow the online instructions for submitting comments.

Communications received by July 5, 2023 will be considered by FRA before final action is taken. Comments received after that date will be considered if practicable.

Anyone can search the electronic form of any written communications and comments received into any of our dockets by the name of the individual submitting the comment (or signing the

document, if submitted on behalf of an association, business, labor union, etc.). Under 5 U.S.C. 553(c), U.S. Department of Transportation (DOT) solicits comments from the public to better inform its processes. DOT posts these comments, without edit, including any personal information the commenter provides, to www.regulations.gov, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at <https://www.transportation.gov/privacy>. See also <https://www.regulations.gov/privacy-notice> for the privacy notice of www.regulations.gov.

Issued in Washington, DC.

John Karl Alexy,

Associate Administrator for Railroad Safety, Chief Safety Officer.

[FR Doc. 2023–09659 Filed 5–4–23; 8:45 am]

BILLING CODE 4910–06–P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket Number FRA–2010–0031]

Long Island Rail Road’s Request To Amend Its Positive Train Control Safety Plan

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Notice of availability and request for comments.

SUMMARY: This document provides the public with notice that, on April 20, 2023, Long Island Rail Road (LIRR) submitted a request for amendment (RFA) to its FRA-approved Positive Train Control Safety Plan (PTCSP) in order to support the implementation of Office Software Version STS 1.2.5 and changes to Office 3.9.3. As this RFA involves a request for FRA’s approval of proposed material modifications to an FRA-certified positive train control (PTC) system, FRA is publishing this notice and inviting public comment on LIRR’s RFA to its PTCSP.

DATES: FRA will consider comments received by May 25, 2023. FRA may consider comments received after that date to the extent practicable and without delaying implementation of valuable or necessary modifications to a PTC system.

ADDRESSES: *Comments:* Comments may be submitted by going to <https://www.regulations.gov> and following the online instructions for submitting comments.

Instructions: All submissions must include the agency name and the

applicable docket number. The relevant PTC docket number for this host railroad is Docket No. FRA-2010-0031. For convenience, all active PTC dockets are hyperlinked on FRA's website at <https://railroads.dot.gov/research-development/program-areas/train-control/ptc/railroads-ptc-dockets>. All comments received will be posted without change to <https://www.regulations.gov>; this includes any personal information.

FOR FURTHER INFORMATION CONTACT:

Gabe Neal, Staff Director, Signal, Train Control, and Crossings Division, telephone: 816-516-7168, email: Gabe.Neal@dot.gov.

SUPPLEMENTARY INFORMATION: In general, Title 49 United States Code (U.S.C.) section 20157(h) requires FRA to certify that a host railroad's PTC system complies with Title 49 Code of Federal Regulations (CFR) part 236, subpart I, before the technology may be operated in revenue service. Before making certain changes to an FRA-certified PTC system or the associated FRA-approved PTCSP, a host railroad must submit, and obtain FRA's approval of, an RFA to its PTCSP under 49 CFR 236.1021.

Under 49 CFR 236.1021(e), FRA's regulations provide that FRA will publish a notice in the **Federal Register** and invite public comment in accordance with 49 CFR part 211, if an RFA includes a request for approval of a material modification of a signal and train control system. Accordingly, this notice informs the public that, on April 20, 2023, LIRR submitted an RFA to its PTCSP for its Advanced Civil Speed Enforcement System II (ACSES II), which seeks FRA's approval for changes to support the implementation of Office Software Version STS 1.2.5 and changes to Office 3.9.3. These changes include bug fixes, with no change to system functionality. LIRR's RFA is available in Docket No. FRA-2010-0031.

Interested parties are invited to comment on LIRR's RFA to its PTCSP by submitting written comments or data. During FRA's review of this railroad's RFA, FRA will consider any comments or data submitted within the timeline specified in this notice and to the extent practicable, without delaying implementation of valuable or necessary modifications to a PTC system. See 49 CFR 236.1021; see also 49 CFR 236.1011(e). Under 49 CFR 236.1021, FRA maintains the authority to approve, approve with conditions, or deny a railroad's RFA to its PTCSP at FRA's sole discretion.

Privacy Act Notice

In accordance with 49 CFR 211.3, FRA solicits comments from the public to better inform its decisions. DOT posts these comments, without edit, including any personal information the commenter provides, to <https://www.regulations.gov>, as described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at <https://www.transportation.gov/privacy>. See <https://www.regulations.gov/privacy-notice> for the privacy notice of regulations.gov. To facilitate comment tracking, we encourage commenters to provide their name, or the name of their organization; however, submission of names is completely optional. If you wish to provide comments containing proprietary or confidential information, please contact FRA for alternate submission instructions.

Issued in Washington, DC
Carolyn R. Hayward-Williams,
Director, Office of Railroad Systems and Technology.

[FR Doc. 2023-09556 Filed 5-4-23; 8:45 am]

BILLING CODE 4910-06-P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

[Docket No. DOT-MARAD-2023-0100]

Request for Comments on the Renewal of a Previously Approved Information Collection: Voluntary Tanker Agreement

AGENCY: Maritime Administration, DOT.
ACTION: Notice.

SUMMARY: The Maritime Administration (MARAD) invites public comments on our intention to request the Office of Management and Budget (OMB) approval to renew an information collection in accordance with the Paperwork Reduction Act of 1995. The proposed collection OMB 2133-0505 (Voluntary Tanker Agreement) is used to gather information from tanker operators who agree to contribute, either by direct charter to the Department of Defense or to other participants, tanker capacity as requested by the Maritime Administrator, to meet the essential need for the transportation of petroleum and petroleum products in bulk by sea. The public burden is being updated to include mailing costs for respondents to submit responses for this collection. We are required to publish this notice in the **Federal Register** by the Paperwork Reduction Act of 1995.

DATES: Comments must be submitted on or before July 5, 2023.

ADDRESSES: You may submit comments identified by Docket No. DOT-MARAD 2023-0100 through one of the following methods:

- **Federal eRulemaking Portal:** www.regulations.gov. Search using the above DOT docket number and follow the online instructions for submitting comments.
- **Mail or Hand Delivery:** Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building, Room W12-140, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except on Federal holidays.

Comments are invited on: (a) whether the proposed collection of information is necessary for the Department's performance; (b) the accuracy of the estimated burden; (c) ways for the Department to enhance the quality, utility, and clarity of the information collection; and (d) ways that the burden could be minimized without reducing the quality of the collected information. The agency will summarize and/or include your comments in the request for OMB's clearance of this information collection.

FOR FURTHER INFORMATION CONTACT:

David Hatcher, (202) 366-0688, Office of Sealift Support, Maritime Administration, 1200 New Jersey Avenue SE, Washington, DC 20590, Email: David.Hatcher1@dot.gov.

SUPPLEMENTARY INFORMATION:

Title: Voluntary Tanker Agreement.
OMB Control Number: 2133-0505.

Type of Request: Renewal of a previously approved information collection.

Abstract: The Voluntary Tanker Agreement (VTA) is a voluntary agreement, in accordance with section 708, Defense Production Act, 1950, as amended (50 U.S.C. 4558). The collection consists of a request from the Maritime Administration (MARAD) that each VTA participant submit a list of the names of ships owned, chartered, or contracted for by the participant, their size, flags of registry, and other pertinent information. This collection of information is necessary to evaluate and plan for the use of tanker capability during national emergencies. The collected information will also be used by both MARAD and Department of Defense personnel to establish contingency plans.

Respondents: Coastwise-qualified vessel owners, operators, charterers, brokers, and vessel representatives.

Affected Public: Business or other for-profit.

Estimated Number of Respondents: 15.

Estimated Number of Responses: 15.
Estimated Hours per Response: 1.
Annual Estimated Total Annual Burden Hours: 15.
Frequency of Response: Annually.

(Authority: The Paperwork Reduction Act of 1995; 44 U.S.C. chapter 35, as amended; and 49 CFR 1.49.)

* * * * *

By Order of the Maritime Administrator.

T. Mitchell Hudson, Jr.,

Secretary, Maritime Administration.

[FR Doc. 2023–09610 Filed 5–4–23; 8:45 am]

BILLING CODE 4910–81–P

DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

[Docket No. PHMSA–2023–0009]

Safety of Underground Natural Gas Storage Public Meeting

Correction

In notice document 2023–07072, appearing on pages 20208 through 20209 in the issue of Wednesday, April 5, 2023, make the following correction:

On page 20208, in the seventh and eighth lines of the **ADDRESSES** section, the link should read: “<https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=164>”.

[FR Doc. C1–2023–07072 Filed 5–4–23; 8:45 am]

BILLING CODE 0099–10–D

DEPARTMENT OF THE TREASURY

Office of Foreign Assets Control

Notice of OFAC Sanctions Actions

AGENCY: Office of Foreign Assets Control, Treasury.

ACTION: Notice.

SUMMARY: The U.S. Department of the Treasury’s Office of Foreign Assets Control (OFAC) is publishing the names of one or more persons that have been placed on OFAC’s List of Specially Designated Nationals and Blocked Persons (SDN List) based on OFAC’s determination that one or more applicable legal criteria were satisfied. All property and interests in property subject to U.S. jurisdiction of these persons are blocked, and U.S. persons are generally prohibited from engaging in transactions with them.

DATES: See **SUPPLEMENTARY INFORMATION** section for applicable date.

FOR FURTHER INFORMATION CONTACT:

OFAC: Andrea Gacki, Director, tel.: 202–622–2490; Associate Director for

Global Targeting, tel.: 202–622–2420; Assistant Director for Licensing, tel.: 202–622–2480; Assistant Director for Regulatory Affairs, tel.: 202–622–4855; or the Assistant Director for Sanctions Compliance & Evaluation, tel.: 202–622–2490.

SUPPLEMENTARY INFORMATION:

Electronic Availability

The SDN List and additional information concerning OFAC sanctions programs are available on OFAC’s website (<https://www.treasury.gov/ofac>).

Notice of OFAC Action(s)

On May 2, 2023, OFAC determined that the property and interests in property subject to U.S. jurisdiction of the following persons are blocked under the relevant sanctions authority listed below.

Individuals

1. ALSHEAK, Omar (a.k.a. AL–SHEIKH, Jihad Issa; a.k.a. “ZAKKUR, Abu-Ahmad”; a.k.a. “ZAKOUR, Abu Ahmed”), Kilis Province, Turkey; DOB 05 Jan 1979; POB Aleppo, Syria; nationality Syria; Gender Male; Secondary sanctions risk: section 1(b) of Executive Order 13224, as amended by Executive Order 13886; Passport 011965412 (Syria) (individual) [SDGT] (Linked To: AL–NUSRAH FRONT).

Designated pursuant to section 1(a)(iii)(A) of Executive Order 13224 of September 23, 2001, “Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism,” 66 FR 49079, as amended by Executive Order 13886 of September 9, 2019, “Modernizing Sanctions To Combat Terrorism,” 84 FR 48041 (E.O. 13224, as amended), for having acted or purported to act for or on behalf of, directly or indirectly, AL–NUSRAH FRONT, a person whose property and interests in property are blocked pursuant to E.O. 13224.

2. SARI, Kubilay (a.k.a. KUBILAY, Sari; a.k.a. SARI, Kubilay), Istanbul, Turkey; DOB 27 May 1991; POB Seyhan, Turkey; nationality Turkey; Gender Male; Secondary sanctions risk: section 1(b) of Executive Order 13224, as amended by Executive Order 13886; Passport A08J00530 (Turkey); National ID No. 21691072558 (Turkey) (individual) [SDGT] (Linked To: KATIBAT AL TAWHID WAL JIHAD).

Designated pursuant to section 1(a)(iii)(C) of E.O. 13224, as amended, for having materially assisted, sponsored, or provided financial, material, or technological support for, or goods or services to or in support of, KATIBAT AL TAWHID WAL JIHAD, a person whose property and interests in property are blocked pursuant to E.O. 13224, as amended.

Dated: May 2, 2023.

Andrea Gacki,

*Director, Office of Foreign Assets Control,
 U.S. Department of the Treasury.*

[FR Doc. 2023–09621 Filed 5–4–23; 8:45 am]

BILLING CODE 4810–AL–P

DEPARTMENT OF THE TREASURY

Open Meeting of the Financial Research Advisory Committee

AGENCY: Office of Financial Research, Department of the Treasury.

ACTION: Notice of open meeting.

SUMMARY: The Financial Research Advisory Committee for the Treasury’s Office of Financial Research (OFR) is convening for its twenty-first meeting on Thursday, May 18, 2023, via webcast and in person at the OFR’s New York office (290 Broadway, New York, New York 10007), beginning at 10:00 a.m. Eastern Time. The meeting will be open to the public and advance registration is required.

DATES: The meeting will be held Thursday, May 18, 2023, beginning at 10:00 a.m. Eastern Time.

ADDRESSES: The meeting will be held via webcast using Zoom and at the Official of Financial Research (OFR), 290 Broadway, New York, New York 10007. The meeting will be open to the public and both methods of attendance require advance registration.

Participants wishing to attend via Zoom should register in advance for the meeting using this Zoom attendee registration link: https://ofr-treasury.zoomgov.com/webinar/register/WN_iQbX1D9FRMWq1g9jf6aTng.

After registering, you will receive a confirmation email with a unique link to join the meeting.

In addition, a limited number of seats will be available for those interested in attending the meeting in person, and those seats would be on a first-come, first-served basis. Because the meeting will be held in a secured facility, members of the public who plan to attend the meeting in person *MUST* contact the OFR by email at OFR_FRAC@ofr.treasury.gov by 5:00 p.m. Eastern Time on May 16, 2023 to inform the OFR of their desire to attend the meeting and to receive further instructions about building clearance. Due to scheduling challenges, this meeting may be announced with less than 15 days notice (see 41 CFR 102–3.150(b)).

Reasonable Accommodation: If you require a reasonable accommodation, please contact ReasonableAccommodationRequests@treasury.gov. Please submit requests at least five days before the event.

FOR FURTHER INFORMATION CONTACT:

Melissa Avstreich, Designated Federal Officer, Office of Financial Research, Department of the Treasury, 1500 Pennsylvania Avenue NW, Washington, DC 20220, (202) 927–8032 (this is not a

toll-free number), or *OFR FRAC@ofr.treasury.gov*. Persons who have difficulty hearing or speaking may access this number via TTY by calling the toll-free Federal Relay Service at 800-877-8339.

SUPPLEMENTARY INFORMATION: Notice of this meeting is provided in accordance with the Federal Advisory Committee Act, 5 U.S.C. app. 2, 10(a)(2), through implementing regulations at 41 CFR 102-3.150, *et seq.*

Public Comment: Members of the public wishing to comment on the business of the Financial Research Advisory Committee are invited to submit written statements by any of the following methods:

- **Electronic Statements.** Email the Committee's Designated Federal Officer at *OFR FRAC@ofr.treasury.gov*.

- **Paper Statements.** Send paper statements in triplicate to the Financial Research Advisory Committee, Attn: Melissa Avstreich, Office of Financial Research, Department of the Treasury, 1500 Pennsylvania Avenue NW, Washington, DC 20220.

The OFR will post statements on the Committee's website, <https://www.financialresearch.gov/frac/>, including any business or personal information provided, such as names, addresses, email addresses, or telephone numbers. The OFR will also make such statements available for public inspection and copying in the Department of the Treasury's library, Annex Room 1020, 1500 Pennsylvania Avenue NW, Washington, DC 20220 on official business days between the hours of 8:30 a.m. and 5:30 p.m. Eastern Time. You may make an appointment to inspect statements by calling (202) 622-0990. All statements, including attachments and other supporting materials, will be part of the public record and subject to public disclosure. You should submit only information that you wish to make available publicly.

Agenda/Topics for Discussion: The Committee provides an opportunity for researchers, industry leaders, and other qualified individuals to offer their advice and recommendations to the OFR, which, among other things, is responsible for collecting and standardizing data on financial institutions and their activities and for supporting the work of the Financial Stability Oversight Council.

This is the twenty-first meeting of the Financial Research Advisory Committee. Topics to be discussed among all members are financial stability monitoring, the level of systemic risk in the banking sector, and

risk from non-bank financial institutions. For more information on the OFR and the Committee, please visit the OFR's website at <https://www.financialresearch.gov>.

Emily Anderson,

Acting Deputy Director for Operations.

[FR Doc. 2023-09544 Filed 5-4-23; 8:45 am]

BILLING CODE 4810-AK-P

DEPARTMENT OF VETERANS AFFAIRS

[OMB Control No. 2900-0567]

Agency Information Collection Activity: Presidential Memorial Certificate Form

AGENCY: National Cemetery Administration, Department of Veterans Affairs.

ACTION: Notice.

SUMMARY: The National Cemetery Administration (NCA), Department of Veterans Affairs (VA), is announcing an opportunity for public comment on the proposed collection of certain information by the agency. Under the Paperwork Reduction Act (PRA) of 1995, Federal agencies are required to publish notice in the **Federal Register** concerning each proposed collection of information, including each new collection and allow 60 days for public comment in response to the notice.

DATES: Written comments and recommendations on the proposed collection of information should be received on or before July 5, 2023.

ADDRESSES: Submit written comments on the collection of information through Federal Docket Management System (FDMS) at www.Regulations.gov or to Brian Hurley, National Cemetery Administration (42E), Department of Veterans Affairs, 810 Vermont Avenue NW, Washington, DC 20420 or email to Brian.Hurley1@va.gov. Please refer to "OMB Control No. 2900-0567" in any correspondence. During the comment period, comments may be viewed online through FDMS.

FOR FURTHER INFORMATION CONTACT: Maribel Aponte, Office of Enterprise and Integration, Data Governance Analytics (008), 810 Vermont Ave. NW, Washington, DC 20006, (202) 266-4688 or email maribel.aponte@va.gov. Please refer to "OMB Control No. 2900-0567" in any correspondence.

SUPPLEMENTARY INFORMATION: Under the PRA of 1995, Federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct

or sponsor. This request for comment is being made pursuant to section 3506(c)(2)(A) of the PRA.

With respect to the following collection of information, NCA invites comments on: (1) whether the proposed collection of information is necessary for the proper performance of NCA's functions, including whether the information will have practical utility; (2) the accuracy of NCA's estimate of the burden of the proposed collection of information; (3) ways to enhance the quality, utility, and clarity of the information to be collected; and (4) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or the use of other forms of information technology.

Authority: 38 U.S.C. 112.

Title: Presidential Memorial Certificate Form, VA Form 40-0247.

OMB Control Number: 2900-0567.

Type of Review: Extension of a currently approved collection.

Abstract: The Presidential Memorial Certificate (PMC) is an engraved paper certificate, signed by a current U.S. President, to honor the memory of deceased Veterans who are eligible for burial in a national cemetery. VA Form 40-0247 information collection is required to properly inscribe and address for delivery of the PMC. Supporting military or discharge documents are also needed to verify that the veteran's character of service and duty status meet program eligibility and legal requirements.

Affected Public: Individuals or households.

Estimated Annual Burden: 6,250 hours.

Estimated Average Burden per Respondent: 3 minutes.

Frequency of Response: One-time.

Estimated Number of Respondents: 125,000.

By direction of the Secretary.

Dorothy Glasgow,

VA PRA Clearance Officer, (Alt.) Office of Enterprise and Integration/Data Governance Analytics, Department of Veterans Affairs.

[FR Doc. 2023-09534 Filed 5-4-23; 8:45 am]

BILLING CODE 8320-01-P

DEPARTMENT OF VETERANS AFFAIRS

[OMB Control No. 2900–0265]

Agency Information Collection Activity Under OMB Review: Personalized Career Planning and Guidance

AGENCY: Veterans Benefits Administration (VBA), Department of Veterans Affairs (VA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (PRA) of 1995, this notice announces that the VBA, Department of Veterans Affairs, will submit the collection of information abstracted below to the Office of Management and Budget (OMB) for review and comment. The PRA submission describes the nature of the information collection and its expected cost and burden and it includes the actual data collection instrument.

DATES: Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice by clicking on the following link www.reginfo.gov/public/do/PRAMain, select “Currently under 30-day Review—Open for Public Comments,” then search the list for the information collection by the Title or “OMB Control No. 2900–0265.”

FOR FURTHER INFORMATION CONTACT: Maribel Aponte, Office of Enterprise and Integration, Data Governance Analytics (008), 810 Vermont Ave. NW, Washington, DC 20006, (202) 266–4688 or email maribel.aponte@va.gov. Please refer to OMB Control No. 2900–0265 in any correspondence.

SUPPLEMENTARY INFORMATION:

Authority: 38 U.S.C. chapter 36.

Title: Personalized Career Planning and Guidance (VA Form 25–8832).

OMB Control Number: 2900–0265.

Type of Review: Revision of a previously approved collection.

Abstract: VA Form 25–8832 is primarily used for the eligibility determination for chapter 36 benefits. If this information is not collected, the eligibility determination for chapter 36 benefit cannot be made. It would affect eligible transitioning Service members, Veterans, and dependents in obtaining educational and vocational counseling. Collection of the information is the only way VA may make a decision in regard to chapter 36 benefits.

VA Form 25–8832 has been updated to include branch of service, component, character of discharge, a question to determine if the applicant is

attending school/training facility, and the form number has changed from VA Form 28–8832 to VA Form 25–8832.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The **Federal Register** Notice with a 60-day comment period soliciting comments on this collection of information was published at 88 FR 40 on March 1, 2023, pages 13013.

Affected Public: Individuals or households.

Estimated Annual Burden: 2,000.

Estimated Average Burden per Respondent: 15 minutes.

Frequency of Response: One time.

Estimated Number of Respondents: 8,000.

By direction of the Secretary.

Dorothy Glasgow,

VA PRA Clearance Officer, (Alt.), Office of Enterprise and Integration, Data Governance Analytics, Department of Veterans Affairs.

[FR Doc. 2023–09588 Filed 5–4–23; 8:45 am]

BILLING CODE 8320–01–P

DEPARTMENT OF VETERANS AFFAIRS

[OMB Control No. 2900–0571]

Agency Information Collection Activity: Customer Satisfaction Surveys

AGENCY: National Cemetery Administration (NCA), Department of Veterans Affairs.

ACTION: Notice.

SUMMARY: National Cemetery Administration (NCA), Department of Veterans Affairs (VA), is announcing an opportunity for public comment on the proposed collection of certain information by the agency. Under the Paperwork Reduction Act (PRA) of 1995, Federal agencies are required to publish notice in the **Federal Register** concerning each proposed collection of information, including each proposed extension of a currently approved collection, and allow 60 days for public comment in response to the notice. This notice solicits comments on the collection of perceptions of the quality of service afforded by the National Cemetery Administration as judged by next of kin of those interred, or funeral directors who facilitate these interments.

DATES: Written comments and recommendations on the proposed collection of information should be received on or before July 5, 2023.

ADDRESSES: Submit written comments on the collection of information through Federal Docket Management System (FDMS) at www.Regulations.gov or to Mr. Brian Hurley, National Cemetery Administration (42E), Department of Veterans Affairs, 810 Vermont Avenue NW, Washington, DC 20420 or email to Brian.Hurley1@va.gov. Please refer to “OMB Control No. 2900–0571” in any correspondence. During the comment period, comments may be viewed online through FDMS.

FOR FURTHER INFORMATION CONTACT:

Maribel Aponte, Office of Enterprise and Integration, Data Governance Analytics (008), 810 Vermont Ave. NW, Washington, DC 20006, (202) 266–4688 or email maribel.aponte@va.gov. Please refer to “OMB Control No. 2900–0571” in any correspondence.

SUPPLEMENTARY INFORMATION: Under the PRA of 1995, Federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct or sponsor. This request for comment is being made pursuant to Section 3506(c)(2)(A) of the PRA.

With respect to the following collection of information, NCA invites comments on: (1) whether the proposed collection of information is necessary for the proper performance of NCA’s functions, including whether the information will have practical utility; (2) the accuracy of NCA’s estimate of the burden of the proposed collection of information; (3) ways to enhance the quality, utility, and clarity of the information to be collected; and (4) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or the use of other forms of information technology.

Authority: 44 U.S.C. 3501–3521.

Title: Customer Satisfaction Surveys.

OMB Control Number: 2900–0571.

Type of Review: Revision of a currently approved collection.

Abstract: Improving Customer Service through Effective Performance Management, NCA will conduct surveys to determine the level of satisfaction with existing services among their customers. The surveys will solicit voluntary opinions and are not intended to collect information required to obtain or maintain eligibility for a VA program or benefit. Baseline data obtained through these information collections are used to validate customer service standards.

Affected Public: Individuals and households interring Veterans or eligible dependents, and funeral directors facilitating such interments.

Total Estimated Annual Burden:
26,158 hours.
Frequency of Response: Annually.
Total Estimated Number of Respondents: 56,650.

I. National Cemetery Mail Surveys

*a. National Cemeteries Next of Kin/
Family Member and Funeral Director
Satisfaction Surveys*

Estimated Annual Burden: 14,500
hours.
*Estimated Average Burden per
Respondent:* 30 minutes.
Frequency of Response: Annually.
Estimated Number of Respondents:
29,000.

*b. State or Tribal Veterans Cemeteries
Funeral Director Satisfaction Surveys*

Estimated Annual Burden: 2,000
hours.
*Estimated Average Burden per
Respondent:* 30 minutes.
Frequency of Response: Annually.
Estimated Number of Respondents:
4,000.

*c. State or Tribal Veterans Cemeteries
Next of Kin/Family Member Satisfaction
Surveys*

Estimated Annual Burden: 7,500
hours.

*Estimated Average Burden per
Respondent:* 30 minutes.
Frequency of Response: Annually.
Estimated Number of Respondents:
15,000.

II. Program/Specialized Service Survey

*a. VA Memorial Products Next of Kin/
Family Member and Funeral Director
Satisfaction Surveys*

Estimated Annual Burden: 1,500
hours.
*Estimated Average Burden per
Respondent:* 15 minutes.
Frequency of Response: Annually.
Estimated Number of Respondents:
6,000.

III. National Cemetery Focus Groups

a. Focus Groups With Next of Kin

Estimated Annual Burden: 150 hours.
*Estimated Average Burden per
Respondent:* 3 hours.
Frequency of Response: Annually.
Estimated Number of Respondents:
50.

b. Focus Groups With Funeral Directors

Estimated Annual Burden: 150 hours.
*Estimated Average Burden per
Respondent:* 3 hours.
Frequency of Response: Annually.

Estimated Number of Respondents:
50.

*c. Focus Groups With Veteran Service
Organizations*

Estimated Annual Burden: 150 hours.

*Estimated Average Burden per
Respondent:* 3 hours.

Frequency of Response: Annually.

Estimated Number of Respondents:
50.

**IV. National Cemetery Visitor Comment
Cards (Local Use)**

Estimated Annual Burden: 208 hours.

*Estimated Average Burden per
Respondent:* 5 minutes.

Frequency of Response: Annually.

Estimated Number of Respondents:
2,500.

By direction of the Secretary.

Dorothy Glasgow,

*VA PRA Clearance Officer, (Alt.), Office of
Enterprise and Integration/Data Governance
Analytics, Department of Veterans Affairs.*

[FR Doc. 2023-09592 Filed 5-4-23; 8:45 am]

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FEDERAL REGISTER

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Part II

Environmental Protection Agency

40 CFR Parts 85, 86, 600, et al.

Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Parts 85, 86, 600, 1036, 1037, and 1066****[EPA-HQ-OAR-2022-0829; FRL 8953-03-OAR]****RIN 2060-AV49****Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Proposed rule.

SUMMARY: Under its Clean Air Act authority, the Environmental Protection Agency (EPA) is proposing new, more stringent emissions standards for criteria pollutants and greenhouse gases (GHG) for light-duty vehicles and Class 2b and 3 ("medium-duty") vehicles that would phase-in over model years 2027 through 2032. In addition, EPA is proposing GHG program revisions in several areas, including off-cycle and air conditioning credits, the treatment of upstream emissions associated with zero-emission vehicles and plug-in hybrid electric vehicles in compliance calculations, medium-duty vehicle incentive multipliers, and vehicle certification and compliance. EPA is also proposing new standards to control refueling emissions from incomplete medium-duty vehicles, and battery durability and warranty requirements for light-duty and medium-duty plug-in vehicles. EPA is also proposing minor amendments to update program requirements related to aftermarket fuel conversions, importing vehicles and engines, evaporative emission test procedures, and test fuel specifications for measuring fuel economy.

DATES:

Comments: Written comments must be received on or before July 5, 2023.

Comments on the information collection provisions submitted to the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA) are best assured of consideration by OMB if OMB receives a copy of your comments on or before June 5, 2023.

Public Hearing: EPA will announce information regarding the public

hearing for this proposal in a supplemental **Federal Register** document.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2022-0829, by any of the following methods:

- *Federal eRulemaking Portal:* <https://www.regulations.gov/> (our preferred method). Follow the online instructions for submitting comments.
- *Email:* a-and-r-Docket@epa.gov. Include Docket ID No. EPA-HQ-OAR-2022-0829 in the subject line of the message.
- *Mail:* U.S. Environmental Protection Agency, EPA Docket Center, OAR, Docket EPA-HQ-OAR-2022-0829, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- *Hand Delivery or Courier (by scheduled appointment only):* EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m.–4:30 p.m., Monday–Friday (except Federal Holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov/>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the "Public Participation" heading of the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT:

Michael Safoutin, Office of Transportation and Air Quality, Assessment and Standards Division (ASD), Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105; telephone number: (734) 214-4348; email address: Safoutin.Mike@epa.gov.

SUPPLEMENTARY INFORMATION:**A. Public Participation***Written Comments*

EPA will keep the comment period open until July 5, 2023. All information will be available for inspection at the EPA Air Docket No. EPA-HQ-OAR-2022-0829. Submit your comments,

identified by Docket ID No. EPA-HQ-OAR-2022-0829, at <https://www.regulations.gov> (our preferred method), or the other methods identified in the **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit to EPA's docket at <https://www.regulations.gov> any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

Public Hearing

Please refer to the separate **Federal Register** notice issued by EPA for public hearing details. The hearing notice is available at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/proposed-rule-multi-pollutant-emissions-standards-model>. Please also refer to this website for any updates regarding the hearings. EPA does not intend to publish additional documents in the **Federal Register** announcing updates.

B. Does this action apply to me?

Entities potentially affected by this proposed rule include light-duty vehicle manufacturers, independent commercial importers, alternative fuel converters, and manufacturers and converters of medium-duty vehicles (*i.e.*, vehicles between 8,501 and 14,000 pounds gross vehicle weight rating (GVWR)). Potentially affected categories and entities include:

Category	NAICS codes ^A	Examples of potentially affected entities
Industry	336111 336112	Motor Vehicle Manufacturers.

Category	NAICS codes ^A	Examples of potentially affected entities
Industry	811111 811112 811198 423110	Commercial Importers of Vehicles and Vehicle Components.
Industry	335312 811198	Alternative Fuel Vehicle Converters.
Industry	333618 336120 336211 336312	On-highway medium-duty engine & vehicle (8,501–14,000 pounds GVWR) manufacturers.

^A North American Industry Classification System (NAICS).

This list is not intended to be exhaustive, but rather provides a guide regarding entities potentially affected by this action. To determine whether particular activities may be regulated by this action, you should carefully examine the regulations. You may direct questions regarding the applicability of this action to the person listed in **FOR FURTHER INFORMATION CONTACT**.

C. Did EPA conduct a peer review before issuing this proposed action?

This proposed regulatory action was supported by influential scientific information. EPA therefore conducted peer review in accordance with OMB's Final Information Quality Bulletin for Peer Review. Specifically, we conducted peer review on five analyses: (1) Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA 2.0), (2) Advanced Light-duty Powertrain and Hybrid Analysis (ALPHA3), (3) Motor Vehicle Emission Simulator (MOVES), (4) The Effects of New-Vehicle Price Changes on New- and Used-Vehicle Markets and Scrappage; (5) Literature Review on U.S. Consumer Acceptance of New Personally Owned Light-Duty Plug-in Electric Vehicles. All peer review was in the form of letter reviews conducted by a contractor. The peer review reports for each analysis are in the docket for this action and at EPA's Science Inventory (<https://cfpub.epa.gov/si/>).

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XI. Statutory Provisions and Legal Authority

I. Executive Summary

A. Purpose of This Proposed Rule and Legal Authority

1. Proposal for Light- and Medium-Duty Multipollutant Standards for Model Years 2027 and Later

The Environmental Protection Agency (EPA) is proposing multipollutant emissions standards for light-duty passenger cars and light trucks and Class 2b and 3 vehicles (“medium-duty vehicles” or MDVs) under its authority in section 202(a) of the Clean Air Act (CAA), 42 U.S.C. 7521(a). The proposed program would establish new, more stringent vehicle emissions standards for criteria pollutant and greenhouse gas (GHG) emissions from motor vehicles for model years (MYs) 2027 through 2032.

Section 202(a) requires EPA to establish standards for emissions of air pollutants from new motor vehicles which, in the Administrator’s judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. Standards under section 202(a) take effect “after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.” Thus, in establishing or revising section 202(a) standards designed to reduce air pollution that endangers public health and welfare, EPA also must consider issues of technological feasibility, the cost of compliance, and lead time. EPA also may consider other factors, and in previous vehicle standards rulemakings, as well as in this proposal, has considered the impacts of potential standards on emissions of air pollutants and associated public health and welfare effects, impacts on the automotive industry, impacts on the vehicle purchasers/consumers, oil conservation, energy security and other energy impacts, safety, and other relevant considerations.

EPA has conducted outreach with a wide range of interested stakeholders to gather input which we have considered in developing this proposal, and we will continue to engage with the public and all interested stakeholders as part of our regulatory development process.

2. Why does EPA believe the proposed standards are appropriate under the CAA?

i. Need for Continued Emissions Reductions Under 202(a) of the Clean Air Act

In 2014, EPA finalized criteria pollutant standards for light-duty vehicles (“Tier 3”) that were designed to be implemented alongside the GHG standards for light-duty vehicles that EPA had adopted in 2012 for model years 2017–2025.¹ In 2020, EPA revised the GHG standards that had previously been adopted for model years 2021–2026,² and in 2021, EPA proposed and finalized a rulemaking (the “2021 rulemaking”)³ that again revised GHG standards for light-duty passenger cars and light trucks for MYs 2023 through 2026, setting significantly more stringent standards for those MYs than had been set by the 2020 rulemaking, and somewhat more stringent than the standards adopted in 2012.

Despite the significant emissions reductions achieved by these and other rulemakings, air pollution from motor vehicles continues to impact public health, welfare, and the environment. On August 5, 2021, Executive Order 14037, “Strengthening American Leadership in Clean Cars and Trucks,” directed the Administrator to consider beginning work on a rulemaking to establish new multi-pollutant emissions standards, including both criteria pollutant and GHG emissions, for light- and medium-duty vehicles beginning with MY 2027 and extending through and including at least MY 2030. The Administrator determined that there was a need to begin work on such a rulemaking and accordingly is issuing this proposal.

Motor vehicle emissions contribute to ozone, particulate matter (PM), and air toxics, which are linked with premature death and other serious health impacts, including respiratory illness, cardiovascular problems, and cancer. This air pollution affects people nationwide, as well as those who live or work near transportation corridors. In addition, there is consensus that the effects of climate change represent a rapidly growing threat to human health and the environment, and are caused by GHG emissions from human activity,

including motor vehicle transportation. Recent trends and developments in emissions control technology, including vehicle electrification and other advanced vehicle technologies, indicate that more stringent emissions standards are feasible at reasonable cost and would achieve significant improvements in public health and welfare. Addressing these public health and welfare needs will require substantial additional reductions in criteria pollutants and GHG emissions from the transportation sector.

Addressing the public health impacts of criteria pollutants (including particulate matter (PM), ozone, nitrogen oxides (NO_x), and carbon monoxide (CO)) will require continued reductions in these pollutants from the transportation sector. In 2023, mobile sources will account for approximately 54 percent of anthropogenic NO_x emissions, 5 percent of anthropogenic direct PM_{2.5} emissions, and 19 percent of anthropogenic volatile organic compound (VOC) emissions.^{4 5 6} Light- and medium-duty-vehicles will account for approximately 20 percent, 19 percent, and 41 percent of 2023 mobile source NO_x, PM_{2.5}, and VOC emissions, respectively.^{4 5 6} The benefits of reductions in criteria pollutant emissions accrue broadly across many populations and communities. There are currently 15 PM_{2.5} nonattainment areas with a population of more than 32 million people⁷ and 57 ozone nonattainment areas with a population of more than 130 million people. The importance of continued reductions in these emissions is detailed at length in Section II.

The transportation sector is the largest U.S. source of GHG emissions, representing 27.2 percent of total GHG emissions.⁸ Within the transportation sector, light-duty vehicles are the largest contributor, at 57.1 percent, and thus comprise 15.5 percent of total U.S. GHG emissions,⁹ even before considering the contribution of medium-duty Class 2b

⁴ U.S. Environmental Protection Agency (2021). 2016v1 Platform (<https://www.epa.gov/air-emissions-modeling/2016v1-platform>).

⁵ U.S. Environmental Protection Agency (2021). 2017 National Emissions Inventory (NEI) Data. <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>.

⁶ U.S. Environmental Protection Agency (2021). MOVES 3.0.1. <https://www.epa.gov/moves>.

⁷ The population total is calculated by summing, without double counting, the 1997, 2006 and 2012 PM_{2.5} nonattainment populations contained in the Criteria Pollutant Nonattainment Summary report (<https://www.epa.gov/green-book/green-book-data-download>).

⁸ Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2020 (EPA–430–R–22–003, published April 2022).

⁹ *Ibid.*

¹ 79 FR 23414, April 28, 2014, “Control of Air Pollution From Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards.”

² 85 FR 24174, April 30, 2020, “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks.”

³ 86 FR 74434, December 30, 2021, “Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards.”

and 3 vehicles which are also included under this rule. GHG emissions have significant impacts on public health and welfare as evidenced by the well-documented scientific record and as set forth in EPA's Endangerment and Cause or Contribute Findings under section 202(a) of the CAA.¹⁰ Additionally, major scientific assessments continue to be released that further advance our understanding of the climate system and the impacts that GHGs have on public health and welfare both for current and future generations, as discussed in Section II.A, making it clear that continued GHG emission reductions in the motor vehicle sector are needed to protect public health and welfare.

In addition to and separate from this proposal, the Administration has recognized the need for action to address climate change. Executive Order 14008 ("Tackling the Climate Crisis at Home and Abroad," January 27, 2021) recognizes the need for a government-wide approach to addressing the climate crisis, directing Federal departments and agencies to facilitate the organization and deployment of such an effort. On April 22, 2021, the Administration announced a new target for the United States to achieve a 50 to 52 percent reduction from 2005 levels in economy-wide net greenhouse gas pollution in 2030, consistent with the goal of limiting global warming to no more than 1.5 degrees Celsius by 2050 and representing the U.S. Nationally Determined Contribution (NDC) under the Paris Agreement. These actions, while they do not inform the standards proposed here, serve to underscore the importance of the EPA's Clean Air Act authority to address pollution from motor vehicles.

Also separately from this proposal, the Administration has recognized the recent industry advancements in zero-emission vehicle technologies and their potential to bring about dramatic reductions in emissions. Executive Order 14037 ("Strengthening American Leadership in Clean Cars and Trucks," August 5, 2021) identified a goal for 50 percent of U.S. new vehicle sales to be zero-emission vehicles by 2030. Congress passed the Bipartisan Infrastructure Law (BIL)¹¹ in 2021, and the Inflation Reduction Act (IRA)¹² in 2022, which together provide further support for a government-wide approach to reducing emissions by providing significant funding and support for air pollution and GHG

reductions across the economy, including specifically, for the component technology and infrastructure for the manufacture, sales, and use of electric vehicles.

These industry advancements in the production and sales of zero- and near-zero emission vehicles are already occurring both domestically and globally, due to significant investments from automakers, greatly increased acceptance by consumers, and added support from Congress, state governments, the European Union and other countries. EPA recognizes that these industry advancements, along with the additional support provided by the BIL and the IRA, represent an important opportunity for achieving the public health goals of the Clean Air Act. As the term "zero-emission vehicle" suggests, these cars and trucks have zero GHG and criteria pollutant emissions from their tailpipes, which can represent significant reductions over current emissions (particularly for GHG). In part because this technology reduces both GHG and criteria pollutant emissions, EPA finds it appropriate to set new standards for model years after 2026 for both criteria pollutants and GHG at this time, rather than continuing its prior approach of coordinating the standards but setting them in separate regulatory actions. Although EPA is proposing to set GHG and criteria pollutant standards in a single rulemaking, these standards are being proposed to meet distinct needs for control of distinct pollutants based on EPA's assessment of the available control technologies for those pollutants, recognizing that some of the available control technologies may overlap.

Likewise, it is important to recognize that, despite this anticipated growth in zero-emission vehicles, many internal combustion engine (ICE) vehicles will continue to be sold during the time frame of the rule and will remain on the road for many years afterward. In addition, some vehicle manufacturers have made public statements¹³ that some portion of their light-duty sales will remain ICE-based for the foreseeable future, predominantly in large SUVs and pickup trucks. EPA anticipates that a compliant fleet under the proposed standards will include a diverse range of technologies, including higher penetrations of advanced gasoline technologies as well as zero-

emission vehicles. It is therefore important to consider the environmental and other implications of the ICE portion of the fleet.

The Administrator finds that the standards proposed herein are consistent with EPA's responsibilities under the CAA and appropriate under CAA section 202(a). EPA has carefully considered the statutory factors, including technological feasibility and cost of the proposed standards and the available lead time for manufacturers to comply with them. Based on our analysis, it is our assessment that the proposed standards are appropriate and justified under section 202(a) of the CAA. Our analysis for this proposal supports the preliminary conclusion that the proposed standards are technologically feasible and that the costs of compliance for manufacturers would be reasonable. The proposed standards would result in significant reductions in emissions of criteria pollutants, GHGs, and air toxics, resulting in significant benefits for public health and welfare. We also estimate that the proposal would result in reduced vehicle operating costs for consumers and that the benefits of the proposed program would significantly exceed the costs.

ii. Recent and Ongoing Advancements in Technology Enable Further Emissions Reductions

In designing the scope, structure, and stringency of the proposed standards, the Administrator considered previous rulemakings, as well as the increasing availability of vehicle technologies that can be utilized by manufacturers to further reduce emissions. This proposal continues EPA's longstanding approach of establishing an appropriate and achievable trajectory of emissions reductions by means of performance-based standards, for both criteria pollutant and GHG emissions, that can be achieved by employing feasible and available emissions-reducing vehicle technologies for the model years for which the standard will apply.

CAA section 202(a) directs EPA to regulate emissions of air pollutants from new motor vehicles and engines, which in the Administrator's judgment cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. While standards promulgated pursuant to CAA section 202(a) are based on application of technology, the statute does not specify a particular technology or technologies that must be used to set such standards; rather, Congress has authorized and directed EPA to adapt its standards to emerging technologies.

¹⁰ 74 FR 66496, December 15, 2009; 81 FR 54422, August 15, 2016.

¹¹ Public Law 117–58, November 15, 2021.

¹² Public Law 117–169, August 16, 2022.

¹³ Gastelu, G., "General Motors President says 'the ICE age is not over' amid shift to EVs," Fox Business, November 17, 2022. Accessed on November 29, 2022 at <https://www.foxbusiness.com/lifestyle/general-motors-president-ice-age-evs>.

Thus, as with prior rules, EPA is assessing the feasibility of new standards in light of current and anticipated progress by automakers in developing and deploying new technologies. The levels of stringency in this proposal continue the trend of increased emissions reductions which have been adopted by prior EPA rules. The Tier 3 standards achieved reductions of up to 80 percent in tailpipe criteria pollutant emissions by treating the engine and fuel as an integrated system and requiring cleaner fuel as well as improved catalytic emissions control systems. Compliance with the EPA GHG standards over the past decade has been achieved predominantly through the application of advanced technologies to internal-combustion engine (ICE) vehicles. In that same time frame, as the EPA GHG standards have increased in stringency, automakers have relied to a greater degree on a range of electrification technologies, including hybrid electric vehicles (HEVs) and, in recent years, plug-in electric vehicles (PEVs) which include plug-in hybrid electric vehicles (PHEVs) and battery-electric vehicles (BEVs). As these technologies have been advancing rapidly in just the past several years, and battery costs have continued to decline, automakers have begun to include BEVs and PHEVs as an integral and growing part of their current and future product lines, leading to an increasing diversity of these clean vehicles planned for high-volume production. As a result, zero- and near-zero emission technologies are more feasible and cost-effective now than at the time of prior rulemakings.

These industry developments in vehicle electrification are driven by a number of factors, including the need to compete in a diverse market, as zero-emission transportation policies continue to be implemented across the world. An increasing number of U.S. states have taken actions to shift the light-duty fleet toward zero-emissions technology. In 2022, California finalized the Advanced Clean Cars II rule¹⁴ that will require, by 2035, all new light-duty vehicles sold in the state to be zero-

emission vehicles,¹⁵ with New York,^{16 17} Massachusetts,^{18 19} and Washington state²⁰ following suit, likely to be followed by Oregon and Vermont as well.²¹ Several other states may adopt similar provisions as members of the International Zero-Emission Vehicle Alliance.²² In addition to the U.S., auto manufacturers also compete in a global market that is becoming increasingly electrified. Globally, at least 20 countries, as well as numerous local jurisdictions, have announced targets for shifting all new passenger car sales to zero-emission vehicles in the coming years, including Norway (2025); Austria, the Netherlands, Denmark, Iceland, India, Ireland, Israel, Scotland, Singapore, Sweden, and Slovenia (2030); Canada, Chile, Germany, Thailand, and the United Kingdom (2035); and France, Spain, and Sri Lanka (2040).^{23 24 25 26} Many of these

¹⁵ State of California Office of the Governor, "Governor Newsom Announces California Will Phase Out Gasoline-Powered Cars & Drastically Reduce Demand for Fossil Fuel in California's Fight Against Climate Change," Press Release, September 23, 2020.

¹⁶ New York State Senate, Senate Bill S2758, 2021–2022 Legislative Session. January 25, 2021.

¹⁷ Governor of New York Press Office, "In Advance of Climate Week 2021, Governor Hochul Announces New Actions to Make New York's Transportation Sector Greener, Reduce Climate-Altering Emissions," September 8, 2021. Accessed on September 16, 2021 at <https://www.governor.ny.gov/news/advance-climate-week-2021-governor-hochul-announces-new-actions-make-new-yorks-transportation>.

¹⁸ Boston.com, "Following California's lead, state will likely ban all sales of new gas-powered cars by 2035," August 27, 2022. Accessed November 3, 2022 at <https://www.boston.com/news/local-news/2022/08/27/following-californias-lead-state-will-likely-ban-all-sales-of-new-gas-powered-cars-by-2035/>.

¹⁹ Commonwealth of Massachusetts, "Request for Comment on Clean Energy and Climate Plan for 2030," December 30, 2020.

²⁰ Washington Department of Ecology, "Washington sets path to phase out gas vehicles by 2035," Press Release, Sept. 7, 2022. Accessed on Nov. 3, 2022 at <https://ecology.wa.gov/About-us/Who-we-are/News/2022/Sept-7-Clean-Vehicles-Public-Comment>.

²¹ Associated Press, "17 states weigh adopting California's electric car mandate," September 3, 2022. Accessed on November 4, 2022 at <https://apnews.com/article/technology-california-clean-air-act-vehicle-emissions-standards-eebb48c13e24835f2c5b9cb56796182a>.

²² ZEV Alliance, "International ZEV Alliance Announcement," Dec. 3, 2015. Accessed on July 16, 2021 at <http://www.zevalliance.org/international-zev-alliance-announcement/>.

²³ Environment and Climate Change Canada, "Achieving a Zero-Emission Future for Light-Duty Vehicles: Stakeholder Engagement Discussion Document December 17," EC21255, December 17, 2021. Accessed on February 13, 2023 at <https://www.canada.ca/content/dam/eccc/documents/pdf/cepa/achieving-zero-emission-future-light-duty-vehicles.pdf>.

²⁴ International Council on Clean Transportation, "Update on the global transition to electric vehicles through 2019," July 2020.

announcements extend to light commercial vehicles as well, and several also target a shift to 100 percent all-electric medium- and heavy-duty vehicle sales (Norway targeting 2030, Austria 2035, and Canada and the United Kingdom 2040).

Together, the countries that through mid-2022 had set a target of 100 percent light-duty zero-emission vehicle sales by 2035 represented at least 25 percent of today's global light-duty vehicle market.²⁷ In addition, in February 2023 the European Union gave preliminary approval to a measure to phase out sales of ICE passenger vehicles in its 27 member countries by 2035.^{28 29} In 2021, BEVs and PHEVs together already comprised about 18 percent of the new vehicle market in Western Europe,³⁰ led by Norway which reached 64.5 percent BEV and 86.2 percent combined BEV and PHEV sales in 2021, increasing to 79.3 percent BEV and 87.8 percent combined BEV and PHEV sales in 2022.^{31 32 33}

²⁵ International Council on Clean Transportation, "Growing momentum: Global overview of government targets for phasing out new internal combustion engine vehicles," posted 11 November 2020, accessed April 28, 2021 at <https://theicct.org/blog/staff/global-ice-phaseout-nov2020>.

²⁶ Reuters, "Canada to ban sale of new fuel-powered cars and light trucks from 2035," June 29, 2021. Accessed July 1, 2021 from <https://www.reuters.com/world/americas/canada-ban-sale-new-fuel-powered-cars-light-trucks-2035-2021-06-29/>.

²⁷ International Energy Agency, "Global EV Outlook 2022," p. 57, May 2022. Accessed on November 18, 2022 at <https://iea.blob.core.windows.net/assets/e0d2081d-487d-4818-8c59-69b638969f9e/GlobaElectricVehicleOutlook2022.pdf>.

²⁸ Reuters, "EU approves effective ban on new fossil fuel cars from 2035," October 28, 2022. Accessed on Nov. 2, 2022 at <https://www.reuters.com/markets/europe/eu-approves-effective-ban-new-fossil-fuel-cars-2035-2022-10-27/>.

²⁹ Reuters, "EU lawmakers approve effective 2035 ban on new fossil fuel cars," February 14, 2023. Accessed on February 26, 2023 at <https://www.reuters.com/business/autos-transportation/eu-lawmakers-approve-effective-2035-ban-new-fossil-fuel-cars-2023-02-14/>.

³⁰ Ewing, J., "China's Popular Electric Vehicles Have Put Europe's Automakers on Notice," New York Times, accessed on November 1, 2021 at <https://www.nytimes.com/2021/10/31/business/electric-cars-china-europe.html>.

³¹ Klesty, V., "With help from Tesla, nearly 80% of Norway's new car sales are electric," Reuters, accessed on November 1, 2021 at <https://www.reuters.com/business/autos-transportation/tesla-pushes-norways-ev-sales-new-record-2021-10-01/>.

³² Norwegian Information Council for Road Traffic (OFV), "New car boom and electric car record in September," October 1, 2021, accessed on November 1, 2021 at <https://ofv.no/aktuelt/2021/nybil-boom-og-elbilrekord-i-september>.

³³ Holland, M., "Norway's EV Sales Explode Ahead Of Policy Changes," CleanTechnica, January 4, 2023. Accessed on February 22, 2023 at <https://cleantechnica.com/2023/01/04/norways-ev-sales-explode-ahead-of-policy-changes/>.

¹⁴ California Air Resources Board, "California moves to accelerate to 100% new zero-emission vehicle sales by 2035," Press Release, August 25, 2022. Accessed on Nov. 3, 2022 at <https://ww2.arb.ca.gov/news/california-moves-accelerate-100-new-zero-emission-vehicle-sales-2035>.

Recent trends in market penetration of zero and near-zero emission vehicles suggest that demand for these vehicles in the U.S. is rapidly increasing. Even under current standards, the production of new PEVs (including both BEVs and PHEVs) is growing rapidly and roughly doubling every year, projected to be 8.4 percent of U.S. light-duty vehicle production in MY 2022, up from 4.4 percent in MY 2021 and 2.2 percent in MY 2020.³⁴ In 2022, BEVs alone accounted for about 807,000 U.S. new car sales, or about 5.8 percent of the new light-duty passenger vehicle market, up from 3.2 percent BEVs the year before.³⁵ In California, new light-duty zero-emission vehicle (ZEV) sales in 2022 reached 18.8 percent of all new cars, up from 12.4 percent in 2021 and more than twice the share from 2020.³⁶

Before the Inflation Reduction Act (IRA) became law, analysts were already projecting that significantly increased penetration of plug-in electric vehicles would occur in the United States and in global markets. For example, in 2021, IHS Markit predicted a nearly 40 percent U.S. PEV share by 2030.³⁷ More recent projections by Bloomberg New Energy Finance suggest that under current policy and market conditions, and prior to the IRA, the U.S. was on pace to reach 40 to 50 percent PEVs by 2030.³⁸ When adjusted for the effects of the Inflation Reduction Act, this estimate increases to 52 percent.³⁹ Another study by the International Council on Clean Transportation (ICCT) and Energy Innovation that includes the effect of the IRA estimates that the share of BEVs will increase to 56 to 67 percent

by 2032.⁴⁰ These projections typically are based on assessment of a range of existing and developing factors, including state policies (such as the California Advanced Clean Cars II program and its adoption by Section 177 states); although the assumptions and other inputs to these forecasts vary, they point to greatly increased penetration of electrification across the U.S. light-duty fleet in the coming years, without specifically considering the effect of increased emission standards under this proposed rule.

These trends echo an ongoing global shift toward electrification. Global light-duty passenger PEV sales (including BEVs and PHEVs) reached 6.6 million in 2021, bringing the total number of PEVs on the road to more than 16.5 million globally.⁴¹ For fully-electric BEVs, global sales rose to 7.8 million in 2022, an increase of about 68 percent from the previous year and representing about 10 percent of the new global light-duty passenger vehicle market.^{42 43} Leading sales forecasts predict that BEV sales will continue to accelerate globally in the years to come. For example, in June 2022, Bloomberg New Energy Finance predicted that global sales will rise to 21 million in 2025 (implying an annual growth rate of about 39 percent from 2022), with total global vehicle stock reaching 77 million BEVs by 2025 and 229 million BEVs by 2030.⁴⁴

The year-over-year growth in U.S. PEV sales suggests that an increasing share of new vehicle buyers are concluding that a PEV is the best vehicle to meet their needs. Many of the zero-emission vehicles already on the market today cost less to operate than ICE vehicles, offer improved performance and handling, have a driving range similar to that of ICE vehicles, and can be charged at a growing network of public chargers as

well as at home.^{45 46 47 48 49 50} PEV owners often describe these advantages as key factors motivating their purchase.⁵¹ A 2022 survey by Consumer Reports shows that more than one third of Americans would either seriously consider or definitely buy or lease a BEV today, if they were in the market for a vehicle.⁵² Given that most consumers are currently much less familiar with BEVs than with ICE vehicles, this share is likely to rapidly grow as familiarity increases in response to increasing numbers of BEVs on the road and growing visibility of charging infrastructure. Most PEV owners who purchase a subsequent vehicle choose another PEV, and often express resistance to returning to an ICE vehicle after experiencing PEV ownership.^{53 54}

Recent literature indicates that consumer affinity for PEVs is strong. A recent study utilizing data from all new light-duty vehicles sold in the U.S. between 2014 and 2020, focused on comparisons of BEVs with their closest ICE counterparts, found that BEVs are

⁴⁵ Department of Energy Vehicle Technologies Office, Transportation Office, Transportation Analysis Fact of the Week #1186, "The National Average Cost of Fuel for an Electric Vehicle is about 60% Less than for a Gasoline Vehicle," May 17, 2021.

⁴⁶ Department of Energy Vehicle Technologies Office, Transportation Office, Transportation Analysis Fact of the Week #1190, "Battery-Electric Vehicles Have Lower Scheduled Maintenance Costs than Other Light-Duty Vehicles," June 14, 2021.

⁴⁷ International Council on Clean Transportation, "Assessment of Light-Duty Electric Vehicle Costs and Consumer Benefits in the United States in the 2022–2035 Time Frame," October 2022.

⁴⁸ Consumer Reports, "Electric Cars 101: The Answers to All Your EV Questions," November 5, 2020. Accessed June 8, 2021 at <https://www.consumerreports.org/hybrids-evs/electric-cars-101-the-answers-to-all-your-ev-questions/>.

⁴⁹ Department of Energy Vehicle Technologies Office, Transportation Analysis Fact of the Week #1253, "Fourteen Model Year 2022 Light-Duty Electric Vehicle Models Have a Driving Range of 300 Miles or Greater," August 29, 2022.

⁵⁰ Department of Energy Alternative Fuels Data Center, Electric Vehicle Charging Station Locations. Accessed on May 19, 2021 at https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC.

⁵¹ Hardman, S., and Tal, G., "Understanding discontinuance among California's electric vehicle owners," *Nature Energy*, v.538 n.6, May 2021 (pp. 538–545).

⁵² Consumer Reports, "More Americans Would Buy an Electric Vehicle, and Some Consumers Would Use Low-Carbon Fuels, Survey Shows," July 7, 2022. Accessed on March 8, 2023 at <https://www.consumerreports.org/hybrids-evs/interest-in-electric-vehicles-and-low-carbon-fuels-survey-a8457332578/>.

⁵³ Muller, J., "Most electric car buyers don't switch back to gas," *Axios.com*. Accessed on February 24, 2023 at <https://www.axios.com/2022/10/05/ev-adoption-loyalty-electric-cars>.

⁵⁴ Hardman, S., and Tal, G., "Understanding discontinuance among California's electric vehicle owners," *Nature Energy*, v.538 n.6, May 2021 (pp. 538–545).

³⁴ Environmental Protection Agency, "The 2022 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029, December 2022.

³⁵ Colias, M., "U.S. EV Sales Jolted Higher in 2022 as Newcomers Target Tesla," *Wall Street Journal*, January 6, 2023.

³⁶ California Energy Commission, "New ZEV Sales in California" online dashboard, viewed on February 13, 2023 at <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/new-zev-sales>.

³⁷ IHS Markit, "US EPA Proposed Greenhouse Gas Emissions Standards for Model Years 2023–2026; What to Expect," August 9, 2021. Accessed on March 9, 2023 at <https://www.spglobal.com/mobility/en/research-analysis/us-epa-proposed-greenhouse-gas-emissions-standards-my2023-26.html>. The table indicates 32.3% BEVs and combined 39.7% BEV, PHEV, and range-extended electric vehicle (REX) in 2030.

³⁸ Bloomberg New Energy Finance (BNEF), "Electric Vehicle Outlook 2022," Long term outlook economic transition scenario.

³⁹ Tucker, S., "Study: More Than Half of Car Sales Could Be Electric By 2030," *Kelley Blue Book*, October 4, 2022. Accessed on February 24, 2023 at <https://www.kbb.com/car-news/study-more-than-half-of-car-sales-could-be-electric-by-2030/>.

⁴⁰ International Council on Clean Transportation, "Analyzing the Impact of the Inflation Reduction Act on Electric Vehicle Uptake in the US," ICCT White Paper, January 2023. Available at <https://theicct.org/wp-content/uploads/2023/01/ira-impact-evs-us-jan23.pdf>.

⁴¹ International Energy Agency, "Global EV Outlook 2022," p. 107, May 2022. Accessed on November 18, 2022 at <https://iea.blob.core.windows.net/assets/e0d2081d-487d-4818-8c59-69b638969f9e/GlobalElectricVehicleOutlook2022.pdf>.

⁴² Boston, W., "EVs Made Up 10% of All New Cars Sold Last Year," *Wall Street Journal*, January 16, 2023.

⁴³ Colias, M., "U.S. EV Sales Jolted Higher in 2022 as Newcomers Target Tesla," *Wall Street Journal*, January 6, 2023.

⁴⁴ Bloomberg NEF, "Net-Zero Road Transport By 2050 Still Possible, As Electric Vehicles Set To Quintuple By 2025," June 1, 2022. Accessed on February 21, 2023 at <https://about.bnef.com/blog/net-zero-road-transport-by-2050-still-possible-as-electric-vehicles-set-to-quintuple-by-2025/>.

preferred to the ICE counterpart in some segments.⁵⁵ In addition, when comparing all BEV sales with sales of the closest ICE counterparts, BEVs attain a market share of over 30 percent, which is significantly greater than the BEV market share among all vehicles.⁵⁶ This suggests that the share of PEVs in the marketplace is, at least partially, constrained due to the lack of offerings needed to convert existing demand into market share.⁵⁶ However, the number and diversity of electrified vehicle models is rapidly increasing.⁵⁶ For example, the number of PEV models available for sale in the U.S. has more than doubled from about 24 in MY 2015 to about 60 in MY 2021, with offerings in a growing range of vehicle segments.⁵⁷ Recent announcements indicate that this number will increase to more than 80 models by MY 2023,⁵⁸ and more than 180 models by 2025.⁵⁹

According to the U.S. Bureau of Labor Statistics, growth in PEV sales is driven in part by growing consumer demand and growing automaker commitments to electrification and will be further supported by policy measures including the Bipartisan Infrastructure Law and the Inflation Reduction Act.⁶⁰ As the presence of PEVs in the fleet increases, consumers are encountering PEVs more often in their daily experience. Many analysts believe that as PEVs continue to increase their market share, PEV ownership will continue to broaden its appeal as consumers gain more exposure and experience with the technology and with the benefits of PEV ownership,⁶¹ with some analysts

suggesting that a “tipping point” for PEV adoption may then result.^{62 63 64}

While the retail price of PEVs is typically higher than for comparable ICE vehicles at this time, the price difference is widely expected to narrow or disappear, particularly for BEVs, as the cost of batteries and other components fall in the coming years.⁶⁵ Among the many studies that address cost parity of BEVs vs. ICE vehicles, an emerging consensus suggests that purchase price parity is likely to occur by the mid-2020s for some vehicle segments and models, and for a broader segment of the market on a total cost of ownership (TCO) basis.^{66 67} By some accounts, a compact car with a relatively small battery (for example, a 40 kWh battery and approximately 150 miles of range) may already be possible to produce and sell for the same price as a compact ICE vehicle.⁶⁸ For larger vehicles and/or those with a longer range (either of which call for a larger battery), many analysts expect examples of price parity to increasingly appear over the mid- to late-2020s. Assessments of price parity often do not include the effect of various state and Federal purchase incentives. For example, the Clean Vehicle Credit provides up to \$7,500, under the Inflation Reduction Act, effectively making some BEVs more affordable to buy and operate today than comparable ICE vehicles. Many expect

TCO parity to precede price parity by several years, as it accounts for the reduced cost of operation and maintenance for BEVs.^{69 70} For example, Kelley Blue Book already estimates that the vehicle with lowest TCO in both the full-size pickup and luxury car classes of vehicle is a BEV.^{71 72} TCO parity is of particular interest to commercial and fleet operators, for whom lower TCO is a compelling business consideration.

A proliferation of announcements by automakers in the past two years signals a rapidly growing shift in product development focus among automakers away from internal-combustion technologies and toward electrification. For example, in January 2021, General Motors announced plans to become carbon neutral by 2040, including an effort to shift its light-duty vehicles entirely to zero-emissions by 2035.⁷³ In March 2021, Volvo announced plans to make only electric cars by 2030,⁷⁴ and Volkswagen announced that it expects half of its U.S. sales will be all-electric by 2030.⁷⁵ In April 2021, Honda announced a full electrification plan to take effect by 2040, with 40 percent of North American sales expected to be fully electric or fuel cell vehicles by 2030, 80 percent by 2035 and 100 percent by 2040.⁷⁶ In May 2021, Ford announced that they expect 40 percent of their global sales will be all-electric by 2030.⁷⁷ In June 2021, Fiat announced

⁵⁵ Gillingham, K., van Benthem, A., Weber, S., Saafi, D., He, X. “Has Consumer Acceptance of Electric Vehicles Been Increasing: Evidence from Microdata on Every New Vehicle Sale in the United States.” American Economic Association: Papers & Proceedings, 2023, forthcoming. https://resources.environment.yale.edu/gillingham/GBWSH_ConsumerAcceptanceEVs.pdf.

⁵⁶ Muratori et al., “The rise of electric vehicles—2020 status and future expectations,” Progress in Energy v3n2 (2021), March 25, 2021. Accessed July 15, 2021 at <https://iopscience.iop.org/article/10.1088/2516-1083/abe0ad>.

⁵⁷ *Fueleconomy.gov*, 2015 Fuel Economy Guide and 2021 Fuel Economy Guide.

⁵⁸ Environmental Defense Fund and M.J. Bradley & Associates, “Electric Vehicle Market Status—Update, Manufacturer Commitments to Future Electric Mobility in the U.S. and Worldwide,” April 2021.

⁵⁹ Environmental Defense Fund and ERM, “Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide,” September 2022.

⁶⁰ U.S. Bureau of Labor Statistics, “Charging into the future: the transition to electric vehicles,” Beyond the Numbers v12 n4, February 2023. Available at: <https://www.bls.gov/opub/btn/volume-12/charging-into-the-future-the-transition-to-electric-vehicles.htm>.

⁶¹ Jackman, D.K., K.S. Fujita (LBNL), H.C. Yang (LBNL), and M. Taylor (LBNL). Literature Review

of U.S. Consumer Acceptance of New Personally Owned Light-Duty (LD) Plug-in Electric Vehicles (PEVs). U.S. Environmental Protection Agency, Washington, DC Available at: https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=353465.

⁶² Car and Driver, “Electric Cars’ Turning Point May Be Happening as U.S. Sales Numbers Start Climb,” August 8, 2022. Accessed on February 24, 2023 at <https://www.caranddriver.com/news/a39998609/electric-car-sales-usa/>.

⁶³ Randall, T., “US Crosses the Electric-Car Tipping Point for Mass Adoption,” *Bloomberg.com*, July 9, 2022. Accessed on February 24, 2023 at <https://www.bloomberg.com/news/articles/2022-07-09/us-electric-car-sales-reach-key-milestone>.

⁶⁴ Romano, P., “EV adoption has reached a tipping point. Here’s how today’s electric fleets will shape the future of mobility,” *Fortune*, October 11, 2022. Accessed on February 24, 2023 at <https://fortune.com/2022/10/11/ev-adoption-tesla-semi-tipping-point-electric-fleets-future-mobility-pasquale-romano/>.

⁶⁵ International Council on Clean Transportation, “Assessment of Light-Duty Electric Vehicle Costs and Consumer Benefits in the United States in the 2022–2035 Time Frame,” October 2022.

⁶⁶ International Council on Clean Transportation, “Assessment of Light-Duty Electric Vehicle Costs and Consumer Benefits in the United States in the 2022–2035 Time Frame,” October 2022.

⁶⁷ Environmental Defense Fund and ERM, “Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide,” September 2022.

⁶⁸ Walton, R., “Electric vehicle models expected to triple in 4 years as declining battery costs boost adoption,” *UtilityDive.com*, December 14, 2020.

⁶⁹ International Council on Clean Transportation, “Assessment of Light-Duty Electric Vehicle Costs and Consumer Benefits in the United States in the 2022–2035 Time Frame,” October 2022.

⁷⁰ Environmental Defense Fund and ERM, “Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide,” September 2022.

⁷¹ Kelley Blue Book, “What is 5-Year Cost to Own?”, Full-size Pickup Truck selected (Ford F-150 Lightning is lowest TCO). Accessed on February 28, 2023 at <https://www.kbb.com/new-cars/total-cost-of-ownership/>.

⁷² Kelley Blue Book, “What is 5-Year Cost to Own?”, Luxury Car selected (Polestar 2 and Tesla Model 3 are lowest TCO). Accessed on February 28, 2023 at <https://www.kbb.com/new-cars/total-cost-of-ownership/>.

⁷³ General Motors, “General Motors, the Largest U.S. Automaker, Plans to be Carbon Neutral by 2040,” Press Release, January 28, 2021.

⁷⁴ Volvo Car Group, “Volvo Cars to be fully electric by 2030,” Press Release, March 2, 2021.

⁷⁵ Volkswagen Newsroom, “Strategy update at Volkswagen: The transformation to electromobility was only the beginning,” March 5, 2021. Accessed June 15, 2021 at <https://www.volkswagen-newsroom.com/en/stories/strategy-update-at-volkswagen-the-transformation-to-electromobility-was-only-the-beginning-6875>.

⁷⁶ Honda News Room, “Summary of Honda Global CEO Inaugural Press Conference,” April 23, 2021. Accessed June 15, 2021 at <https://global.honda/newsroom/news/2021/c210423eng.html>.

⁷⁷ Ford Motor Company, “Superior Value From EVs, Commercial Business, Connected Services is

a move to all electric vehicles by 2030, and in July 2021 its parent corporation Stellantis announced an intensified focus on electrification across all of its brands.^{78 79} Also in July 2021, Mercedes-Benz announced that all of its new architectures would be electric-only

from 2025, with plans to become ready to go all-electric by 2030 where possible.⁸⁰ In December 2021, Toyota announced plans to introduce 30 BEV models by 2030.⁸¹ Figure 1, taken from work by the Environmental Defense Fund and ERM, illustrates how these

and other announcements mean that virtually every major manufacturer of light-duty vehicles is already planning to introduce widespread electrification across their global fleets in the coming years.⁸²

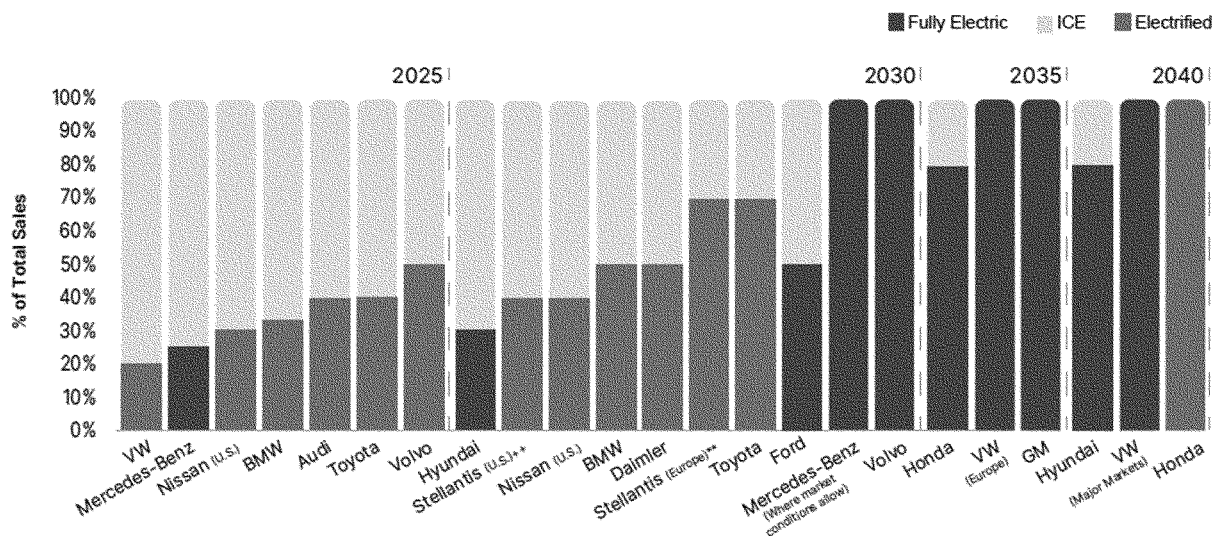


Figure 1. Future electrified and fully electric global sales goals by manufacturer (EDF 2022).

Accompanying this global-market focus on electrification, as shown in Figure 2, the number of PHEV and BEV

models available in the U.S. has steadily grown, and a large number of public model announcements by

manufacturers indicate further steep growth will occur in the years to come.

Strategic Focus of Today's 'Delivering Ford+' Capital Markets Day," Press Release, May 26, 2021.

⁷⁸ Stellantis, "World Environment Day 2021—Comparing Visions: Olivier Francois and Stefano Boeri, in Conversation to Rewrite the Future of Cities," Press Release, June 4, 2021.

⁷⁹ Stellantis, "Stellantis Intensifies Electrification While Targeting Sustainable Double-Digit Adjusted

Operating Income Margins in the Mid-Term," Press Release, July 8, 2021.

⁸⁰ Mercedes-Benz, "Mercedes-Benz prepares to go all-electric," Press Release, July 22, 2021.

⁸¹ Toyota Motor Corporation, "Video: Media Briefing on Battery EV Strategies," Press Release, December 14, 2021. Accessed on December 14, 2021

at <https://global.toyota/en/newsroom/corporate/36428993.html>.

⁸² Environmental Defense Fund and ERM, "Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide," September 2022.

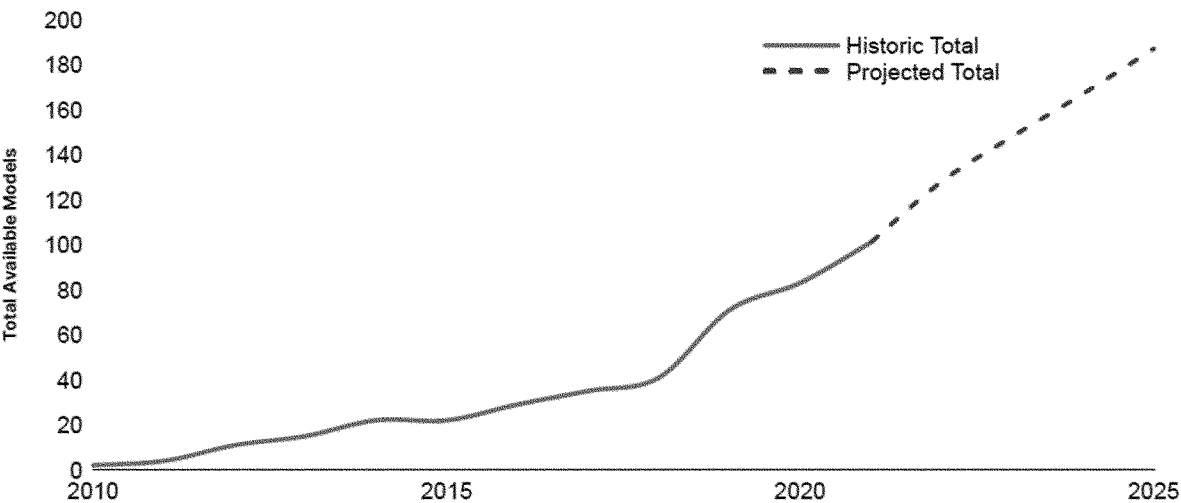


Figure 2. Projection of total light-duty PHEV and BEV U.S. models available by year (EDF 2022).

Globally and domestically, these ongoing announcements indicate a strong industry momentum toward electrification that is common to every major manufacturer. Given the breadth of these announcements, it is instructive

to consider the penetrations of PEVs that they imply when taken collectively. Table 1 compiles public announcements of U.S. and global electrification targets to date by major manufacturers. Assuming that the MY

2022 U.S. sales shares for each manufacturer were to persist in 2030, these targets would collectively imply a U.S. PEV sales share approaching 50 percent in 2030 (48.6 percent), consisting primarily of BEVs.

TABLE 1—EXAMPLE OF U.S. ELECTRIFIED NEW SALES PERCENTAGES IMPLIED BY OEM ANNOUNCEMENTS FOR 2030 OR BEFORE

2022 U.S. sales rank	OEM	Share of total 2022 U.S. sales ¹ (%)	Stated EV share in 2030 ² (%)	Powertrain ³	Implied OEM contribution to 2030 total PEV market share (%)
1	General Motors	16.4	50	PEV	8.2
2	Toyota	15.4	⁴ 33	BEV	5.1
3	Ford	13.1	50	BEV	6.5
4	Stellantis	11.2	50	BEV	5.6
5	Honda	7.2	40	BEV	2.9
6	Hyundai	5.7	50	BEV	2.8
7	Nissan	5.3	40	BEV	2.1
8	Kia	5.0	45	BEV	2.3
9	Subaru	4.1	40	BEV	1.6
10	Volkswagen, Audi	3.6	50	BEV	1.8
11	Tesla	3.4	100	BEV	3.4
12	Mercedes-Benz	2.6	100	BEV	2.6
13	BMW	2.6	50	BEV	1.3
14	Mazda	2.1	25	BEV	0.5
15	Volvo	0.8	100	BEV	0.8
16	Mitsubishi	0.6	50	PEV ⁵	0.3
17	Porsche	0.5	80	BEV	0.4
18	Land Rover	0.4	60	BEV	0.3
19	Jaguar	0.07	100	BEV	0.7
20	Lucid	0.02	100	BEV	0.02
Total .....	.....	100.0	.....		48.6

Notes:
¹ 2022 U.S. sales shares based on data from Ward's Automotive Intelligence.
² Where a U.S. target was not specified, the global target was assumed for the U.S.
³ PEV = combination of BEV and PHEV. PEV and BEV may include fuel cell electric vehicles (FCEV).
⁴ Based on announced goal of 3.5 million BEVs globally in 2030, divided by 10.5 million vehicles sold in 2022.
⁵ Announcement includes unspecified amount of HEVs.
A version of this table with supporting citations for each automaker announcement, and the raw data with additional tabulations, are available in the Docket.⁸³

While manufacturer announcements such as these are not binding, and often are conditioned as forward-looking and subject to uncertainty, they indicate that manufacturers are confident in the suitability of PEV technology as an effective and attractive option that can

serve the functional needs of a large portion of light-duty vehicle buyers.

As seen in Figure 3, an analysis by the International Energy Agency similarly concludes that the 2030 U.S. zero-emission vehicle sales share collectively implied by such announcements (“range

of OEM declarations”) would amount to nearly 50 percent if not more, far exceeding the 20 percent that IEA considers sufficient to meet existing U.S. policies and regulations (“Stated Policies” scenario).⁸⁴

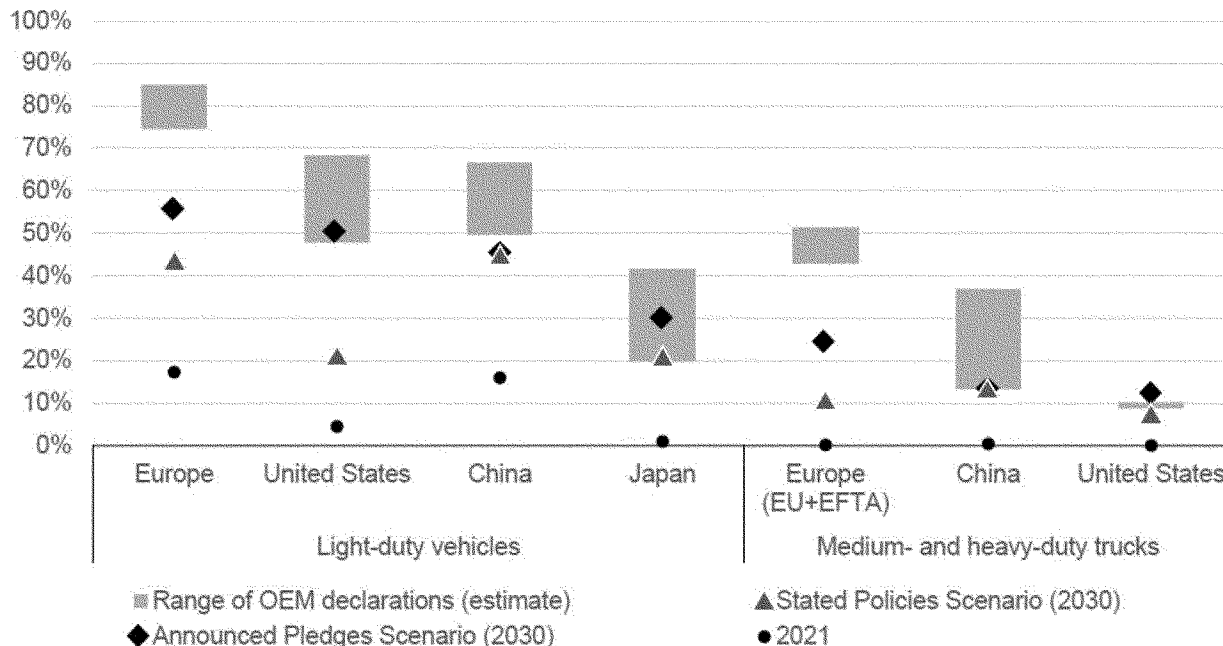


Figure 3. Estimated zero-emission vehicle sales shares resulting from OEM announcements compared to stated and potential policies (IEA 2022).

Fleet electrification plans are not limited to light-duty vehicles. Numerous commitments to purchase all-electric medium-duty delivery vans have been announced by large fleet owners including FedEx,⁸⁵ Amazon,⁸⁶ and Walmart,⁸⁷ in partnerships with various OEMs. For example, Amazon has deployed thousands of electric delivery vans in over 100 cities, with the goal of 100,000 vans by 2030. Many other fleet electrification commitments that include large numbers of medium-duty and heavier vehicles have been

announced by large corporations in many sectors of the economy, including not only retailers like Amazon and Walmart but also consumer product manufacturers with large delivery fleets (e.g. IKEA, Unilever), large delivery firms (e.g. DHL, FedEx, USPS), and numerous firms in many other sectors including power and utilities, biotech, public transportation, and municipal fleets across the country.⁸⁸ As another example, Daimler Trucks North America announced in 2021 that it expected 60 percent of its sales in 2030 and 100

percent of its sales by 2039 would be zero-emission.⁸⁹

These announcements and others like them continue a pattern over the past several years in which most major manufacturers have taken steps to aggressively invest in zero-emission technologies and reduce their reliance on the internal-combustion engine in various markets around the globe.^{90 91} According to one analysis, 37 of the world's automakers are planning to invest a total of almost \$1.2 trillion by 2030 toward electrification,⁹² a large

⁸³ See Memo to Docket ID No. EPA-HQ-OAR-2022-0829 titled “Electrification Announcements and Implied PEV Penetration by 2030.”

⁸⁴ International Energy Agency, “Global EV Outlook 2022,” p. 107, May 2022. Accessed on November 18, 2022 at <https://iea.blob.core.windows.net/assets/e0d2081d-487d-4818-8c59-69b638969f9e/GlobalElectricVehicleOutlook2022.pdf>.

⁸⁵ BrightDrop, “BrightDrop Accelerates EV Production with First 150 Electric Delivery Vans Integrated into FedEx Fleet,” Press Release, June 21, 2022.

⁸⁶ Amazon Corporation, “Amazon’s Custom Electric Delivery Vehicles from Rivian Start Rolling Out Across the U.S.,” Press Release, July 21, 2022.

⁸⁷ Walmart, “Walmart To Purchase 4,500 Canoo Electric Delivery Vehicles To Be Used for Last Mile Deliveries in Support of Its Growing eCommerce Business,” Press Release, July 12, 2022.

⁸⁸ Environmental Defense Fund and ERM, “Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide,” September 2022.

⁸⁹ Carey, N., “Daimler Truck ‘all in’ on green energy as it targets costs,” May 20, 2021.

⁹⁰ Environmental Defense Fund and M.J. Bradley & Associates, “Electric Vehicle Market Status—Update, Manufacturer Commitments to Future Electric Mobility in the U.S. and Worldwide,” April 2021.

⁹¹ International Council on Clean Transportation, “The end of the road? An overview of combustion-engine car phase-out announcements across Europe,” May 10, 2020.

⁹² Reuters, “A Reuters analysis of 37 global automakers found that they plan to invest nearly \$1.2 trillion in electric vehicles and batteries through 2030,” October 21, 2022. Accessed on November 4, 2022 at <https://graphics.reuters.com/AUTOS-INVESTMENT/ELECTRIC/akpeqgzypr/>.

portion of which will be used for construction of manufacturing facilities for vehicles, battery cells and packs, and materials, supporting up to 5.8 terawatt-hours of battery production and 54 million BEVs per year globally.⁹³ Similarly, an analysis by the Center for Automotive Research shows that a significant shift in North American investment is occurring toward electrification technologies, with \$36 billion of about \$38 billion in total automaker manufacturing facility investments announced in 2021 being slated for electrification-related manufacturing in North America, with a similar proportion and amount on track for 2022.⁹⁴ For example, in September 2021, Toyota announced large new investments in battery production and development to support an increasing focus on electrification,⁹⁵ and in December 2021, announced plans to increase this investment.⁹⁶ In December 2021, Hyundai closed its engine development division at its research and development center in Namyang, South Korea in order to refocus on BEV development.⁹⁷ In summer 2022, Hyundai invested \$5.5 billion to fund new battery and electric vehicle manufacturing facilities in Georgia, and recently announced a \$1.9 billion joint venture with SK to fund additional battery manufacturing in the U.S.^{98 99}

⁹³ Reuters, “Exclusive: Automakers to double spending on EVs, batteries to \$1.2 trillion by 2030,” October 25, 2022. Accessed on November 4, 2022 at <https://www.reuters.com/technology/exclusive-automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/>.

⁹⁴ Center for Automotive Research, “Automakers Invest Billions in North American EV and Battery Manufacturing Facilities,” July 21, 2022. Retrieved on November 10, 2022 at <https://www.cargroup.org/automakers-invest-billions-in-north-american-ev-and-battery-manufacturing-facilities/>.

⁹⁵ Toyota Motor Corporation, “Video: Media briefing & Investors briefing on batteries and carbon neutrality” (transcript), September 7, 2021. Accessed on September 16, 2021 at <https://global.toyota/en/newsroom/corporate/35971839.html#presentation>.

⁹⁶ Toyota Motor Corporation, “Video: Media Briefing on Battery EV Strategies,” Press Release, December 14, 2021. Accessed on December 14, 2021 at <https://global.toyota/en/newsroom/corporate/36428993.html>.

⁹⁷ Do, Byung-Uk, Kim, Il-Gue, “Hyundai Motor closes engine development division”, The Korea Economic Daily, December 23, 2021. Accessed on November 29, 2022 at <https://www.kedglobal.com/electric-vehicles/newsView/ked202112230013>.

⁹⁸ Velez, C. “Hyundai and SK On to bring even more EV battery plants to U.S.” CBT News, November 29, 2022. Accessed on November 29, 2022 at <https://www.cbtnews.com/hyundai-and-sk-on-to-bring-even-more-ev-battery-plants-to-u-s/>.

⁹⁹ Lee, J., Yang, H. “Hyundai Motor, SK On sign EV battery supply pact for N. America”, Reuters, November 29, 2022. Accessed on November 29, 2022 at <https://www.reuters.com/business/autos-transportation/hyundai-motor-group-sk-ev-battery-supply-pact-n-america-2022-11-29/>.

On August 5, 2021, many of these automakers, as well as the Alliance for Automotive Innovation, expressed continued commitment to their announcements of a shift to electrification, and expressed their support for the goal of achieving 40 to 50 percent sales of zero-emission vehicles by 2030.¹⁰⁰ In September 2022, jointly with the Environmental Defense Fund, General Motors announced a set of recommendations that “seek to accelerate a zero-emissions, all-electric future for passenger vehicles in model year 2027 and beyond,” including a recommendation that EPA establish standards to achieve at least a 60 percent reduction in GHG emissions (compared to MY 2021) and 50 percent zero-emitting vehicles by MY 2030, and that standards be consistent with eliminating tailpipe pollution from new passenger vehicles by 2035. GM and EDF further recommended that the EPA standards extend at least through MY 2032, and that EPA should consider adoption through 2035.¹⁰¹

Investments in PEV charging infrastructure have grown rapidly in recent years and are expected to continue to climb. According to BloombergNEF, annual global investment was \$62 billion in 2022, nearly twice that of the prior year, and while about 10 years was needed for cumulative investment to total \$100 billion, a total of \$200 billion could be reached in just three more years.¹⁰² U.S. infrastructure spending has also grown quickly. Combined investments in hardware and installation for U.S. home and public charging ports was over \$1.2 billion in 2021, nearly a three-fold increase from 2017.¹⁰³

The U.S. government is making large investments in infrastructure through the Bipartisan Infrastructure Law¹⁰⁴ and

¹⁰⁰ The White House, “Statements on the Biden Administration’s Steps to Strengthen American Leadership on Clean Cars and Trucks,” August 5, 2021. Accessed on October 19, 2021 at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/05/statements-on-the-biden-administrations-steps-to-strengthen-american-leadership-on-clean-cars-and-trucks/>.

¹⁰¹ Environmental Defense Fund, “GM and EDF Announce Recommended Principles on EPA Emissions Standards for Model Year 2027 and Beyond,” Press Release, September 20, 2022.

¹⁰² BloombergNEF, “Next \$100 Billion EV-Charger Spend to be Super Fast,” January 20, 2023. Accessed March 6, 2023, at <https://about.bnef.com/blog/next-100-billion-ev-charger-spend-to-be-super-fast/>.

¹⁰³ BloombergNEF, “Zero-Emission Vehicles Factbook A BloombergNEF special report prepared for COP27,” November 2022. Accessed March 4, 2023, at <https://www.bloomberg.com/professional/download/2022-zero-emissions-vehicle-factbook/>.

¹⁰⁴ <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>.

the Inflation Reduction Act.¹⁰⁵ However, we expect that private investments will also play a critical role in meeting future infrastructure needs. Private charging companies have already attracted billions globally in venture capital and mergers and acquisitions.¹⁰⁶ In the United States, there was \$200 million or more in mergers and acquisition activity in 2022¹⁰⁷ indicating strong interest in the future of the charging industry. And Bain projects that by 2030, the U.S. market for electric vehicle charging will be “large and profitable” with both revenue and profits estimated to grow by a factor of twenty relative to 2021.¹⁰⁸ Automakers, electric companies, charging network providers, and retailers are among those who have made significant commitments to expand charging infrastructure in the coming years.¹⁰⁹ See Section IV.C.4 of this document and DRIA Chapter 5 for a discussion of public and private infrastructure investments.

Taken together, these developments indicate that proven, zero-emissions technologies such as BEVs, PHEVs, and FCEVs are already poised to become a rapidly growing segment of the U.S. fleet, as manufacturers continue to invest in these technologies and integrate them into their product plans, and infrastructure continues to be developed. Accordingly, EPA considers these technologies to be an available and feasible way to greatly reduce emissions, and expects that these technologies will likely play a significant role in meeting the proposed standards for both criteria pollutants and GHGs.

At the same time, EPA anticipates that a compliant fleet under the proposed standards would include a diverse range of technologies. The advanced gasoline technologies that have played a

¹⁰⁵ <https://www.congress.gov/117/plaws/publ169/PLAW-117publ169.pdf>.

¹⁰⁶ Hambleton, “Autotech & Mobility M&A market report 1H2023”. Accessed March 4, 2023, at https://www.hambletonpartners.com/fileadmin/user_upload/Report_PDFs/Hambleton-Partners-Autotech-Mobility-Report-1H2023-FINAL.pdf.

¹⁰⁷ St. John, A. et al., “Automakers need way more plug-in stations to make their EV plans work. That has sparked a buying frenzy as big charging players gobble up smaller ones,” Insider, November 4, 2022. Accessed March 4, 2023, at <https://www.businessinsider.com/ev-charging-industry-merger-acquisition-meet-electric-vehicle-demand-2022-11>.

¹⁰⁸ Zayer, E. et al., “EV Charging Shifts into High Gear,” Bain & Company, June 20, 2022. Accessed March 4, 2023, at <https://www.bain.com/insights/electric-vehicle-charging-shifts-into-high-gear/>.

¹⁰⁹ Joint Office of Energy and Transportation, “Private Sector Continues to Play Key Part in Accelerating Buildout of EV Charging Networks,” February 15, 2023. Accessed March 6, 2023, at <https://driveelectric.gov/news/#private-investment>.

fundamental role in meeting previous standards will continue to play an important role going forward as they remain key to reducing the criteria and GHG emissions of ICE, mild hybrid (MHEV), and strong HEV powertrains as well as PHEVs. The proposed standards will also provide regulatory certainty to support the many private automaker announcements and investments in zero-emission vehicles that have been outlined in the preceding paragraphs. In developing the proposed standards, EPA has also considered many of the key issues associated with growth in penetration of zero-emission vehicles, including charging infrastructure, consumer acceptance, critical minerals and mineral security, and others, as well as the need to consider emissions from the many ICE vehicles that will enter the fleet during this time. We discuss each of these issues in more detail in respective sections of the Preamble and Draft Regulatory Impact Analysis (DRIA).

iii. The Bipartisan Infrastructure Law and Inflation Reduction Act

A particular consideration with regard to the increased penetration of zero-emission vehicle technology is Congress' recent passage of the Bipartisan Infrastructure Law (BIL)¹¹⁰ and the Inflation Reduction Act (IRA).¹¹¹ These measures represent significant Congressional support for investment in expanding the manufacture, sale, and use of zero-emission vehicles by addressing elements critical to the advancement of clean transportation and clean electricity generation in ways that will facilitate and accelerate the development, production and adoption of zero-emission technology during the time frame of the rule.

The BIL became law in November 2021 and includes a wide range of programs and significant funding for infrastructure investments, many of which are oriented toward reducing GHG emissions across the U.S. transportation network, upgrading power generation infrastructure, and making the transportation infrastructure resilient to climate impacts such as extreme weather. Notably, in support of light-duty zero-emissions transportation the BIL included \$7.5 billion in funding for installation of public charging and other alternative fueling infrastructure. This will have a major impact on feasibility of PEVs across the U.S. by

improving access to charging and other infrastructure, and it will further support the Administration's goal of deploying 500,000 PEV chargers by 2030. It also includes \$5 billion for electrification of school buses through the Clean School Bus Program, providing for further reductions in emissions from the heavy-duty sector.^{112 113} To help ensure that clean vehicles are powered by clean energy, it also includes \$65 billion to upgrade the power infrastructure to facilitate increased use of renewables and clean energy.

The IRA became law in August 2022, bringing significant new momentum to clean vehicles (PEVs and FCEVs) through measures that reduce the cost to purchase and manufacture them, incentivize the growth of manufacturing capacity and onshore sourcing of critical minerals needed for their manufacture, incentivize buildout of public charging infrastructure for PEVs, and promote modernization of the electrical grid that will power them. It includes significant purchase incentives of up to \$7,500 for new clean vehicles (Clean Vehicle Credit, IRS 30D) and up to \$4,000 for used vehicles (IRS 25E), which will have a strong impact on affordability of these vehicles for a wide range of customers. These incentives extend not only to light-duty vehicles but also to commercial purchase of light- and medium-duty vehicles, with a credit of up to \$40,000 for the latter (Commercial Clean Vehicle Credit, IRS 45W). Manufacturer production tax incentives of \$35 per kilowatt-hour (kWh) for U.S. production of battery cells, \$10 per kWh for U.S. production of modules, and 10 percent of production cost for U.S.-made critical minerals and battery active materials (Production Tax Credit, IRS 45X), will significantly reduce the manufacturing cost of these components, further reducing PEV and FCEV cost for consumers. In addition, the IRA includes significant tax credits for certain charging infrastructure equipment, and sizeable incentives for investment in and production of clean electricity.

With respect to sourcing of critical minerals and building a secure supply chain for clean vehicles, the IRA also includes provisions that will greatly reduce reliance on foreign imports by strongly supporting the continued development of a domestic or North American supply chain for these critical

products. Manufacturers who want their customers to take advantage of the Clean Vehicle Credit must meet a gradually increasing requirement for sourcing of critical minerals and battery components from U.S. or free-trade countries, and cannot utilize content acquired from foreign entities of concern. Manufacturer eligibility for the Production Tax Credit for cells and modules is conditioned on their manufacture in the U.S., as is eligibility for the 10 percent credit on the cost of producing critical minerals and battery active materials. Manufacturers are already taking advantage of these opportunities to improve their sales and reduce their production costs by securing eligible sources of critical mineral content and siting new production facilities in the U.S.^{114 115 116 117 118 119 120 121 122} There is a coordinated effort by Executive Branch agencies, including the Department of Energy and the National Laboratories, to provide guidance and resources and to administer funding to support this collective effort to further develop a robust supply chain for clean vehicles and the infrastructure that will support them.^{123 124 125} Section IV.C.6 of this

¹¹⁴ Green Car Congress, "Ford sources battery capacity and raw materials for 600K EV annual run rate by late 2023, 2M by end of 2026; adding LFP," July 22, 2022.

¹¹⁵ Ford Motor Company, "Ford Releases New Battery Capacity Plan, Raw Materials Details to Scale EVs; On Track to Ramp to 600K Run Rate by '23 and 2M+ by '26, Leveraging Global Relationships," Press Release, July 21, 2022.

¹¹⁶ Green Car Congress, "GM signs major Li-ion supply chain agreements: CAM with LG Chem and lithium hydroxide with Livent," July 26, 2022.

¹¹⁷ Grzelewski, J., "GM says it has enough EV battery raw materials to hit 2025 production target," The Detroit News, July 26, 2022.

¹¹⁸ Hall, K., "GM announces new partnership for EV battery supply," The Detroit News, April 12, 2022.

¹¹⁹ Hawkins, A., "General Motors makes moves to source rare earth metals for EV motors in North America," The Verge, December 9, 2021.

¹²⁰ Piedmont Lithium, "Piedmont Lithium Signs Sales Agreement With Tesla," Press Release, September 28, 2020.

¹²¹ Subramanian, P., "Why Honda's EV battery plant likely wouldn't happen without new climate credits," Yahoo Finance, August 29, 2022.

¹²² LG Chem, "LG Chem to Establish Largest Cathode Plant in US for EV Batteries," Press Release, November 22, 2022.

¹²³ Executive Order 14017, Securing America's Supply Chains, February 24, 2021. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/24/executive-order-on-americas-supply-chains/>.

¹²⁴ The White House, "FACT SHEET: Biden-Harris Administration Driving U.S. Battery Manufacturing and Good-Paying Jobs," October 19, 2022. Available at: <https://www.whitehouse.gov/briefing-room/statements-releases/2022/10/19/fact-sheet-biden-harris-administration-driving-u-s-battery-manufacturing-and-good-paying-jobs/>.

¹²⁵ Department of Energy, "Biden Administration, DOE to Invest \$3 Billion to Strengthen U.S. Supply

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¹¹⁰ <https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>.

¹¹¹ <https://www.congress.gov/117/plaws/publ169/PLAW-117publ169.pdf>.

¹¹² <https://www.epa.gov/cleanschoolbus>. Accessed February 14, 2023.

¹¹³ U.S. EPA, "EPA Clean School Bus Program Second Report to Congress," EPA 420-R-23-002, February 2023.

Preamble and Chapters 3.1.3.2 and 3.1.3.3 of the DRIA discuss these provisions and measures in more detail.

Congressional passage of the BIL and IRA represent pivotal milestones in the creation of a broad-based infrastructure instrumental to the expansion of clean transportation, including light- and medium-duty zero-emission vehicles, and we have taken these developments into account in our assessment of the feasibility of the proposed standards.

B. Summary of Proposed Light- and Medium-Duty Vehicle Emissions Programs

EPA is proposing emissions standards for both light-duty and medium-duty vehicles. The light-duty vehicle category includes passenger cars and light trucks consistent with previous EPA criteria pollutant and GHG rules. In this rule, heavy-duty Class 2b and 3 vehicles are referred to as “medium-duty vehicles” (MDVs) to distinguish them from Class 4 and higher vehicles that remain under the heavy-duty program. EPA has not previously used the MDV nomenclature, referring to these larger vehicles in prior rules as light-heavy-duty vehicles,¹²⁶ heavy-duty Class 2b and 3 vehicles,¹²⁷ or heavy-duty pickups and vans.¹²⁸ In the context of this rule, the MDV category includes primarily large pickups and vans with a gross vehicle weight rating (GVWR) of between 8,501 and 14,000 pounds and excludes vehicles used primarily as passenger vehicles (medium-duty passenger vehicles, or MDPVs).

The proposed program consists of several key elements: More stringent emissions standards for criteria pollutants, more stringent emissions standards for GHGs, changes to certain optional credit programs, durability provisions for light-duty electrified vehicle batteries and warranty provisions for both electrified vehicles and diesel engine-equipped vehicles, and various improvements to several elements of the existing light-duty program that will also apply to the proposed program.

The levels of stringency proposed in this rule for both light- and medium-duty vehicles continue the trend over the past fifty years for criteria pollutants, and over the past decade for GHGs, of EPA establishing numerically lower emissions standards based on

continued advancements in emissions control technology that make it possible to achieve important emissions reductions at a reasonable cost. While EPA’s feasibility assessments in past rulemakings were predominantly based on advancements in ICE technologies that provided incremental emissions reductions, in this proposal EPA’s technology feasibility assessment includes the increasing availability of zero and near-zero tailpipe emissions technologies, including PEVs, as a cost-effective compliance technology. The technological feasibility of PEVs is further bolstered by the economic incentives provided in the IRA and the auto manufacturers’ stated plans for producing significant volumes of zero and near-zero emission vehicles in the timeframe of this rule. Because of this increased feasibility of zero and near-zero tailpipe emissions technologies, EPA believes it is appropriate to propose over the six-year timeframe of these standards even lower emissions standards than has been possible in past rulemakings.

1. GHG Emissions Standards

EPA is proposing more stringent GHG standards for both light-duty vehicles and medium-duty vehicles for MYs 2027 through 2032. EPA also seeks comment on whether the standards should continue to increase in stringency for future years, such as through MY 2035. For light-duty vehicles, EPA is proposing standards that would increase in stringency each year over a six-year period, from MYs 2027–2032. The proposed standards are projected to result in an industry-wide average target for the light-duty fleet of 82 grams/mile (g/mile) of CO₂ in MY 2032, representing a 56 percent reduction in projected fleet average GHG emissions target levels from the existing MY 2026 standards.

For medium-duty vehicles, EPA is proposing to revise the existing standard for MY 2027 given the increased feasibility of GHG emissions reducing technologies in this sector in this time frame. EPA’s proposed standards for MDVs would increase in stringency year over year from MY 2027 through MY 2032. When phased in, the MDV standards are projected to result in an average target of 275 grams/mile of CO₂ by MY 2032, which would represent a reduction of 44 percent compared to the current MY 2026 standards.

The light-duty CO₂ standards continue to be footprint-based, with separate standards curves for cars and light trucks. EPA has updated its assessment of the footprint standards curves to reflect anticipated changes in

the vehicle technologies that we project will be used to meet the standards. EPA also has assessed ways to ensure future fleet mix changes do not inadvertently provide an incentive for manufacturers to change the size or regulatory class of vehicles as a compliance strategy. EPA is proposing to revise the footprint standards curves to flatten the slope of each curve and to narrow the numerical stringency difference between the car and truck curves. The medium-duty vehicle standards continue to be based on a work-factor metric designed for commercially-oriented vehicles, which reflects a combination of payload, towing and 4-wheel drive equipment.

EPA has reassessed certain credit programs available under the existing GHG programs in light of experience with the program implementation to date, trends in technology development, recent related statutory provisions, and other factors. EPA is proposing to revise the air conditioning (AC) credits program in two ways. First, for AC system efficiency credits under the light-duty GHG program, EPA is proposing to limit the eligibility for these voluntary credits for tailpipe CO₂ emissions control to ICE vehicles starting in MY 2027 (*i.e.*, BEVs would not earn AC efficiency credits because even without such credits they would be counted as zero g/mi CO₂ emissions for compliance calculations). Second, EPA is proposing to remove refrigerant-based AC provisions for both light- and medium-duty vehicles because, under a separate rulemaking, EPA has proposed to disallow the use of high global warming potential refrigerants under the American Innovation and Manufacturing (AIM) Act of 2020.

EPA is also proposing to sunset the off-cycle credits program for both light and medium-duty vehicles as follows. First, EPA proposes to phase out menu-based credits by reducing the menu credit cap year-over-year until it is fully phased out in MY 2031. Specifically, EPA is proposing a declining menu cap of 10/8/6/3/0 g/mile over MYs 2027–2031 such that MY 2030 would be the last year manufacturers could generate optional off-cycle credits. Second, EPA proposes to eliminate the 5-cycle and public process pathways starting in MY 2027. Third, EPA proposes to limit eligibility for off-cycle credits only to vehicles with tailpipe emissions greater than zero (*i.e.*, vehicle equipped with IC engines) starting in MY 2027.

EPA is not reopening its averaging, banking, and trading provisions, which continue to be a central part of its fleet average standards compliance program and which help manufacturers to employ a wide range of compliance

Chain for Advanced Batteries for Vehicles and Energy Storage,” February 11, 2022. Available at: <https://www.energy.gov/articles/biden-administration-doe-invest-3-billion-strengthen-us-supply-chain-advanced-batteries>.

¹²⁶ 66 FR 5002, January 18, 2001.

¹²⁷ 79 FR 23414, April 28, 2014.

¹²⁸ 76 FR 57106, September 15, 2011.

paths. EPA is also not proposing to restore multiplier incentives for BEVs, PHEVs and fuel cell vehicles, which currently end after MY 2024 under existing regulations. EPA is proposing to revise multiplier incentives currently in place for MDVs through MY 2027, established in the heavy-duty Phase 2 rule, to end the multipliers a model year earlier, in MY 2026. EPA is also proposing that the requirement for upstream emissions accounting for BEVs and PHEVs as part of a manufacturer's compliance calculation, which under the current regulations would begin in MY 2027, would be removed under the proposed program; thus, BEVs would continue to be counted as zero grams/mile in a manufacturer's compliance calculation as has been the case since the beginning of the light-duty GHG program in MY 2012.

Finally, EPA also is proposing changes to the provisions for small volume manufacturers (*i.e.*, production of less than 5,000 vehicles per year) to transition them from the existing approach of unique case-by-case alternative standards to the primary program standards by MY 2032, recognizing that additional lead time is appropriate given their challenges in averaging across limited product lines.

2. Criteria Pollutant Standards

EPA is proposing more stringent emissions standards for criteria pollutants for both light-duty and medium-duty vehicles for MYs 2027–2032. For light-duty vehicles, EPA is proposing non-methane organic gases (NMOG) plus nitrogen oxides (NO_x) standards that would phase-down to a fleet average level of 12 mg/mi by MY 2032, representing a 60 percent reduction from the existing 30 mg/mi standards for MY 2025 established in the Tier 3 rule in 2014. For medium-duty vehicles, EPA is proposing NMOG+NO_x standards that would require a fleet average level of 60 mg/mi by MY 2032, representing a 66 percent to 76 percent reduction from the Tier 3 standards of 178 mg/mi for Class 2b vehicles and 247 mg/mi for Class 3 vehicles. EPA is proposing cold temperature (–7 °C) NMOG+NO_x standards for light- and medium-duty vehicles to ensure robust emissions control over a broad range of operating conditions.

For both light-duty and all medium-duty vehicles, EPA is proposing a particulate matter (PM) standard of 0.5 mg/mi and a requirement that the standard be met across three test cycles, including a cold temperature (–7 °C) test. This proposed standard would

revise the existing PM standards established in the 2014 Tier 3 rule. Through the application of readily available emissions control technology and requiring compliance across the broad range of driving conditions represented by the three test cycles, EPA projects the standards will reduce tailpipe PM emissions from ICE vehicles by over 95 percent. In addition to reducing PM emissions, the proposed standards would reduce emissions of mobile source air toxics.

EPA is also proposing requirements to certify compliance with criteria pollutants standards for medium-duty vehicles with high gross combined weight rating (GCWR) under the heavy-duty engine program, changes to medium-duty vehicle refueling emissions requirements for incomplete vehicles, and several NMOG+NO_x provisions aligned with the CARB Advanced Clean Cars II program for light-duty vehicles. EPA is proposing changes to the carbon monoxide and formaldehyde standards for light- and medium-duty vehicles, including at –7 °C. EPA is also proposing to eliminate commanded enrichment for ICE-powered vehicles for power and component protection. Averaging, banking, and trading provisions may be employed within the new program, and with certain limitations, credits may be transferred from the Tier 3 program to provide manufacturers with flexibilities in developing compliance strategies.

In addition to these proposals, EPA is seeking comment on potential future gasoline fuel property standards aimed at further reducing PM emissions, for consideration in a possible subsequent rulemaking, which could provide an important complement to the vehicle standards being proposed in the current action. The proposed emissions standards for new vehicles in model years 2027 and later would achieve significant air quality benefits. However, there is an opportunity to further reduce PM emissions from the existing vehicle fleet, the millions of vehicles that will be produced during the phase-in period of the proposed vehicle standards, as well as millions of nonroad gasoline engines, through changes in market fuel composition. Although EPA has not undertaken sufficient analysis to propose changes to fuel requirements under CAA section 211(c) in this rulemaking and considers such changes beyond the scope of this rulemaking, EPA has begun to consider the possibility of such changes and, in Section IX, EPA describes and requests comment on various aspects of a possible future rulemaking aimed at further PM reductions from these

sources via gasoline fuel property standards.

3. Electrified Vehicle Battery Durability and Warranty Provisions

As described in more detail in Section III.F.2, the importance of battery durability in the context of BEVs and PHEVs as an emission control technology is well documented and has been cited by several authorities in recent years. Recognizing that electrified vehicles are playing an increasing role in automakers' compliance strategies, that their durability and reliability are important to achieving the emissions reductions projected by this proposed program, and that emissions credit calculations are based on mileage over a vehicle's full useful life, EPA is proposing new battery durability requirements for light-duty and medium-duty BEVs and PHEVs. In addition, the agency is proposing revised regulations which would include BEV and PHEV batteries and associated electric powertrain components under existing emission warranty provisions. Relatedly, EPA is also proposing the addition of two new grouping definitions for BEVs and PHEVs (monitor family and battery durability family), new reporting requirements, and a new calculation for the PHEV charge depletion test to support the battery durability requirements. The background and content of the proposed battery durability and warranty provisions are outlined in Section III.F.2 of this Preamble and are detailed in the regulatory text.

4. Light-Duty Vehicle Certification and Testing Program Improvements

EPA is proposing various improvements to the current light-duty program in order to clarify, simplify, streamline and update the certification and testing provisions for manufacturers. These proposed improvements include: Clarification of the certification compliance and enforcement requirements for CO₂ exhaust emission standards found in 40 CFR 86.1865–12 to more accurately reflect the intention of the 2010 light-duty vehicle GHG rule; a revision to the In Use Confirmatory Program (IUCP) threshold criteria; changes to the Part 2 application; updating the On Board Diagnostics (OBD) program to the latest version of the CARB OBD regulation and the removal of any conflicting or redundant text from EPA's OBD requirements; streamlining the test procedures for Fuel Economy Data Vehicles (FEDVs); streamlining the manufacturer conducted confirmatory

testing requirements; updating the emissions warranty for diesel powered vehicles (including Class 2b and 3 vehicles) by designating major emissions components subject to the 8 year/80,000 mile warranty period; making the definition of light-duty truck consistent between programs; and miscellaneous other amendments. EPA is also proposing to add a new monitoring and warranty requirement for gasoline particulate filters (GPFs). These improvements and changes are described in more detail in Sections III.F and III.G.

C. Summary of Emission Reductions, Costs, and Benefits

This section summarizes our analysis of the proposal's estimated emission impacts, costs, and monetized benefits, which is described in more detail in Sections V through VIII of this preamble. EPA notes that, consistent with CAA section 202, in evaluating potential standards we carefully weigh the statutory factors, including the emissions impacts of the standards, and the feasibility of the standards

(including cost of compliance in light of available lead time). We monetize benefits of the proposed standards and evaluate other costs in part to enable a comparison of costs and benefits pursuant to E.O. 12866, but we recognize there are benefits that we are currently unable to fully quantify. EPA's practice has been to set standards to achieve improved air quality consistent with CAA section 202, and not to rely on cost-benefit calculations, with their uncertainties and limitations, as identifying the appropriate standards. Nonetheless, our conclusion that the estimated benefits considerably exceed the estimated costs of the proposed program reinforces our view that the proposed standards are appropriate under section 202(a).

The proposed standards would result in net reductions of emissions of GHGs and criteria air pollutants in 2055, considering the impacts from light- and medium-duty vehicles, power plants (i.e., electric generating units (EGUs)), and refineries. Table 2 shows the GHG emission impacts in 2055 while Table 3

shows the cumulative impacts for the years 2027 through 2055. We show cumulative impacts for GHGs as elevated concentrations of GHGs in the atmosphere are resulting in warming and changes in the Earth's climate. Table 4 shows the criteria pollutant emissions impacts in 2055. As shown in Table 5, we also predict reductions in air toxic emissions from light- and medium-duty vehicles. We project that GHG and criteria pollutant emissions from EGUs would increase as a result of the increased demand for electricity associated with the proposal, although those projected impacts decrease over time because of projected increases in renewables in the future power generation mix. We also project that GHG and criteria pollutant emissions from refineries would decrease as a result of the lower demand for liquid fuel associated with the proposed GHG standards. Sections VI and VII of this preamble and Chapter 9 of the DRIA provide more information on the projected emission reductions for the proposed standards and alternatives.

TABLE 2—PROJECTED GHG EMISSION IMPACTS IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[Million metric tons]

Pollutant	Vehicle	EGU	Refinery *	Net impact	Net impact (%)
CO ₂	– 440	16	0	– 420	– 47
CH ₄	– 0.0088	0.00038	0	– 0.0084	– 45
N ₂ O	– 0.0077	0.00003	0	– 0.0077	– 41

* GHG emission rates were not available for calculating GHG inventories from refineries.

TABLE 3—PROJECTED CUMULATIVE GHG EMISSION IMPACTS THROUGH 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[Million metric tons]

Pollutant	Vehicle	EGU	Refinery *	Net impact	Net impact (%)
CO ₂	– 8,000	710	0	– 7,300	– 26
CH ₄	– 0.16	0.035	0	– 0.12	– 17
N ₂ O	– 0.14	0.0045	0	– 0.13	– 25

TABLE 4—PROJECTED CRITERIA AIR POLLUTANT IMPACTS IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons]

Pollutant	Vehicle	EGU	Refinery	Net impact	Net impact (%)
PM _{2.5}	– 9,800	1,500	– 6,900	– 15,000	– 35
NO _x	– 44,000	2,600	– 25,000	– 66,000	– 41
VOC	– 200,000	1,000	– 21,000	– 220,000	– 50
SO _x	– 2,800	1,600	– 11,000	– 12,000	– 42
CO *	– 1,800,000	0	0	– 1,800,000	– 49

* EPA did not have data available to calculate CO impacts from EGUs or refineries.

TABLE 5—PROJECTED AIR TOXIC IMPACTS FROM VEHICLES IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons]

Pollutant	Vehicle	Vehicle (%)
Acetaldehyde	– 840	– 49
Acrolein	– 55	– 48
Benzene	– 2,900	– 51
Ethylbenzene	– 3,400	– 50
Formaldehyde	– 510	– 49
Naphthalene	– 100	– 51
1,3-Butadiene	– 340	– 51
15 Polyaromatic Hydrocarbons	– 5	– 78

The GHG emission reductions would contribute toward the goal of holding the increase in the global average temperature to well below 2 °C above pre-industrial levels, and subsequently reduce the probability of severe climate change related impacts including heat waves, drought, sea level rise, extreme climate and weather events, coastal flooding, and wildfires. People of color, low-income populations and/or indigenous peoples may be especially vulnerable to the impacts of climate change (see Section VIII.I.2).

The decreases in vehicle emissions would reduce traffic-related pollution in close proximity to roadways. As discussed in Section II.C.8, concentrations of many air pollutants are elevated near high-traffic roadways, and populations who live, work, or go to school near high-traffic roadways experience higher rates of numerous adverse health effects, compared to populations far away from major roads. An EPA study estimated that 72 million people live near truck freight routes, which includes many large highways and other routes where light- and medium-duty vehicles operate.¹²⁹ Our consideration of environmental justice literature indicates that people of color and people with low income are disproportionately exposed to elevated concentrations of many pollutants in close proximity to major roadways (see Section VIII.I.3.i).

We expect that increases in criteria and toxic pollutant emissions from EGUs and reductions in petroleum-sector emissions could lead to changes in exposure to these pollutants for people living in the communities near these facilities. Analyses of communities in close proximity to these sources (such as EGUs and refineries) have found that a higher percentage of

communities of color and low-income communities live near these sources when compared to national averages (see Section VIII.1.3.ii).

The changes in emissions of criteria and toxic pollutants from vehicles, EGUs, and refineries would also impact ambient levels of ozone, PM_{2.5}, NO₂, SO₂, CO, and air toxics over a larger geographic scale. As discussed in Section VII.B, we expect that in 2055 the proposal would result in widespread decreases in ozone, PM_{2.5}, NO₂, CO, and some air toxics, even when accounting for the impacts of increased electricity generation. We expect that in some areas, increased electricity generation would increase ambient SO₂, PM_{2.5}, ozone, or some air toxics. However, as the power sector becomes cleaner over time, these impacts would decrease. Although the specific locations of increased air pollution are uncertain, we expect them to be in more limited geographic areas, compared to the widespread decreases that we predict to result from the reductions in vehicle emissions.

EPA estimates that the total benefits of this proposal far exceed the total costs. The present value of monetized benefits range from \$350 billion to \$590 billion, with pre-tax fuel savings providing another \$450 billion to \$890 billion. The present value of vehicle technology costs range from \$180 billion to \$280 billion, while the present value of repair and maintenance savings are estimated at \$280 billion to \$580 billion. The results presented here project the monetized environmental and economic impacts associated with the proposed program during each calendar year through 2055. Table 6 summarizes EPA's estimates of total costs, savings, and benefits. Note EPA projects lower maintenance and repair costs for several advanced technologies (e.g., battery electric vehicles) and those societal maintenance and repair savings grow significantly over time, and by 2040 and

later are larger than our projected new vehicle technology costs.

The benefits include climate-related economic benefits from reducing emissions of GHGs that contribute to climate change, reductions in energy security externalities caused by U.S. petroleum consumption and imports, the value of certain particulate matter-related health benefits, the value of additional driving attributed to the rebound effect, and the value of reduced refueling time needed to refuel vehicles. Between \$63 and \$280 billion of the present value of total monetized benefits through 2055 (assuming a 7 percent and 3 percent discount rate, respectively, as well as different long-term PM-related mortality risk studies) are attributable to reduced emissions of criteria pollutants that contribute to ambient concentrations of smaller particulate matter (PM_{2.5}). PM_{2.5} is associated with premature death and serious health effects such as hospital admissions due to respiratory and cardiovascular illnesses, nonfatal heart attacks, aggravated asthma, and decreased lung function. The proposed program would also have other significant social benefits including \$330 billion in climate benefits (with the average SC–GHGs at a 3 percent discount rate which is the rate used in past GHG rules when we speak of a single value for simplicity in presentation).¹³⁰

The analysis also includes estimates of economic impacts stemming from additional vehicle use from increased

¹²⁹ U.S. EPA (2021). Estimation of Population Size and Demographic Characteristics among People Living Near Truck Routes in the Conterminous United States. Memorandum to the Docket.

¹³⁰ Climate benefits are monetized using estimates of the social cost of greenhouse gases (SC–GHG), which in principle includes the value of all climate change impacts (both negative and positive), however in practice, data and modeling limitations naturally restrain the ability of SC–GHG estimates to include all the important physical, ecological, and economic impacts of climate change, such that the estimates are a partial accounting of climate change impacts and will therefore, tend to be underestimates of the marginal benefits of abatement. See Chapter 10 of the DRIA for a full discussion of the SC–GHG estimates and the important considerations and limitations associated with its use.

rebound driving, such as the economic damages caused by crashes, congestion, and noise. See Chapter 10 of the DRIA for more information regarding these estimates.

Note that some non-emission costs are shown as negative values in Table 6. Those entries represent savings but are included as costs because, traditionally, categories such as repair and maintenance have been viewed as costs of vehicle operation. Where negative values are shown, we are estimating that those costs are lower in the proposal than in the no-action case. Congestion and noise costs are attributable to

increased congestion and roadway noise resulting our assumption that drivers choose to drive more under the proposal versus the No Action case. Those increased miles are known as rebound miles and are discussed in Section VIII.

Similarly, some of the traditional benefits of rulemakings that result in lower fuel consumption by the transportation fleet, *i.e.*, the non-emission benefits, are shown as negative values. Our past GHG rules have estimated that time spent refueling vehicles would be reduced due to the lower fuel consumption of new vehicles; hence, a benefit. However, in

this analysis, we are estimating that refueling time would increase somewhat due to our assumptions for mid-trip recharging events for electric vehicles. Therefore, the increased refueling time represents a disbenefit (a negative benefit) as shown. As noted in Section VIII and in DRIA Chapter 4, we consider our refueling time estimate to be dated considering the rapid changes taking place in electric vehicle charging infrastructure driven largely by the Bipartisan Infrastructure Law and the Inflation Reduction Act, and we request comment and data on how our estimates could be improved.

TABLE 6—MONETIZED DISCOUNTED COSTS, BENEFITS, AND NET BENEFITS OF THE PROPOSED PROGRAM FOR CALENDAR YEARS 2027 THROUGH 2055, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	10	280	180	15	15
Repair Costs	–24	–170	–79	–8.9	–6.5
Maintenance Costs	–51	–410	–200	–21	–16
Congestion Costs	0.16	2.3	1.3	0.12	0.11
Noise Costs	0.0025	0.037	0.021	0.0019	0.0017
Sum of Non-Emission Costs	–65	–290	–96	–15	–7.8
Fueling Impacts					
Pre-tax Fuel Savings	93	890	450	46	37
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	86	770	380	40	31
Non-Emission Benefits					
Drive Value Benefits	0.31	4.8	2.7	0.25	0.22
Refueling Time Benefits	–8.2	–85	–45	–4.4	–3.6
Energy Security Benefits	4.4	41	21	2.2	1.7
Sum of Non-Emission Benefits	–3.6	–39	–21	–2	–1.7
Climate Benefits					
5% Average	15	82	82	5.4	5.4
3% Average	38	330	330	17	17
2.5% Average	52	500	500	25	25
3% 95th Percentile	110	1,000	1,000	52	52
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	16–18	140	63	7.5	5.1
PM _{2.5} Health Benefits—Pope III et al., 2019	31–34	280	130	15	10
Net Benefits					
With Climate 5% Average	180–200	1,400	610	74	48
With Climate 3% Average	200–220	1,600	850	85	60
With Climate 2.5% Average	210–230	1,800	1,000	93	67
With Climate 3% 95th Percentile	280–290	2,300	1,500	120	95

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu range and the high end of the Pope III et al. range. The present and equivalent annualized value of net benefits for a 3 percent discount rate reflect benefits based on the Pope III et al. study while the present and equivalent annualized values of net benefits for a 7 percent discount rate reflect benefits based on the Wu et al. study.

EPA estimates the average upfront per-vehicle cost to meet the proposed standards to be approximately \$1,200 in MY 2032, as shown in Table 7.¹³¹ We discuss per-vehicle cost in more detail in Section IV.C and DRIA Chapter 13. While the average purchase price of vehicles is estimated to be higher, this is attributable to the larger share of

BEVs relative to ICE vehicles. However, after considering purchase incentives and their lower operating costs relative to ICE vehicles, BEVs are estimated to save vehicle owners money over time. For example, a BEV owner of a model year 2032 sedan, wagon, crossover or SUV would save more than \$9,000 on average on fuel, maintenance, and repair

costs over an eight-year period (the average period of first ownership) compared to a gasoline vehicle. A BEV pickup truck owner would save even more—about \$13,000. We discuss ownership savings and expenses in more detail in DRIA Chapter 4.

TABLE 7—AVERAGE INCREMENTAL VEHICLE COST BY REG CLASS, RELATIVE TO THE NO ACTION SCENARIO
[2020 Dollars]

	2027	2028	2029	2030	2031	2032
Cars	\$249	\$102	\$32	\$100	\$527	\$844
Trucks	891	767	653	821	1,100	1,385
Total	633	497	401	526	866	1,164

In addition, the proposal would result in significant savings for consumers from fuel savings and reduced vehicle repair and maintenance. These lower operating costs would offset the upfront vehicle costs. Total retail fuel savings for consumers through 2055 are estimated at \$560 billion to \$1.1 trillion (7 percent and 3 percent discount rates, see Section VIII.B.2). Also, reduced maintenance and repair costs through 2055 are estimated at \$280 billion to \$580 billion (7 percent and 3 percent discount rates, see Section VIII of this preamble and Chapter 10 of the DRIA).

D. What are the alternatives that EPA is considering?

1. Description of the Alternatives

EPA is seeking comment on three alternatives to its proposed standards. Alternative 1 is more stringent than the proposal across the MY 2027–2032 time period, and Alternative 2 is less stringent. The proposal as well as Alternatives 1 and 2 all have a similar proportional ramp rate of year over year stringency, which includes a higher rate of stringency increase in the earlier years (MYs 2027–2029) than in the later years. Alternative 3 achieves the same stringency as the proposed standards in MY 2032 but provides for a more

consistent rate of stringency increase for MY 2027–2031.

The Alternative 1 projected fleet-wide CO₂ targets are 10 g/mi lower on average than the proposed targets; Alternative 2 projected fleet-wide CO₂ targets averaged 10 g/mi higher than the proposed targets.¹³² While the 20 g/mi range of stringency options may appear fairly narrow, for the MY 2032 standards the alternatives capture a range of 12 percent higher and lower than the proposed standards in the final year. Our goal in selecting the alternatives was to identify a range of stringencies that we believe are appropriate to consider for the final standards because they represent a range of standards that are anticipated to be feasible and are highly protective of human health and the environment.

While the proposed standards, Alternative 1 and Alternative 2 all have a larger increase in stringency between MY 2026 and MY 2027, Alternative 3 was constructed with the goal of evaluating roughly equal reductions in absolute g/mi targets over the duration of the program while achieving the same overall targets by MY 2032. This has the effect of less stringent year-over-year increases in the early years of the program.

EPA is soliciting comment on all of the model year standards of Alternatives 1, 2, and 3, and standards generally represented by the range across those alternatives. EPA anticipates that the appropriate choice of final standards within this range will reflect the Administrator's judgments about the uncertainties in EPA's analyses as well as consideration of public comment and updated information where available. However, EPA proposes to find that standards substantially more stringent than Alternative 1 would not be appropriate because of uncertainties concerning the cost and feasibility of such standards. EPA proposes to find that standards substantially less stringent than Alternative 2 or 3 would not be appropriate because they would forgo feasible emissions reductions that would improve the protection of public health and welfare.

Table 8, Table 9 and Table 10 compare the projected fleet average targets for cars, trucks, and the combined fleet, respectively, across the proposed standards and the three alternatives for model years 2027–2032.¹³³ Table 11 compares the relative percentage year-over-year reductions of the proposed standards and the three alternatives.

TABLE 8—COMPARISON OF PROPOSED CAR STANDARDS TO ALTERNATIVES

Model year	Proposed stds CO ₂ (g/mile)	Alternative 1 CO ₂ (g/mile)	Alternative 2 CO ₂ (g/mile)	Alternative 3 CO ₂ (g/mile)
2026 adjusted	152	152	152	152
2027	134	124	144	139
2028	116	106	126	126
2029	99	89	108	112

¹³¹ Unless otherwise specified, all monetized values are expressed in 2020 dollars.

¹³² For reference, the targets at a footprint of 50 square feet were exactly 10 g/mi lower and greater for the alternatives.

¹³³ In these tables, and throughout this proposal, the MY 2026 targets have been adjusted to reflect differences in off-cycle and AC credits between the 2021 Rule and this proposal. This is explained in greater detail in III.B.2.iv.

TABLE 8—COMPARISON OF PROPOSED CAR STANDARDS TO ALTERNATIVES—Continued

Model year	Proposed stds CO ₂ (g/mile)	Alternative 1 CO ₂ (g/mile)	Alternative 2 CO ₂ (g/mile)	Alternative 3 CO ₂ (g/mile)
2030	91	81	100	99
2031	82	72	92	86
2032 and later	73	63	83	73
% reduction vs. 2026	52%	59%	46%	52%

TABLE 9—COMPARISON OF PROPOSED TRUCK STANDARDS TO ALTERNATIVES

Model year	Proposed stds CO ₂ (g/mile)	Alternative 1 CO ₂ (g/mile)	Alternative 2 CO ₂ (g/mile)	Alternative 3 CO ₂ (g/mile)
2026 adjusted	207	207	207	207
2027	163	153	173	183
2028	142	131	152	163
2029	120	110	130	144
2030	110	100	121	126
2031	100	90	111	107
2032 and later	89	78	99	89
% reduction vs. 2026	57%	62%	52%	57%

TABLE 10—COMPARISON OF PROPOSED COMBINED FLEET STANDARDS TO ALTERNATIVES

Model year	Proposed stds CO ₂ (g/mile)	Alternative 1 CO ₂ (g/mile)	Alternative 2 CO ₂ (g/mile)	Alternative 3 CO ₂ (g/mile)
2026 adjusted	186	186	186	186
2027	152	141	162	165
2028	131	121	141	148
2029	111	101	122	132
2030	102	92	112	115
2031	93	83	103	99
2032 and later	82	72	92	82
% reduction vs. 2026	56%	61%	50%	56%

TABLE 11—COMBINED FLEET YEAR-OVER-YEAR DECREASES FOR PROPOSED STANDARDS AND ALTERNATIVES

Model year	Proposed Stds CO ₂ (g/mile) (%)	Alternative 1 CO ₂ (g/mile) (%)	Alternative 2 CO ₂ (g/mile) (%)	Alternative 3 CO ₂ (g/mile) (%)
2027	–18	–24	–13	–11
2028	–13	–14	–13	–10
2029	–15	–16	–14	–11
2030	–8	–9	–8	–12
2031	–9	–10	–8	–15
2032	–11	–13	–10	–17
Average YoY	–13	–15	–11	–13

The proposed standards will result in industry-wide average GHG emissions target for the light-duty fleet of 82 g/mi in MY 2032, representing a 56 percent reduction in average emission target levels from the existing MY 2026 standards established in 2021.

Alternative 1 is projected to result in an industry-wide average target of 72 grams/mile (g/mile) of CO₂ in MY 2032, representing a 61 percent reduction in projected fleet average GHG emissions target levels from the existing MY 2026 standards. Alternative 2 is projected to

result in an industry-wide average target of 92 g/mile of CO₂ in MY 2032, which corresponds to a 50 percent reduction in projected fleet average GHG emissions target levels from the existing MY 2026 standards. Like the proposed standards, Alternative 3 is projected to result in an industry-wide average target of 82 g/mile of CO₂ in MY 2032, which corresponds to a 56 percent reduction in projected fleet average GHG emissions target levels from the existing MY 2026 standards.

Table 12 gives a comparison of average incremental per-vehicle costs for the proposed standards and the alternatives. As shown, the 2032 MY industry average vehicle cost increase (compared to the No Action case) ranges from approximately \$1,000 to \$1,800 per vehicle for the alternatives, compared to \$1,200 per vehicle for the proposed standards. These projections represent compliance costs to the industry and are not the same as the costs experienced by the consumer when purchasing a new vehicle. For

example, the costs presented here do not include any state and Federal purchase incentives that are available to consumers. Also, the manufacturer decisions for the pricing of individual vehicles may not align exactly with the cost impacts for that particular vehicle. After considering purchase incentives and their lower operating costs relative to ICE vehicles, BEVs are estimated to

save vehicle owners money over time. For example, under the proposed standards, a BEV owner of a model year 2032 sedan, wagon, crossover or SUV would save more than \$9,000 on average on fuel, maintenance, and repair costs over an eight-year period (the average period of first ownership) compared to a gasoline vehicle. A BEV pickup truck owner would save even more—about

\$13,000. Consumer savings would be similar to those of the proposal under Alternative 3, somewhat higher under Alternative 1, and somewhat lower under Alternative 2. We discuss ownership savings and expenses under the proposed standards in more detail in DRIA Chapter 4.

TABLE 12—COMPARISON OF PROJECTED INCREMENTAL PER-VEHICLE COSTS RELATIVE TO THE NO ACTION SCENARIO
[2020 Dollars]

Model year	Proposed stds \$/vehicle	Alternative 1 \$/vehicle	Alternative 2 \$/vehicle	Alternative 3 \$/vehicle
2027	\$633	\$668	\$462	\$189
2028	497	804	355	125
2029	401	1,120	353	45
2030	526	1,262	337	250
2031	866	1,565	718	800
2032	1,164	1,775	1,041	1,256

2. Projected Emission Reductions From the Alternatives

TABLE 13—PROJECTED GHG EMISSION IMPACTS IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[Million metric tons]

Pollutant	Vehicle	EGU	Refinery *	Net impact	Net impact (%)
Alternative 1					
CO ₂	– 480	18	0	– 460	– 52
CH ₄	– 0.0096	0.00043	0	– 0.0092	– 49
N ₂ O	– 0.0084	0.000034	0	– 0.0083	– 44
Alternative 2					
CO ₂	– 400	14	0	– 380	– 43
CH ₄	– 0.0081	0.00035	0	– 0.0078	– 42
N ₂ O	– 0.0072	0.000027	0	– 0.0072	– 38
Alternative 3					
CO ₂	– 440	16	0	– 420	– 47
CH ₄	– 0.0088	0.00039	0	– 0.0084	– 45
N ₂ O	– 0.0078	0.00003	0	– 0.0077	– 41

* GHG emission rates were not available for calculating GHG inventories from refineries.

TABLE 14—PROJECTED CUMULATIVE GHG EMISSION IMPACTS THROUGH 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[Million metric tons]

Pollutant	Vehicle	EGU	Refinery	Net impact	Net impact (%)
Alternative 1					
CO ₂	– 8,900	780	0	– 8,100	– 29
CH ₄	– 0.17	0.039	0	– 0.13	– 18
N ₂ O	– 0.15	0.005	0	– 0.14	– 27
Alternative 2					
CO ₂	– 7,200	630	0	– 6,600	– 23
CH ₄	– 0.14	0.032	0	– 0.11	– 15
N ₂ O	– 0.13	0.004	0	– 0.12	– 23

TABLE 14—PROJECTED CUMULATIVE GHG EMISSION IMPACTS THROUGH 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Million metric tons]

Pollutant	Vehicle	EGU	Refinery	Net impact	Net impact (%)
Alternative 3					
CO ₂	–7,800	670	0	–7,100	–25
CH ₄	–0.15	0.033	0	–0.12	–16
N ₂ O	–0.13	0.0042	0	–0.13	–24

* GHG emission rates were not available for calculating GHG inventories from refineries.

TABLE 15—PROJECTED CRITERIA AIR POLLUTANT IMPACTS IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons]

Pollutant	Vehicle	EGU	Refinery	Net impact	Net impact (%)
Alternative 1					
PM _{2.5}	–9,800	1,700	–7,600	–16,000	–37
NO _x	–47,000	2,800	–27,000	–71,000	–44
VOC	–230,000	1,100	–23,000	–250,000	–55
SO _x	–3,000	1,900	–12,000	–13,000	–46
CO*	–2,000,000	0	0	–2,000,000	–55
Alternative 2					
PM _{2.5}	–9,800	1,400	–6,200	–15,000	–34
NO _x	–41,000	2,400	–22,000	–61,000	–38
VOC	–190,000	950	–19,000	–200,000	–45
SO _x	–2,500	1,500	–9,500	–11,000	–38
CO*	–1,600,000	0	0	–1,600,000	–45
Alternative 3					
PM _{2.5}	–9,800	1,500	–6,900	–15,000	–35
NO _x	–44,000	2,600	–25,000	–66,000	–41
VOC	–200,000	1,000	–21,000	–220,000	–50
SO _x	–2,800	1,700	–11,000	–12,000	–42
CO*	–1,800,000	0	0	–1,800,000	–50

* EPA did not have data available to calculate CO impacts from EGUs or refineries.

TABLE 16—PROJECTED AIR TOXIC IMPACTS FROM VEHICLES IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons]

Pollutant	Vehicle	Vehicle (%)
Alternative 1		
Acetaldehyde	–920	–53
Acrolein	–60	–52
Benzene	–3,200	–56
Ethylbenzene	–3,700	–55
Formaldehyde	–550	–53
Naphthalene	–110	–56
1,3-Butadiene	–370	–56
15 Polyaromatic Hydrocarbons	–5	–80
Alternative 2		
Acetaldehyde	–780	–45
Acrolein	–51	–44
Benzene	–2,600	–47
Ethylbenzene	–3,100	–46
Formaldehyde	–470	–45
Naphthalene	–95	–47
1,3-Butadiene	–310	–47

TABLE 16—PROJECTED AIR TOXIC IMPACTS FROM VEHICLES IN 2055 FROM THE PROPOSED RULE, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[U.S. tons]

Pollutant	Vehicle	Vehicle (%)
15 Polyaromatic Hydrocarbons	–5	–77
Alternative 3		
Acetaldehyde	–850	–49
Acrolein	–55	–48
Benzene	–2,900	–51
Ethylbenzene	–3,400	–50
Formaldehyde	–510	–49
Naphthalene	–100	–51
1,3-Butadiene	–340	–51
15 Polyaromatic Hydrocarbons	–5	–78

3. Summary of Costs and Benefits of the Alternatives benefits under alternatives 1, 2 and 3, respectively.

Table 17, Table 18., and Table 19 show the summary of costs, savings and

TABLE 17—MONETIZED DISCOUNTED COSTS, BENEFITS, AND NET BENEFITS OF ALTERNATIVE 1 FOR CALENDAR YEARS 2027 THROUGH 2055, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	11	330	220	17	18
Repair Costs	–26	–180	–82	–9.3	–6.7
Maintenance Costs	–57	–450	–220	–24	–18
Congestion Costs	0.11	3.5	2.2	0.18	0.18
Noise Costs	0.0017	0.055	0.034	0.0028	0.0027
Sum of Non-Emission Costs	–71	–300	–82	–15	–6.7
Fueling Impacts					
Pre-tax Fuel Savings	100	990	510	51	41
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	95	870	440	45	36
Non-Emission Benefits					
Drive Value Benefits	0.22	6.5	3.9	0.34	0.32
Refueling Time Benefits	–8.8	–90	–47	–4.7	–3.8
Energy Security Benefits	4.8	46	23	2.4	1.9
Sum of Non-Emission Benefits	–3.8	–38	–20	–2	–1.6
Climate Benefits					
5% Average	16	91	91	6	6
3% Average	41	360	360	19	19
2.5% Average	57	560	560	27	27
3% 95th Percentile	120	1,100	1,100	58	58
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	16–18	150	66	7.7	5.3
PM _{2.5} Health Benefits—Pope III et al., 2019	32–35	290	130	15	11
Net Benefits					
With Climate 5% Average	200–210	1,500	660	80	52
With Climate 3% Average	220–240	1,800	930	93	65
With Climate 2.5% Average	240–260	2,000	1,100	100	73

TABLE 17—MONETIZED DISCOUNTED COSTS, BENEFITS, AND NET BENEFITS OF ALTERNATIVE 1 FOR CALENDAR YEARS 2027 THROUGH 2055, LIGHT-DUTY AND MEDIUM-DUTY—Continued

[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
With Climate 3% 95th Percentile	300–320	2,500	1,700	130	100

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu range and the high end of the Pope III et al. range. The present and equivalent annualized values for 3 percent use the Pope III et al. values while the 7 percent values use the Wu values.

TABLE 18—MONETIZED DISCOUNTED COSTS, BENEFITS, AND NET BENEFITS OF ALTERNATIVE 2 FOR CALENDAR YEARS 2027 THROUGH 2055, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	8.8	230	140	12	12
Repair Costs	–22	–160	–74	–8.3	–6
Maintenance Costs	–47	–370	–180	–19	–14
Congestion Costs	0.064	0.74	0.48	0.039	0.039
Noise Costs	0.001	0.012	0.0078	0.00064	0.00064
Sum of Non-Emission Costs	–60	–300	–110	–16	–8.7
Fueling Impacts					
Pre-tax Fuel Savings	84	790	400	41	33
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	77	680	330	35	27
Non-Emission Benefits					
Drive Value Benefits	0.17	2.4	1.5	0.12	0.12
Refueling Time Benefits	–7.6	–79	–41	–4.1	–3.3
Energy Security Benefits	3.9	37	19	1.9	1.5
Sum of Non-Emission Benefits	–3.5	–39	–21	–2	–1.7
Climate Benefits					
5% Average	13	74	74	4.9	4.9
3% Average	34	290	290	15	15
2.5% Average	47	450	450	22	22
3% 95th Percentile	100	900	900	47	47
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	15–17	140	61	7.2	4.9
PM _{2.5} Health Benefits—Pope III et al., 2019	30–33	270	120	14	10
Net Benefits					
With Climate 5% Average	160–180	1,300	550	68	44
With Climate 3% Average	180–200	1,500	780	78	54
With Climate 2.5% Average	200–210	1,700	930	85	61
With Climate 3% 95th Percentile	250–270	2,100	1,400	110	86

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu range and the high end of the Pope III et al. range. The present and equivalent annualized values for 3 percent use the Pope III et al. values while the 7 percent values use the Wu values.

TABLE 19—MONETIZED DISCOUNTED COSTS, BENEFITS, AND NET BENEFITS OF ALTERNATIVE 3 FOR CALENDAR YEARS 2027 THROUGH 2055, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	11	270	170	14	14
Repair Costs	–24	–170	–77	–8.6	–6.3
Maintenance Costs	–51	–390	–190	–20	–15
Congestion Costs	0.11	1.5	0.82	0.078	0.066
Noise Costs	0.0016	0.024	0.013	0.0012	0.0011
Sum of Non-Emission Costs	–64	–290	–95	–15	–7.8
Fueling Impacts					
Pre-tax Fuel Savings	93	850	430	45	35
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	86	740	360	38	29
Non-Emission Benefits					
Drive Value Benefits	0.21	3.2	1.8	0.17	0.15
Refueling Time Benefits	–8.2	–83	–43	–4.3	–3.5
Energy Security Benefits	4.4	40	20	2.1	1.6
Sum of Non-Emission Benefits	–3.6	–39	–21	–2.1	–1.7
Climate Benefits					
5% Average	15	80	80	5.3	5.3
3% Average	38	320	320	17	17
2.5% Average	52	490	490	24	24
3% 95th Percentile	110	970	970	51	51
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	16–18	140	62	7.3	5.0
PM _{2.5} Health Benefits—Pope III et al., 2019	31–34	280	120	14	10
Net Benefits					
With Climate 5% Average	180–190	1,300	580	71	46
With Climate 3% Average	200–220	1,600	820	82	57
With Climate 2.5% Average	210–230	1,800	990	90	64
With Climate 3% 95th Percentile	270–290	2,200	1,500	120	91

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu range and the high end of the Pope III et al. range. The present and equivalent annualized values for 3 percent use the Pope III et al. values while the 7 percent values use the Wu values.

II. Public Health and Welfare Need for Emission Reductions

A. Climate Change From GHG Emissions

Elevated concentrations of GHGs have been warming the planet, leading to changes in the Earth's climate including changes in the frequency and intensity of heat waves, precipitation, and extreme weather events, rising seas, and retreating snow and ice. The changes taking place in the atmosphere as a result of the well-documented buildup of GHGs due to human activities are changing the climate at a pace and in a way that threatens human health,

society, and the natural environment. While EPA is not making any new scientific or factual findings with regard to the well-documented impact of GHG emissions on public health and welfare in support of this rule, EPA is providing some scientific background on climate change to offer additional context for this rulemaking and to increase the public's understanding of the environmental impacts of GHGs.

Extensive additional information on climate change is available in the scientific assessments and the EPA documents that are briefly described in this section, as well as in the technical and scientific information supporting

them. One of those documents is EPA's 2009 Endangerment and Cause or Contribute Findings for Greenhouse Gases Under section 202(a) of the CAA (74 FR 66496, December 15, 2009). In the 2009 Endangerment Finding, the Administrator found under section 202(a) of the CAA that elevated atmospheric concentrations of six key well-mixed GHGs—CO₂, methane (CH₄), nitrous oxide (N₂O), HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—"may reasonably be anticipated to endanger the public health and welfare of current and future generations" (74 FR 66523). The 2009 Endangerment Finding, together with

the extensive scientific and technical evidence in the supporting record, documented that climate change caused by human emissions of GHGs threatens the public health of the U.S. population. It explained that by raising average temperatures, climate change increases the likelihood of heat waves, which are associated with increased deaths and illnesses (74 FR 66497). While climate change also increases the likelihood of reductions in cold-related mortality, evidence indicates that the increases in heat mortality will be larger than the decreases in cold mortality in the U.S. (74 FR 66525). The 2009 Endangerment Finding further explained that compared with a future without climate change, climate change is expected to increase tropospheric ozone pollution over broad areas of the U.S., including in the largest metropolitan areas with the worst tropospheric ozone problems, and thereby increase the risk of adverse effects on public health (74 FR 66525). Climate change is also expected to cause more intense hurricanes and more frequent and intense storms of other types and heavy precipitation, with impacts on other areas of public health, such as the potential for increased deaths, injuries, infectious and waterborne diseases, and stress-related disorders (74 FR 66525). Children, the elderly, and the poor are among the most vulnerable to these climate-related health effects (74 FR 66498).

The 2009 Endangerment Finding also documented, together with the extensive scientific and technical evidence in the supporting record, that climate change touches nearly every aspect of public welfare¹³⁴ in the U.S., including: Changes in water supply and quality due to changes in drought and extreme rainfall events; increased risk of storm surge and flooding in coastal areas and land loss due to inundation; increases in peak electricity demand and risks to electricity infrastructure; and the potential for significant agricultural disruptions and crop failures (though offset to some extent by carbon fertilization). These impacts are also global and may exacerbate problems outside the U.S. that raise humanitarian, trade, and national

security issues for the U.S. (74 FR 66530).

In 2016, the Administrator issued a similar finding for GHG emissions from aircraft under section 231(a)(2)(A) of the CAA.¹³⁵ In the 2016 Endangerment Finding, the Administrator found that the body of scientific evidence amassed in the record for the 2009 Endangerment Finding compellingly supported a similar endangerment finding under CAA section 231(a)(2)(A), and also found that the science assessments released between the 2009 and the 2016 Findings “strengthen and further support the judgment that GHGs in the atmosphere may reasonably be anticipated to endanger the public health and welfare of current and future generations” (81 FR 54424).

Since the 2016 Endangerment Finding, the climate has continued to change, with new observational records being set for several climate indicators such as global average surface temperatures, GHG concentrations, and sea level rise. Additionally, major scientific assessments continue to be released that further advance our understanding of the climate system and the impacts that GHGs have on public health and welfare both for current and future generations. These updated observations and projections document the rapid rate of current and future climate change both globally and in the U.S.^{136 137 138 139}

¹³⁵ “Finding that Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare.” 81 FR 54422, August 15, 2016. (“2016 Endangerment Finding”).

¹³⁶ USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018. <https://nca2018.globalchange.gov>.

¹³⁷ Roy, J., P. Tschakert, H. Waisman, S. Abdul Halim, P. Antwi-Agyei, P. Dasgupta, B. Hayward, M. Kanninen, D. Liverman, C. Okereke, P.F. Pinho, K. Riahi, and A.G. Suarez Rodriguez, 2018: Sustainable Development, Poverty Eradication and Reducing Inequalities. In: Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press. <https://www.ipcc.ch/sr15/chapter/chapter-5>.

¹³⁸ National Academies of Sciences, Engineering, and Medicine. 2019. Climate Change and Ecosystems. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25504>.

¹³⁹ NOAA National Centers for Environmental Information, State of the Climate: Global Climate

B. Background on Criteria and Air Toxics Pollutants Impacted by This Proposal

1. Particulate Matter

Particulate matter (PM) is a complex mixture of solid particles and liquid droplets distributed among numerous atmospheric gases which interact with solid and liquid phases. Particles in the atmosphere range in size from less than 0.01 to more than 10 micrometers (μm) in diameter.¹⁴⁰ Atmospheric particles can be grouped into several classes according to their aerodynamic diameter and physical sizes. Generally, the three broad classes of particles include ultrafine particles (UFPs, generally considered as particles with a diameter less than or equal to 0.1 μm [typically based on physical size, thermal diffusivity or electrical mobility]), “fine” particles (PM_{2.5}; particles with a nominal mean aerodynamic diameter less than or equal to 2.5 μm), and “thoracic” particles (PM₁₀; particles with a nominal mean aerodynamic diameter less than or equal to 10 μm). Particles that fall within the size range between PM_{2.5} and PM₁₀, are referred to as “thoracic coarse particles” (PM_{10-2.5}, particles with a nominal mean aerodynamic diameter greater than 2.5 μm and less than or equal to 10 μm). EPA currently has NAAQS for PM_{2.5} and PM₁₀.¹⁴¹

Most particles are found in the lower troposphere, where they can have residence times ranging from a few hours to weeks. Particles are removed from the atmosphere by wet deposition, such as when they are carried by rain or snow, or by dry deposition, when particles settle out of suspension due to gravity. Atmospheric lifetimes are generally longest for PM_{2.5}, which often remains in the atmosphere for days to weeks before being removed by wet or dry deposition.¹⁴² In contrast, atmospheric lifetimes for UFP and PM_{10-2.5} are shorter. Within hours, UFP

Report for Annual 2020, published online January 2021, retrieved on February 10, 2021, from <https://www.ncdc.noaa.gov/sotc/global/202013>.

¹⁴⁰ U.S. EPA. Policy Assessment (PA) for the Review of the National Ambient Air Quality Standards for Particulate Matter (Final Report, 2020). U.S. Environmental Protection Agency, Washington, DC, EPA/452/R-20/002, 2020.

¹⁴¹ Regulatory definitions of PM size fractions, and information on reference and equivalent methods for measuring PM in ambient air, are provided in 40 CFR parts 50, 53, and 58. With regard to NAAQS which provide protection against health and welfare effects, the 24-hour PM₁₀ standard provides protection against effects associated with short-term exposure to thoracic coarse particles (i.e., PM_{10-2.5}).

¹⁴² U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019. Table 2-1.

¹³⁴ The CAA states in section 302(h) that “[a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.” 42 U.S.C. 7602(h).

can undergo coagulation and condensation that lead to formation of larger particles in the accumulation mode, or can be removed from the atmosphere by evaporation, deposition, or reactions with other atmospheric components. PM_{10-2.5} are also generally removed from the atmosphere within hours, through wet or dry deposition.¹⁴³

Particulate matter consists of both primary and secondary particles. Primary particles are emitted directly from sources, such as combustion-related activities (e.g., industrial activities, motor vehicle operation, biomass burning), while secondary particles are formed through atmospheric chemical reactions of gaseous precursors (e.g., sulfur oxides (SO_x), nitrogen oxides (NO_x) and volatile organic compounds (VOCs)). From 2000 to 2021, national annual average ambient PM_{2.5} concentrations have declined by over 35 percent,¹⁴⁴ largely reflecting reductions in emissions of precursor gases.

There are two primary NAAQS for PM_{2.5}: An annual standard (12.0 micrograms per cubic meter (µg/m³)) and a 24-hour standard (35 µg/m³), and there are two secondary NAAQS for PM_{2.5}: An annual standard (15.0 µg/m³) and a 24-hour standard (35 µg/m³). The initial PM_{2.5} standards were set in 1997 and revisions to the standards were finalized in 2006 and in December 2012 and then retained in 2020. On January 6, 2023, EPA announced its proposed decision to revise the PM NAAQS.¹⁴⁵

There are many areas of the country that are currently in nonattainment for the annual and 24-hour primary PM_{2.5} NAAQS. As of August 31, 2022, more than 19 million people lived in the 4 areas that are designated as nonattainment for the 1997 PM_{2.5} NAAQS. Also, as of August 31, 2022, more than 31 million people lived in the 14 areas that are designated as nonattainment for the 2006 PM_{2.5} NAAQS and more than 20 million people lived in the 5 areas designated as nonattainment for the 2012 PM_{2.5} NAAQS. In total, there are currently 15 PM_{2.5} nonattainment areas with a population of more than 32 million people.¹⁴⁶ The proposed standards

would take effect beginning in MY 2027 and would assist areas with attaining the NAAQS and may relieve areas with already stringent local regulations from some of the burden associated with adopting additional local controls. The rule would also assist counties with ambient concentrations near the level of the NAAQS who are working to ensure long-term attainment or maintenance of the PM_{2.5} NAAQS.

2. Ozone

Ground-level ozone pollution forms in areas with high concentrations of ambient NO_x and VOCs when solar radiation is strong. Major U.S. sources of NO_x are highway and nonroad motor vehicles, engines, power plants and other industrial sources, with natural sources, such as soil, vegetation, and lightning, serving as smaller sources. Vegetation is the dominant source of VOCs in the U.S. Volatile consumer and commercial products, such as propellants and solvents, highway and nonroad vehicles, engines, fires, and industrial sources also contribute to the atmospheric burden of VOCs at ground-level.

The processes underlying ozone formation, transport, and accumulation are complex. Ground-level ozone is produced and destroyed by an interwoven network of free radical reactions involving the hydroxyl radical (OH), NO, NO₂, and complex reaction intermediates derived from VOCs. Many of these reactions are sensitive to temperature and available sunlight. High ozone events most often occur when ambient temperatures and sunlight intensities remain high for several days under stagnant conditions. Ozone and its precursors can also be transported hundreds of miles downwind, which can lead to elevated ozone levels in areas with otherwise low VOC or NO_x emissions. As an air mass moves and is exposed to changing ambient concentrations of NO_x and VOCs, the ozone photochemical regime (relative sensitivity of ozone formation to NO_x and VOC emissions) can change.

When ambient VOC concentrations are high, comparatively small amounts of NO_x catalyze rapid ozone formation. Without available NO_x, ground-level ozone production is severely limited, and VOC reductions would have little impact on ozone concentrations. Photochemistry under these conditions is said to be “NO_x-limited.” When NO_x levels are sufficiently high, faster NO₂ oxidation consumes more radicals, dampening ozone production. Under

these “VOC-limited” conditions (also referred to as “NO_x-saturated” conditions), VOC reductions are effective in reducing ozone, and NO_x can react directly with ozone, resulting in suppressed ozone concentrations near NO_x emission sources. Under these NO_x-saturated conditions, NO_x reductions can actually increase local ozone under certain circumstances, but overall ozone production (considering downwind formation) decreases and even in VOC-limited areas, NO_x reductions are not expected to increase ozone levels if the NO_x reductions are sufficiently large—large enough to become NO_x-limited.

The primary NAAQS for ozone, established in 2015 and retained in 2020, is an 8-hour standard with a level of 0.07 ppm.¹⁴⁷ EPA announced that it will reconsider the decision to retain the ozone NAAQS.¹⁴⁸ EPA is also implementing the previous 8-hour ozone primary standard, set in 2008, at a level of 0.075 ppm. As of August 31, 2022, there were 34 ozone nonattainment areas for the 2008 ozone NAAQS, composed of 141 full or partial counties, with a population of more than 90 million, and 49 ozone nonattainment areas for the 2015 ozone NAAQS, composed of 212 full or partial counties, with a population of more than 125 million. In total, there are currently, as of August 31, 2022, 57 ozone nonattainment areas with a population of more than 130 million people.¹⁴⁹

States with ozone nonattainment areas are required to take action to bring those areas into attainment. The attainment date assigned to an ozone nonattainment area is based on the area's classification. The attainment dates for areas designated nonattainment for the 2008 8-hour ozone NAAQS are in the 2015 to 2032 timeframe, depending on the severity of the problem in each area. Attainment dates for areas designated nonattainment for the 2015 ozone NAAQS are in the 2021 to 2038 timeframe, again depending on the severity of the problem in each area.¹⁵⁰

¹⁴⁷ <https://www.epa.gov/ground-level-ozone-pollution/ozone-national-ambient-air-quality-standards-naaqs>.

¹⁴⁸ <https://www.epa.gov/ground-level-ozone-pollution/epa-reconsider-previous-administrations-decision-retain-2015-ozone>.

¹⁴⁹ The population total is calculated by summing, without double counting, the 2008 and 2015 ozone nonattainment populations contained in the Criteria Pollutant Nonattainment Summary report (<https://www.epa.gov/green-book/green-book-data-download>).

¹⁵⁰ <https://www.epa.gov/ground-level-ozone-pollution/ozone-naaqs-timelines>.

¹⁴³ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019. Table 2-1.

¹⁴⁴ See <https://www.epa.gov/air-trends/particulate-matter-pm25-trends> for more information.

¹⁴⁵ <https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm>.

¹⁴⁶ The population total is calculated by summing, without double counting, the 1997, 2006 and 2012 PM_{2.5} nonattainment populations contained in the Criteria Pollutant Nonattainment

Summary report (<https://www.epa.gov/green-book/green-book-data-download>).

The proposed standards would take effect starting in MY 2027 and would assist areas with attaining the NAAQS and may relieve areas with already stringent local regulations from some of the burden associated with adopting additional local controls. The rule would also provide assistance to counties with ambient concentrations near the level of the NAAQS who are working to ensure long-term attainment or maintenance of the NAAQS.

3. Nitrogen Oxides

Oxides of nitrogen (NO_x) refers to nitric oxide (NO) and nitrogen dioxide (NO₂). Most NO₂ is formed in the air through the oxidation of nitric oxide (NO) emitted when fuel is burned at a high temperature. NO_x is a criteria pollutant, regulated for its adverse effects on public health and the environment, and highway vehicles are an important contributor to NO_x emissions. NO_x, along with VOCs, are the two major precursors of ozone and NO_x is also a major contributor to secondary PM_{2.5} formation. There are two primary NAAQS for NO₂: An annual standard (53 ppb) and a 1-hour standard (100 ppb).¹⁵¹ In 2010, EPA established requirements for monitoring NO₂ near roadways expected to have the highest concentrations within large cities. Monitoring within this near-roadway network began in 2014, with additional sites deployed in the following years. At present, there are no nonattainment areas for NO₂.

4. Sulfur Oxides

Sulfur dioxide (SO₂), a member of the sulfur oxide (SO_x) family of gases, is formed from burning fuels containing sulfur (*e.g.*, coal or oil), extracting gasoline from oil, or extracting metals from ore. SO₂ and its gas phase oxidation products can dissolve in water droplets and further oxidize to form sulfuric acid which reacts with ammonia to form sulfates, which are important components of ambient PM.

EPA most recently completed a review of the primary SO₂ NAAQS in February 2019 and decided to retain the existing 2010 SO₂ NAAQS.¹⁵² The current primary NAAQS for SO₂ is a 1-hour standard of 75 ppb. As of September 30, 2022, more than two million people lived in the 30 areas that

are designated as nonattainment for the 2010 SO₂ NAAQS.¹⁵³

5. Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas emitted from combustion processes. Nationally, particularly in urban areas, the majority of CO emissions to ambient air come from mobile sources.¹⁵⁴ There are two primary NAAQS for CO: An 8-hour standard (9 ppm) and a 1-hour standard (35 ppm). There are currently no CO nonattainment areas; as of September 27, 2010, all CO nonattainment areas have been redesignated to attainment. The past designations were based on the existing community-wide monitoring network. EPA made an addition to the ambient air monitoring requirements for CO during the 2011 NAAQS review. Those new requirements called for CO monitors to be operated near roads in Core Based Statistical Areas (CBSAs) of 1 million or more persons, in addition to the existing community-based network (76 FR 54294, August 31, 2011).

6. Diesel Exhaust

Diesel exhaust is a complex mixture composed of particulate matter, carbon dioxide, oxygen, nitrogen, water vapor, carbon monoxide, nitrogen compounds, sulfur compounds and numerous low-molecular-weight hydrocarbons. A number of these gaseous hydrocarbon components are individually known to be toxic, including aldehydes, benzene and 1,3-butadiene. The diesel particulate matter present in diesel exhaust consists mostly of fine particles (<2.5 μm), of which a significant fraction is ultrafine particles (<0.1 μm). These particles have a large surface area which makes them an excellent medium for adsorbing organics and their small size makes them highly respirable. Many of the organic compounds present in the gases and on the particles, such as polycyclic organic matter, are individually known to have mutagenic and carcinogenic properties.

Diesel exhaust varies significantly in chemical composition and particle sizes between different engine types (heavy-duty, light-duty), engine operating conditions (idle, acceleration, deceleration), and fuel formulations (high/low sulfur fuel). Also, there are emissions differences between onroad

and nonroad engines because the nonroad engines are generally of older technology. After being emitted in the engine exhaust, diesel exhaust undergoes dilution as well as chemical and physical changes in the atmosphere. The lifetimes of the components present in diesel exhaust range from seconds to days.

7. Air Toxics

The most recent available data indicate that millions of Americans live in areas where air toxics pose potential health concerns.^{155 156} The levels of air toxics to which people are exposed vary depending on where people live and work and the kinds of activities in which they engage, as discussed in detail in EPA's 2007 Mobile Source Air Toxics Rule.¹⁵⁷ According to EPA's Air Toxics Screening Assessment (AirToxScreen) for 2018, mobile sources were responsible for 40 percent of outdoor anthropogenic toxic emissions and were the largest contributor to national average cancer and noncancer risk from directly emitted pollutants.^{158 159} Mobile sources are also significant contributors to precursor emissions which react to form air toxics.¹⁶⁰ Formaldehyde is the largest contributor to cancer risk of all 71 pollutants quantitatively assessed in the 2018 AirToxScreen. Mobile sources were responsible for 26 percent of primary anthropogenic emissions of this pollutant in 2018 and are significant contributors to formaldehyde precursor emissions. Benzene is also a large contributor to cancer risk, and mobile sources account for about 60 percent of

¹⁵⁵ Air toxics are pollutants known to cause or suspected of causing cancer or other serious health effects. Air toxics are also known as toxic air pollutants or hazardous air pollutants. <https://www.epa.gov/AirToxScreen/airtoxscreen-glossary-terms#air-toxics>.

¹⁵⁶ U.S. EPA (2022) Technical Support Document EPA Air Toxics Screening Assessment. 2017 AirToxScreen TSD. https://www.epa.gov/system/files/documents/2022-03/airtoxscreen_2017tsd.pdf.

¹⁵⁷ U.S. Environmental Protection Agency (2007). Control of Hazardous Air Pollutants from Mobile Sources; Final Rule. 72 FR 8434, February 26, 2007.

¹⁵⁸ U.S. EPA. (2022) 2018 Air Toxics Screening Assessment. <https://www.epa.gov/AirToxScreen/2018-airtoxscreen-assessment-results>.

¹⁵⁹ AirToxScreen also includes estimates of risk attributable to background concentrations, which includes contributions from long-range transport, persistent air toxics, and natural sources; as well as secondary concentrations, where toxics are formed via secondary formation. Mobile sources substantially contribute to long-range transport and secondarily formed air toxics.

¹⁶⁰ Rich Cook, Sharon Phillips, Madeleine Strum, Alison Eyth & James Thurman (2020): Contribution of mobile sources to secondary formation of carbonyl compounds, *Journal of the Air & Waste Management Association*, DOI: 10.1080/10962247.2020.1813839.

¹⁵¹ The statistical form of the 1-hour NAAQS for NO₂ is the 3-year average of the yearly distribution of 1-hour daily maximum concentrations.

¹⁵² <https://www.epa.gov/so2-pollution/primary-national-ambient-air-quality-standard-naaqs-sulfur-dioxide>.

¹⁵³ <https://www3.epa.gov/airquality/greenbook/tnsum.html>.

¹⁵⁴ U.S. EPA, (2010). Integrated Science Assessment for Carbon Monoxide (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/019F, 2010. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=218686>. See Section 2.1.

average exposure to ambient concentrations.

C. Health Effects Associated With Exposure to Criteria and Air Toxics Pollutants

Emissions sources impacted by this proposal, including vehicles and power plants, emit pollutants that contribute to ambient concentrations of ozone, PM, NO₂, SO₂, CO, and air toxics. This section of the preamble discusses the health effects associated with exposure to these pollutants.

Additionally, because children have increased vulnerability and susceptibility for adverse health effects related to air pollution exposures, EPA's findings regarding adverse effects for children related to exposure to pollutants that are impacted by this rule are noted in this section. The increased vulnerability and susceptibility of children to air pollution exposures may arise because infants and children generally breathe more relative to their size than adults do, and consequently may be exposed to relatively higher amounts of air pollution.¹⁶¹ Children also tend to breathe through their mouths more than adults and their nasal passages are less effective at removing pollutants, which leads to greater lung deposition of some pollutants, such as PM.¹⁶² ¹⁶³ Furthermore, air pollutants may pose health risks specific to children because children's bodies are still developing.¹⁶⁴ For example, during periods of rapid growth such as fetal development, infancy and puberty, their developing systems and organs may be more easily harmed.¹⁶⁵ ¹⁶⁶ EPA produces

the report titled "America's Children and the Environment," which presents national trends on air pollution and other contaminants and environmental health of children.¹⁶⁷

Information on environmental effects associated with exposure to these pollutants is included in Section II.D, information on environmental justice is included in Section VIII.I and information on emission reductions and air quality impacts from this rule are included in Sections VI and VII of this preamble.

1. Particulate Matter

Scientific evidence spanning animal toxicological, controlled human exposure, and epidemiologic studies shows that exposure to ambient PM is associated with a broad range of health effects. These health effects are discussed in detail in the Integrated Science Assessment for Particulate Matter, which was finalized in December 2019 (2019 PM ISA), with a more targeted evaluation of studies published since the literature cutoff date of the 2019 PM ISA in the Supplement to the Integrated Science Assessment for PM (Supplement).¹⁶⁸ ¹⁶⁹ The PM ISA characterizes the causal nature of relationships between PM exposure and broad health categories (e.g., cardiovascular effects, respiratory effects, etc.) using a weight-of-evidence approach.¹⁷⁰ Within this characterization, the PM ISA summarizes the health effects evidence for short-term (i.e., hours up to one month) and long-term (i.e., one month to

years) exposures to PM_{2.5}, PM_{10-2.5}, and ultrafine particles, and concludes that exposures to ambient PM_{2.5} are associated with a number of adverse health effects. The following discussion highlights the PM ISA's conclusions, and summarizes additional information from the Supplement where appropriate, pertaining to the health effects evidence for both short- and long-term PM exposures. Further discussion of PM-related health effects can also be found in the 2022 Policy Assessment for the review of the PM NAAQS.¹⁷¹

EPA has concluded that recent evidence in combination with evidence evaluated in the 2009 PM ISA supports a "causal relationship" between both long- and short-term exposures to PM_{2.5} and premature mortality and cardiovascular effects and a "likely to be causal relationship" between long- and short-term PM_{2.5} exposures and respiratory effects.¹⁷² Additionally, recent experimental and epidemiologic studies provide evidence supporting a "likely to be causal relationship" between long-term PM_{2.5} exposure and nervous system effects, and long-term PM_{2.5} exposure and cancer. Because of remaining uncertainties and limitations in the evidence base, EPA determined a "suggestive of, but not sufficient to infer, a causal relationship" for long-term PM_{2.5} exposure and reproductive and developmental effects (i.e., male/female reproduction and fertility; pregnancy and birth outcomes), long- and short-term exposures and metabolic effects, and short-term exposure and nervous system effects.

As discussed extensively in the 2019 PM ISA and the Supplement, recent studies continue to support a "causal relationship" between short- and long-term PM_{2.5} exposures and mortality.¹⁷³ ¹⁷⁴ For short-term PM_{2.5} exposure, multi-city studies, in combination with single- and multi-city studies evaluated in the 2009 PM ISA, provide evidence of consistent, positive associations across studies conducted in

¹⁶¹ EPA (2009) Metabolically-derived ventilation rates: A revised approach based upon oxygen consumption rates. Washington, DC: Office of Research and Development. EPA/600/R-06/129F. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=202543>.

¹⁶² U.S. EPA Integrated Science Assessment for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019. Chapter 4 "Overall Conclusions" p. 4-1.

¹⁶³ Foos, B.; Marty, M.; Schwartz, J.; Bennet, W.; Moya, J.; Jarabek, A.M.; Salmon, A.G. (2008) Focusing on children's inhalation dosimetry and health effects for risk assessment: An introduction. *J Toxicol Environ Health* 71A: 149-165.

¹⁶⁴ Children's environmental health includes conception, infancy, early childhood and through adolescence until 21 years of age as described in the EPA Memorandum: Issuance of EPA's 2021 Policy on Children's Health. October 5, 2021. Available at <https://www.epa.gov/system/files/documents/2021-10/2021-policy-on-childrens-health.pdf>.

¹⁶⁵ EPA (2006) A Framework for Assessing Health Risks of Environmental Exposures to Children. EPA, Washington, DC, EPA/600/R-05/093F, 2006.

¹⁶⁶ U.S. Environmental Protection Agency. (2005). Supplemental guidance for assessing susceptibility from early-life exposure to carcinogens. Washington, DC: Risk Assessment Forum. EPA/630/R-03/003F. https://www3.epa.gov/airtoxics/childrens_supplement_final.pdf.

¹⁶⁷ U.S. EPA. America's Children and the Environment. Available at: <https://www.epa.gov/americaschildrenenvironment>.

¹⁶⁸ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019.

¹⁶⁹ U.S. EPA. Supplement to the 2019 Integrated Science Assessment for Particulate Matter (Final Report, 2022). U.S. Environmental Protection Agency, Washington, DC, EPA/635/R-22/028, 2022.

¹⁷⁰ The causal framework draws upon the assessment and integration of evidence from across scientific disciplines, spanning atmospheric chemistry, exposure, dosimetry and health effects studies (i.e., epidemiologic, controlled human exposure, and animal toxicological studies), and assess the related uncertainties and limitations that ultimately influence our understanding of the evidence. This framework employs a five-level hierarchy that classifies the overall weight-of-evidence with respect to the causal nature of relationships between criteria pollutant exposures and health and welfare effects using the following categorizations: causal relationship; likely to be causal relationship; suggestive of, but not sufficient to infer, a causal relationship; inadequate to infer the presence or absence of a causal relationship; and not likely to be a causal relationship (U.S. EPA. (2019). Integrated Science Assessment for Particulate Matter (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, Section P. 3.2.3).

¹⁷¹ U.S. EPA. Policy Assessment (PA) for the Reconsideration of the National Ambient Air Quality Standards for Particulate Matter (Final Report, 2022). U.S. Environmental Protection Agency, Washington, DC, EPA-452/R-22-004, 2022.

¹⁷² U.S. EPA. (2009). Integrated Science Assessment for Particulate Matter (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F.

¹⁷³ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019.

¹⁷⁴ U.S. EPA. Supplement to the 2019 Integrated Science Assessment for Particulate Matter (Final Report, 2022). U.S. Environmental Protection Agency, Washington, DC, EPA/635/R-22/028, 2022.

different geographic locations, populations with different demographic characteristics, and studies using different exposure assignment techniques. Additionally, the consistent and coherent evidence across scientific disciplines for cardiovascular morbidity, particularly ischemic events and heart failure, and to a lesser degree for respiratory morbidity, including exacerbations of chronic obstructive pulmonary disease (COPD) and asthma, provide biological plausibility for cause-specific mortality and ultimately total mortality. Recent epidemiologic studies evaluated in the Supplement, including studies that employed alternative methods for confounder control, provide additional support to the evidence base that contributed to the 2019 PM ISA conclusion for short-term PM_{2.5} exposure and mortality.

The 2019 PM ISA concluded a “causal relationship” between long-term PM_{2.5} exposure and mortality. In addition to reanalyses and extensions of the American Cancer Society (ACS) and Harvard Six Cities (HSC) cohorts, multiple new cohort studies conducted in the U.S. and Canada consisting of people employed in a specific job (*e.g.*, teacher, nurse), and that apply different exposure assignment techniques, provide evidence of positive associations between long-term PM_{2.5} exposure and mortality. Biological plausibility for mortality due to long-term PM_{2.5} exposure is provided by the coherence of effects across scientific disciplines for cardiovascular morbidity, particularly for coronary heart disease, stroke, and atherosclerosis, and for respiratory morbidity, particularly for the development of COPD. Additionally, recent studies provide evidence indicating that as long-term PM_{2.5} concentrations decrease there is an increase in life expectancy. Recent cohort studies evaluated in the Supplement, as well as epidemiologic studies that conducted accountability analyses or employed alternative methods for confounder controls, support and extend the evidence base that contributed to the 2019 PM ISA conclusion for long-term PM_{2.5} exposure and mortality.

A large body of studies examining both short- and long-term PM_{2.5} exposure and cardiovascular effects builds on the evidence base evaluated in the 2009 PM ISA. The strongest evidence for cardiovascular effects in response to short-term PM_{2.5} exposures is for ischemic heart disease and heart failure. The evidence for short-term PM_{2.5} exposure and cardiovascular effects is coherent across scientific

disciplines and supports a continuum of effects ranging from subtle changes in indicators of cardiovascular health to serious clinical events, such as increased emergency department visits and hospital admissions due to cardiovascular disease and cardiovascular mortality. For long-term PM_{2.5} exposure, there is strong and consistent epidemiologic evidence of a relationship with cardiovascular mortality. This evidence is supported by epidemiologic and animal toxicological studies demonstrating a range of cardiovascular effects including coronary heart disease, stroke, impaired heart function, and subclinical markers (*e.g.*, coronary artery calcification, atherosclerotic plaque progression), which collectively provide coherence and biological plausibility. Recent epidemiologic studies evaluated in the Supplement, as well as studies that conducted accountability analyses or employed alternative methods for confounder control, support and extend the evidence base that contributed to the 2019 PM ISA conclusion for both short- and long-term PM_{2.5} exposure and cardiovascular effects.

Studies evaluated in the 2019 PM ISA continue to provide evidence of a “likely to be causal relationship” between both short- and long-term PM_{2.5} exposure and respiratory effects. Epidemiologic studies provide consistent evidence of a relationship between short-term PM_{2.5} exposure and asthma exacerbation in children and COPD exacerbation in adults as indicated by increases in emergency department visits and hospital admissions, which is supported by animal toxicological studies indicating worsening allergic airways disease and subclinical effects related to COPD. Epidemiologic studies also provide evidence of a relationship between short-term PM_{2.5} exposure and respiratory mortality. However, there is inconsistent evidence of respiratory effects, specifically lung function declines and pulmonary inflammation, in controlled human exposure studies. With respect to long term PM_{2.5} exposure, epidemiologic studies conducted in the U.S. and abroad provide evidence of a relationship with respiratory effects, including consistent changes in lung function and lung function growth rate, increased asthma incidence, asthma prevalence, and wheeze in children; acceleration of lung function decline in adults; and respiratory mortality. The epidemiologic evidence is supported by animal toxicological studies, which provide coherence and biological plausibility for

a range of effects including impaired lung development, decrements in lung function growth, and asthma development.

Since the 2009 PM ISA, a growing body of scientific evidence examined the relationship between long-term PM_{2.5} exposure and nervous system effects, resulting for the first time in a causality determination for this health effects category of a “likely to be causal relationship.” The strongest evidence for effects on the nervous system come from epidemiologic studies that consistently report cognitive decrements and reductions in brain volume in adults. The effects observed in epidemiologic studies in adults are supported by animal toxicological studies demonstrating effects on the brain of adult animals including inflammation, morphologic changes, and neurodegeneration of specific regions of the brain. There is more limited evidence for neurodevelopmental effects in children, with some studies reporting positive associations with autism spectrum disorder and others providing limited evidence of an association with cognitive function. While there is some evidence from animal toxicological studies indicating effects on the brain (*i.e.*, inflammatory and morphological changes) to support a biologically plausible pathway for neurodevelopmental effects, epidemiologic studies are limited due to their lack of control for potential confounding by copollutants, the small number of studies conducted, and uncertainty regarding critical exposure windows.

Building off the decades of research demonstrating mutagenicity, DNA damage, and other endpoints related to genotoxicity due to whole PM exposures, recent experimental and epidemiologic studies focusing specifically on PM_{2.5} provide evidence of a relationship between long-term PM_{2.5} exposure and cancer. Epidemiologic studies examining long-term PM_{2.5} exposure and lung cancer incidence and mortality provide evidence of generally positive associations in cohort studies spanning different populations, locations, and exposure assignment techniques. Additionally, there is evidence of positive associations with lung cancer incidence and mortality in analyses limited to never smokers. The epidemiologic evidence is supported by both experimental and epidemiologic evidence of genotoxicity, epigenetic effects, carcinogenic potential, and that PM_{2.5} exhibits several characteristics of carcinogens, which collectively

provides biological plausibility for cancer development and resulted in the conclusion of a “likely to be causal relationship.”

For the additional health effects categories evaluated for PM_{2.5} in the 2019 PM ISA, experimental and epidemiologic studies provide limited and/or inconsistent evidence of a relationship with PM_{2.5} exposure. As a result, the 2019 PM ISA concluded that the evidence is “suggestive of, but not sufficient to infer a causal relationship” for short-term PM_{2.5} exposure and metabolic effects and nervous system effects, and long-term PM_{2.5} exposures and metabolic effects as well as reproductive and developmental effects.

In addition to evaluating the health effects attributed to short- and long-term exposure to PM_{2.5}, the 2019 PM ISA also conducted an extensive evaluation as to whether specific components or sources of PM_{2.5} are more strongly related with health effects than PM_{2.5} mass. An evaluation of those studies resulted in the 2019 PM ISA concluding that “many PM_{2.5} components and sources are associated with many health effects, and the evidence does not indicate that any one source or component is consistently more strongly related to health effects than PM_{2.5} mass.”¹⁷⁵

For both PM_{10-2.5} and UFPs, for all health effects categories evaluated, the 2019 PM ISA concluded that the evidence was “suggestive of, but not sufficient to infer, a causal relationship” or “inadequate to determine the presence or absence of a causal relationship.” For PM_{10-2.5}, although a Federal Reference Method (FRM) was instituted in 2011 to measure PM_{10-2.5} concentrations nationally, the causality determinations reflect that the same uncertainty identified in the 2009 PM ISA with respect to the method used to estimate PM_{10-2.5} concentrations in epidemiologic studies persists. Specifically, across epidemiologic studies, different approaches are used to estimate PM_{10-2.5} concentrations (*e.g.*, direct measurement of PM_{10-2.5}, difference between PM₁₀ and PM_{2.5} concentrations), and it remains unclear how well correlated PM_{10-2.5} concentrations are both spatially and temporally across the different methods used.

For UFPs, which have often been defined as particles <0.1 µm, the uncertainty in the evidence for the health effect categories evaluated across experimental and epidemiologic studies

reflects the inconsistency in the exposure metric used (*i.e.*, particle number concentration, surface area concentration, mass concentration) as well as the size fractions examined. In epidemiologic studies the size fraction examined can vary depending on the monitor used and exposure metric, with some studies examining number count over the entire particle size range, while experimental studies that use a particle concentrator often examine particles up to 0.3 µm. Additionally, due to the lack of a monitoring network, there is limited information on the spatial and temporal variability of UFPs within the U.S., as well as population exposures to UFPs, which adds uncertainty to epidemiologic study results.

The 2019 PM ISA cites extensive evidence indicating that “both the general population as well as specific populations and life stages are at risk for PM_{2.5}-related health effects.”¹⁷⁶ For example, in support of its “causal” and “likely to be causal” determinations, the ISA cites substantial evidence for: (1) PM-related mortality and cardiovascular effects in older adults; (2) PM-related cardiovascular effects in people with pre-existing cardiovascular disease; (3) PM-related respiratory effects in people with pre-existing respiratory disease, particularly asthma exacerbations in children; and (4) PM-related impairments in lung function growth and asthma development in children. The ISA additionally notes that stratified analyses (*i.e.*, analyses that directly compare PM-related health effects across groups) provide strong evidence for racial and ethnic differences in PM_{2.5} exposures and in the risk of PM_{2.5}-related health effects, specifically within Hispanic and non-Hispanic Black populations, with some evidence of increased risk for populations of low socioeconomic status. Recent studies evaluated in the Supplement support the conclusion of the 2019 PM ISA with respect to disparities in both PM_{2.5} exposure and health risk by race and ethnicity and provide additional support for disparities for populations of lower socioeconomic status.¹⁷⁷ Additionally, evidence spanning epidemiologic studies that conducted stratified analyses, experimental studies focusing on animal models of disease or individuals with pre-existing disease,

dosimetry studies, as well as studies focusing on differential exposure suggest that populations with pre-existing cardiovascular or respiratory disease, populations that are overweight or obese, populations that have particular genetic variants, and current/former smokers could be at increased risk for adverse PM_{2.5}-related health effects. The 2022 Policy Assessment for the review of the PM NAAQS also highlights that factors that may contribute to increased risk of PM_{2.5}-related health effects include lifestage (children and older adults), pre-existing diseases (cardiovascular disease and respiratory disease), race/ethnicity, and socioeconomic status.¹⁷⁸

2. Ozone

This section provides a summary of the health effects associated with exposure to ambient concentrations of ozone.¹⁷⁹ The information in this section is based on the information and conclusions in the April 2020 Integrated Science Assessment for Ozone (Ozone ISA).¹⁸⁰ The Ozone ISA concludes that human exposures to ambient concentrations of ozone are associated with a number of adverse health effects and characterizes the weight of evidence for these health effects.¹⁸¹ The following discussion highlights the Ozone ISA’s conclusions pertaining to health effects associated with both short-term and long-term periods of exposure to ozone.

For short-term exposure to ozone, the Ozone ISA concludes that respiratory effects, including lung function decrements, pulmonary inflammation, exacerbation of asthma, respiratory-related hospital admissions, and mortality, are causally associated with ozone exposure. It also concludes that

¹⁷⁸ U.S. EPA. Policy Assessment (PA) for the Reconsideration of the National Ambient Air Quality Standards for Particulate Matter (Final Report, 2022). U.S. Environmental Protection Agency, Washington, DC, EPA-452/R-22-004, 2022, p. 3–53.

¹⁷⁹ Human exposure to ozone varies over time due to changes in ambient ozone concentration and because people move between locations which have notably different ozone concentrations. Also, the amount of ozone delivered to the lung is influenced not only by the ambient concentrations but also by the breathing route and rate.

¹⁸⁰ U.S. EPA. Integrated Science Assessment (ISA) for Ozone and Related Photochemical Oxidants (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/012, 2020.

¹⁸¹ The ISA evaluates evidence and draws conclusions on the causal relationship between relevant pollutant exposures and health effects, assigning one of five “weight of evidence” determinations: causal relationship, likely to be a causal relationship, suggestive of a causal relationship, inadequate to infer a causal relationship, and not likely to be a causal relationship. For more information on these levels of evidence, please refer to Table II in the Preamble of the ISA.

¹⁷⁵ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019.

¹⁷⁶ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019.

¹⁷⁷ U.S. EPA. Supplement to the 2019 Integrated Science Assessment for Particulate Matter (Final Report, 2022). U.S. Environmental Protection Agency, Washington, DC, EPA/635/R-22/028, 2022.

metabolic effects, including metabolic syndrome (*i.e.*, changes in insulin or glucose levels, cholesterol levels, obesity, and blood pressure) and complications due to diabetes are likely to be causally associated with short-term exposure to ozone and that evidence is suggestive of a causal relationship between cardiovascular effects, central nervous system effects and total mortality and short-term exposure to ozone.

For long-term exposure to ozone, the Ozone ISA concludes that respiratory effects, including new onset asthma, pulmonary inflammation and injury, are likely to be causally related with ozone exposure. The Ozone ISA characterizes the evidence as suggestive of a causal relationship for associations between long-term ozone exposure and cardiovascular effects, metabolic effects, reproductive and developmental effects, central nervous system effects and total mortality. The evidence is inadequate to infer a causal relationship between chronic ozone exposure and increased risk of cancer.

Finally, interindividual variation in human responses to ozone exposure can result in some groups being at increased risk for detrimental effects in response to exposure. In addition, some groups are at increased risk of exposure due to their activities, such as outdoor workers and children. The Ozone ISA identified several groups that are at increased risk for ozone-related health effects. These groups are people with asthma, children and older adults, individuals with reduced intake of certain nutrients (*i.e.*, Vitamins C and E), outdoor workers, and individuals having certain genetic variants related to oxidative metabolism or inflammation. Ozone exposure during childhood can have lasting effects through adulthood. Such effects include altered function of the respiratory and immune systems. Children absorb higher doses (normalized to lung surface area) of ambient ozone, compared to adults, due to their increased time spent outdoors, higher ventilation rates relative to body size, and a tendency to breathe a greater fraction of air through the mouth. Children also have a higher asthma prevalence compared to adults. Recent epidemiologic studies provide generally consistent evidence that long-term ozone exposure is associated with the development of asthma in children. Studies comparing age groups reported higher magnitude associations for short-term ozone exposure and respiratory hospital admissions and emergency room visits among children than among adults. Panel studies also provide support for experimental studies with

consistent associations between short-term ozone exposure and lung function and pulmonary inflammation in healthy children. Additional children's vulnerability and susceptibility factors are listed in Section X.G of the Preamble.

3. Nitrogen Oxides

The most recent review of the health effects of oxides of nitrogen completed by EPA can be found in the 2016 Integrated Science Assessment for Oxides of Nitrogen—Health Criteria (Oxides of Nitrogen ISA).¹⁸² The primary source of NO₂ is motor vehicle emissions, and ambient NO₂ concentrations tend to be highly correlated with other traffic-related pollutants. Thus, a key issue in characterizing the causality of NO₂-health effect relationships consists of evaluating the extent to which studies supported an effect of NO₂ that is independent of other traffic-related pollutants. EPA concluded that the findings for asthma exacerbation integrated from epidemiologic and controlled human exposure studies provided evidence that is sufficient to infer a causal relationship between respiratory effects and short-term NO₂ exposure. The strongest evidence supporting an independent effect of NO₂ exposure comes from controlled human exposure studies demonstrating increased airway responsiveness in individuals with asthma following ambient-relevant NO₂ exposures. The coherence of this evidence with epidemiologic findings for asthma hospital admissions and ED visits as well as lung function decrements and increased pulmonary inflammation in children with asthma describe a plausible pathway by which NO₂ exposure can cause an asthma exacerbation. The 2016 ISA for Oxides of Nitrogen also concluded that there is likely to be a causal relationship between long-term NO₂ exposure and respiratory effects. This conclusion is based on new epidemiologic evidence for associations of NO₂ with asthma development in children combined with biological plausibility from experimental studies.

In evaluating a broader range of health effects, the 2016 ISA for Oxides of Nitrogen concluded that evidence is “suggestive of, but not sufficient to infer, a causal relationship” between short-term NO₂ exposure and cardiovascular effects and mortality and

between long-term NO₂ exposure and cardiovascular effects and diabetes, birth outcomes, and cancer. In addition, the scientific evidence is inadequate (insufficient consistency of epidemiologic and toxicological evidence) to infer a causal relationship for long-term NO₂ exposure with fertility, reproduction, and pregnancy, as well as with postnatal development. A key uncertainty in understanding the relationship between these non-respiratory health effects and short- or long-term exposure to NO₂ is copollutant confounding, particularly by other roadway pollutants. The available evidence for non-respiratory health effects does not adequately address whether NO₂ has an independent effect or whether it primarily represents effects related to other or a mixture of traffic-related pollutants.

The 2016 ISA for Oxides of Nitrogen concluded that people with asthma, children, and older adults are at increased risk for NO₂-related health effects. In these groups and lifestyles, NO₂ is consistently related to larger effects on outcomes related to asthma exacerbation, for which there is confidence in the relationship with NO₂ exposure.

4. Sulfur Oxides

This section provides an overview of the health effects associated with SO₂. Additional information on the health effects of SO₂ can be found in the 2017 Integrated Science Assessment for Sulfur Oxides—Health Criteria (SO_x ISA).¹⁸³ Following an extensive evaluation of health evidence from animal toxicological, controlled human exposure, and epidemiologic studies, EPA has concluded that there is a causal relationship between respiratory health effects and short-term exposure to SO₂. The immediate effect of SO₂ on the respiratory system in humans is bronchoconstriction. People with asthma are more sensitive to the effects of SO₂, likely resulting from preexisting inflammation associated with this disease. In addition to those with asthma (both children and adults), there is suggestive evidence that all children and older adults may be at increased risk of SO₂-related health effects. In free-breathing laboratory studies involving controlled human exposures to SO₂, respiratory effects have consistently been observed following 5–10 min exposures at SO₂ concentrations ≥400

¹⁸² U.S. EPA. Integrated Science Assessment for Oxides of Nitrogen—Health Criteria (2016 Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-15/068, 2016.

¹⁸³ U.S. EPA. Integrated Science Assessment (ISA) for Sulfur Oxides—Health Criteria (Final Report, Dec 2017). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-17/451, 2017.

ppb in people with asthma engaged in moderate to heavy levels of exercise, with respiratory effects occurring at concentrations as low as 200 ppb in some individuals with asthma. A clear concentration-response relationship has been demonstrated in these studies following exposures to SO₂ at concentrations between 200 and 1000 ppb, both in terms of increasing severity of respiratory symptoms and decrements in lung function, as well as the percentage of individuals with asthma adversely affected. Epidemiologic studies have reported positive associations between short-term ambient SO₂ concentrations and hospital admissions and emergency department visits for asthma and for all respiratory causes, particularly among children and older adults (≥65 years). The studies provide supportive evidence for the causal relationship.

For long-term SO₂ exposure and respiratory effects, EPA has concluded that the evidence is suggestive of a causal relationship. This conclusion is based on new epidemiologic evidence for positive associations between long-term SO₂ exposure and increases in asthma incidence among children, together with animal toxicological evidence that provides a pathophysiologic basis for the development of asthma. However, uncertainty remains regarding the influence of other pollutants on the observed associations with SO₂ because these epidemiologic studies have not examined the potential for copollutant confounding.

Consistent associations between short-term exposure to SO₂ and mortality have been observed in epidemiologic studies, with larger effect estimates reported for respiratory mortality than for cardiovascular mortality. While this finding is consistent with the demonstrated effects of SO₂ on respiratory morbidity, uncertainty remains with respect to the interpretation of these observed mortality associations due to potential confounding by various copollutants. Therefore, EPA has concluded that the overall evidence is suggestive of a causal relationship between short-term exposure to SO₂ and mortality.

5. Carbon Monoxide

Information on the health effects of carbon monoxide (CO) can be found in the January 2010 Integrated Science Assessment for Carbon Monoxide (CO ISA).¹⁸⁴ The CO ISA presents

conclusions regarding the presence of causal relationships between CO exposure and categories of adverse health effects.¹⁸⁵ This section provides a summary of the health effects associated with exposure to ambient concentrations of CO, along with the CO ISA conclusions.¹⁸⁶

Controlled human exposure studies of subjects with coronary artery disease show a decrease in the time to onset of exercise-induced angina (chest pain) and electrocardiogram changes following CO exposure. In addition, epidemiologic studies observed associations between short-term CO exposure and cardiovascular morbidity, particularly increased emergency room visits and hospital admissions for coronary heart disease (including ischemic heart disease, myocardial infarction, and angina). Some epidemiologic evidence is also available for increased hospital admissions and emergency room visits for congestive heart failure and cardiovascular disease as a whole. The CO ISA concludes that a causal relationship is likely to exist between short-term exposures to CO and cardiovascular morbidity. It also concludes that available data are inadequate to conclude that a causal relationship exists between long-term exposures to CO and cardiovascular morbidity.

Animal studies show various neurological effects with in-utero CO exposure. Controlled human exposure studies report central nervous system and behavioral effects following low-level CO exposures, although the findings have not been consistent across all studies. The CO ISA concludes that the evidence is suggestive of a causal relationship with both short- and long-term exposure to CO and central nervous system effects.

A number of studies cited in the CO ISA have evaluated the role of CO exposure in birth outcomes such as preterm birth or cardiac birth defects. There is limited epidemiologic evidence of a CO-induced effect on preterm births

and birth defects, with weak evidence for a decrease in birth weight. Animal toxicological studies have found perinatal CO exposure to affect birth weight, as well as other developmental outcomes. The CO ISA concludes that the evidence is suggestive of a causal relationship between long-term exposures to CO and developmental effects and birth outcomes.

Epidemiologic studies provide evidence of associations between short-term CO concentrations and respiratory morbidity such as changes in pulmonary function, respiratory symptoms, and hospital admissions. A limited number of epidemiologic studies considered copollutants such as ozone, SO₂, and PM in two-pollutant models and found that CO risk estimates were generally robust, although this limited evidence makes it difficult to disentangle effects attributed to CO itself from those of the larger complex air pollution mixture. Controlled human exposure studies have not extensively evaluated the effect of CO on respiratory morbidity. Animal studies at levels of 50–100 ppm CO show preliminary evidence of altered pulmonary vascular remodeling and oxidative injury. The CO ISA concludes that the evidence is suggestive of a causal relationship between short-term CO exposure and respiratory morbidity, and inadequate to conclude that a causal relationship exists between long-term exposure and respiratory morbidity.

Finally, the CO ISA concludes that the epidemiologic evidence is suggestive of a causal relationship between short-term concentrations of CO and mortality. Epidemiologic evidence suggests an association exists between short-term exposure to CO and mortality, but limited evidence is available to evaluate cause-specific mortality outcomes associated with CO exposure. In addition, the attenuation of CO risk estimates which was often observed in copollutant models contributes to the uncertainty as to whether CO is acting alone or as an indicator for other combustion-related pollutants. The CO ISA also concludes that there is not likely to be a causal relationship between relevant long-term exposures to CO and mortality.

6. Diesel Exhaust

In EPA's 2002 Diesel Health Assessment Document (Diesel HAD), exposure to diesel exhaust was classified as likely to be carcinogenic to humans by inhalation from environmental exposures, in accordance with the revised draft 1996/1999 EPA

Washington, DC, EPA/600/R-09/019F, 2010. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=218686>.

¹⁸⁵ The ISA evaluates the health evidence associated with different health effects, assigning one of five "weight of evidence" determinations: causal relationship, likely to be a causal relationship, suggestive of a causal relationship, inadequate to infer a causal relationship, and not likely to be a causal relationship. For definitions of these levels of evidence, please refer to Section 1.6 of the ISA.

¹⁸⁶ Personal exposure includes contributions from many sources, and in many different environments. Total personal exposure to CO includes both ambient and non-ambient components; and both components may contribute to adverse health effects.

¹⁸⁴ U.S. EPA, (2010). Integrated Science Assessment for Carbon Monoxide (Final Report). U.S. Environmental Protection Agency,

cancer guidelines.^{187 188} A number of other agencies (National Institute for Occupational Safety and Health, the International Agency for Research on Cancer, the World Health Organization, California EPA, and the U.S. Department of Health and Human Services) made similar hazard classifications prior to 2002. EPA also concluded in the 2002 Diesel HAD that it was not possible to calculate a cancer unit risk for diesel exhaust due to limitations in the exposure data for the occupational groups or the absence of a dose-response relationship.

In the absence of a cancer unit risk, the Diesel HAD sought to provide additional insight into the significance of the diesel exhaust cancer hazard by estimating possible ranges of risk that might be present in the population. An exploratory analysis was used to characterize a range of possible lung cancer risk. The outcome was that environmental risks of cancer from long-term diesel exhaust exposures could plausibly range from as low as 10^{-5} to as high as 10^{-3} . Because of uncertainties, the analysis acknowledged that the risks could be lower than 10^{-5} , and a zero risk from diesel exhaust exposure could not be ruled out.

Noncancer health effects of acute and chronic exposure to diesel exhaust emissions are also of concern to EPA. EPA derived a diesel exhaust reference concentration (RfC) from consideration of four well-conducted chronic rat inhalation studies showing adverse pulmonary effects. The RfC is $5 \mu\text{g}/\text{m}^3$ for diesel exhaust measured as diesel particulate matter. This RfC does not consider allergenic effects such as those associated with asthma or immunologic or the potential for cardiac effects. There was emerging evidence in 2002, discussed in the Diesel HAD, that exposure to diesel exhaust can exacerbate these effects, but the exposure-response data were lacking at that time to derive an RfC based on these then-emerging considerations. The Diesel HAD states, "With [diesel particulate matter] being a ubiquitous component of ambient PM, there is an uncertainty about the adequacy of the existing [diesel exhaust] noncancer database to identify all of the pertinent

[diesel exhaust]-caused noncancer health hazards." The Diesel HAD also noted "that acute exposure to [diesel exhaust] has been associated with irritation of the eye, nose, and throat, respiratory symptoms (cough and phlegm), and neurophysiological symptoms such as headache, lightheadedness, nausea, vomiting, and numbness or tingling of the extremities." The Diesel HAD notes that the cancer and noncancer hazard conclusions applied to the general use of diesel engines then on the market and as cleaner engines replace a substantial number of existing ones, the applicability of the conclusions would need to be reevaluated.

It is important to note that the Diesel HAD also briefly summarizes health effects associated with ambient PM and discusses EPA's then-annual $\text{PM}_{2.5}$ NAAQS of $15 \mu\text{g}/\text{m}^3$.¹⁸⁹ There is a large and extensive body of human data showing a wide spectrum of adverse health effects associated with exposure to ambient PM, of which diesel exhaust is an important component. The $\text{PM}_{2.5}$ NAAQS is designed to provide protection from the noncancer health effects and premature mortality attributed to exposure to $\text{PM}_{2.5}$. The contribution of diesel PM to total ambient PM varies in different regions of the country and also, within a region, from one area to another. The contribution can be high in near-roadway environments, for example, or in other locations where diesel engine use is concentrated.

Since 2002, several new studies have been published which continue to report increased lung cancer risk associated with occupational exposure to diesel exhaust from older engines. Of particular note since 2011 are three new epidemiology studies that have examined lung cancer in occupational populations, including, truck drivers, underground nonmetal miners, and other diesel motor-related occupations. These studies reported increased risk of lung cancer related to exposure to diesel exhaust, with evidence of positive exposure-response relationships to varying degrees.^{190 191 192} These newer

studies (along with others that have appeared in the scientific literature) add to the evidence EPA evaluated in the 2002 Diesel HAD and further reinforce the concern that diesel exhaust exposure likely poses a lung cancer hazard. The findings from these newer studies do not necessarily apply to newer technology diesel engines (*i.e.*, heavy-duty highway engines from 2007 and later model years) since the newer engines have large reductions in the emission constituents compared to older technology diesel engines.

In light of the growing body of scientific literature evaluating the health effects of exposure to diesel exhaust, in June 2012 the World Health Organization's International Agency for Research on Cancer (IARC), a recognized international authority on the carcinogenic potential of chemicals and other agents, evaluated the full range of cancer-related health effects data for diesel engine exhaust. IARC concluded that diesel exhaust should be regarded as "carcinogenic to humans."¹⁹³ This designation was an update from its 1988 evaluation that considered the evidence to be indicative of a "probable human carcinogen."

7. Air Toxics

Light- and medium-duty engine emissions contribute to ambient levels of air toxics that are known or suspected human or animal carcinogens, or that have noncancer health effects. These compounds include, but are not limited to, acetaldehyde, acrolein, benzene, 1,3-butadiene, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter, which were all identified as national or regional cancer risk drivers or contributors in the 2018 AirToxScreen Assessment.^{194 195}

i. Acetaldehyde

Acetaldehyde is classified in EPA's IRIS database as a probable human carcinogen, based on nasal tumors in rats, and is considered toxic by the inhalation, oral, and intravenous

analysis from case-control studies in Europe and Canada." American journal of respiratory and critical care medicine 183.7 (2011): 941–948.

¹⁹³ IARC [International Agency for Research on Cancer]. (2013). Diesel and gasoline engine exhausts and some nitroarenes. IARC Monographs Volume 105. [Online at <http://monographs.iarc.fr/ENG/Monographs/vol105/index.php>.]

¹⁹⁴ U.S. EPA (2022) Technical Support Document EPA Air Toxics Screening Assessment. 2017AirToxScreen TSD. https://www.epa.gov/system/files/documents/2022-03/airtoxscreen_2017tsd.pdf.

¹⁹⁵ U.S. EPA (2022) 2018 AirToxScreen Risk Drivers. <https://www.epa.gov/AirToxScreen/airtoxscreen-risk-drivers>.

¹⁸⁷ U.S. EPA. (1999). Guidelines for Carcinogen Risk Assessment. Review Draft. NCEA-F-0644, July. Washington, DC: U.S. EPA. Retrieved on March 19, 2009 from <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=54932>.

¹⁸⁸ U.S. EPA (2002). Health Assessment Document for Diesel Engine Exhaust. EPA/600/8-90/057F Office of research and Development, Washington DC. Retrieved on March 17, 2009 from <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=29060>. pp. 1-1 1-2.

¹⁸⁹ See Section II.B.1 for discussion of the current $\text{PM}_{2.5}$ NAAQS standard.

¹⁹⁰ Garshick, Eric, Francine Laden, Jaime E. Hart, Mary E. Davis, Ellen A. Eisen, and Thomas J. Smith. 2012. Lung cancer and elemental carbon exposure in trucking industry workers. Environmental Health Perspectives 120(9): 1301–1306.

¹⁹¹ Silverman, D.T., Samanic, C.M., Lubin, J.H., Blair, A.E., Stewart, P.A., Vermeulen, R., & Attfield, M.D. (2012). The diesel exhaust in miners study: a nested case-control study of lung cancer and diesel exhaust. Journal of the National Cancer Institute.

¹⁹² Olsson, Ann C., et al. "Exposure to diesel motor exhaust and lung cancer risk in a pooled

routes.¹⁹⁶ The inhalation unit risk estimate (URE) in IRIS for acetaldehyde is 2.2×10^{-6} per $\mu\text{g}/\text{m}^3$.¹⁹⁷

Acetaldehyde is reasonably anticipated to be a human carcinogen by the NTP in the 14th Report on Carcinogens and is classified as possibly carcinogenic to humans (Group 2B) by the IARC.^{198 199}

The primary noncancer effects of exposure to acetaldehyde vapors include irritation of the eyes, skin, and respiratory tract.²⁰⁰ In short-term (4 week) rat studies, degeneration of olfactory epithelium was observed at various concentration levels of acetaldehyde exposure.^{201 202} Data from these studies were used by EPA to develop an inhalation reference concentration of $9 \mu\text{g}/\text{m}^3$. Some asthmatics have been shown to be a sensitive subpopulation to decrements in functional expiratory volume (FEV1 test) and bronchoconstriction upon acetaldehyde inhalation.²⁰³ Children, especially those with diagnosed asthma, may be more likely to show impaired pulmonary function and symptoms of asthma than are adults following exposure to acetaldehyde.²⁰⁴

ii. Acrolein

EPA most recently evaluated the toxicological and health effects literature related to acrolein in 2003 and concluded that the human carcinogenic potential of acrolein could not be determined because the available data were inadequate. No information was available on the carcinogenic effects of acrolein in humans and the animal data provided inadequate evidence of carcinogenicity.²⁰⁵ In 2021, the IARC classified acrolein as probably carcinogenic to humans.²⁰⁶

Lesions to the lungs and upper respiratory tract of rats, rabbits, and hamsters have been observed after subchronic exposure to acrolein.²⁰⁷ The agency has developed an RFC for acrolein of $0.02 \mu\text{g}/\text{m}^3$ and an RfD of $0.5 \mu\text{g}/\text{kg}\cdot\text{day}$.²⁰⁸

Acrolein is extremely acrid and irritating to humans when inhaled, with acute exposure resulting in upper respiratory tract irritation, mucus hypersecretion and congestion. The intense irritancy of this carbonyl has been demonstrated during controlled tests in human subjects, who suffer intolerable eye and nasal mucosal sensory reactions within minutes of exposure.²⁰⁹ These data and additional studies regarding acute effects of human exposure to acrolein are summarized in EPA's 2003 IRIS Human Health Assessment for acrolein.²¹⁰ Studies in

humans indicate that levels as low as 0.09 ppm ($0.21 \text{ mg}/\text{m}^3$) for five minutes may elicit subjective complaints of eye irritation with increasing concentrations leading to more extensive eye, nose and respiratory symptoms. Acute exposures in animal studies report bronchial hyper-responsiveness. Based on animal data (more pronounced respiratory irritancy in mice with allergic airway disease in comparison to non-diseased mice)²¹¹ and demonstration of similar effects in humans (*e.g.*, reduction in respiratory rate), individuals with compromised respiratory function (*e.g.*, emphysema, asthma) are expected to be at increased risk of developing adverse responses to strong respiratory irritants such as acrolein. EPA does not currently have an acute reference concentration for acrolein. The available health effect reference values for acrolein have been summarized by EPA and include an ATSDR MRL for acute exposure to acrolein of $7 \mu\text{g}/\text{m}^3$ for 1–14 days exposure; and Reference Exposure Level (REL) values from the California Office of Environmental Health Hazard Assessment (OEHHA) for one-hour and 8-hour exposures of $2.5 \mu\text{g}/\text{m}^3$ and $0.7 \mu\text{g}/\text{m}^3$, respectively.²¹²

iii. Benzene

EPA's Integrated Risk Information System (IRIS) database lists benzene as a known human carcinogen (causing leukemia) by all routes of exposure, and concludes that exposure is associated with additional health effects, including genetic changes in both humans and animals and increased proliferation of bone marrow cells in mice.^{213 214 215} EPA states in its IRIS database that data indicate a causal relationship between benzene exposure and acute lymphocytic leukemia and suggest a

¹⁹⁶ U.S. EPA (1991). Integrated Risk Information System File of Acetaldehyde. Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=290.

¹⁹⁷ U.S. EPA (1991). Integrated Risk Information System File of Acetaldehyde. This material is available electronically at https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=290.

¹⁹⁸ NTP (National Toxicology Program). 2016. Report on Carcinogens, Fourteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. <https://ntp.niehs.nih.gov/go/roc14>.

¹⁹⁹ International Agency for Research on Cancer (IARC). (1999). Re-evaluation of some organic chemicals, hydrazine, and hydrogen peroxide. IARC Monographs on the Evaluation of Carcinogenic Risk of Chemical to Humans, Vol 71. Lyon, France.

²⁰⁰ U.S. EPA (1991). Integrated Risk Information System File of Acetaldehyde. This material is available electronically at https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=290.

²⁰¹ U.S. EPA. (2003). Integrated Risk Information System File of Acrolein. Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=364.

²⁰² Appleman, L.M., R.A. Woutersen, and V.J. Feron. (1982). Inhalation toxicity of acetaldehyde in rats. I. Acute and subacute studies. *Toxicology*. 23: 293–297.

²⁰³ Myou, S.; Fujimura, M.; Nishi K.; Ohka, T.; and Matsuda, T. (1993). Aerosolized acetaldehyde induces histamine-mediated bronchoconstriction in asthmatics. *Am. Rev. Respir. Dis.* 148(4 Pt 1): 940–943.

²⁰⁴ California OEHHA, 2014. TSD for Noncancer RELs: Appendix D. Individual, Acute, 8-Hour, and Chronic Reference Exposure Level Summaries. December 2008 (updated July 2014). <https://>

oehha.ca.gov/media/downloads/cmr/appendix1final.pdf.

²⁰⁵ U.S. EPA. (2003). Integrated Risk Information System File of Acrolein. Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available at <http://www.epa.gov/iris/subst/0364.htm>.

²⁰⁶ International Agency for Research on Cancer (IARC). (2021). Monographs on the Identification of Carcinogenic Hazards to humans, Volume 128. Acrolein, Crotonaldehyde, and Acrolein, World Health Organization, Lyon, France.

²⁰⁷ U.S. EPA. (2003). Integrated Risk Information System File of Acrolein. Office of Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available at <http://www.epa.gov/iris/subst/0364.htm>.

²⁰⁸ U.S. EPA. (2003). Integrated Risk Information System File of Acrolein. Office of Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available at <http://www.epa.gov/iris/subst/0364.htm>.

²⁰⁹ U.S. EPA. (2003). Toxicological review of acrolein in support of summary information on Integrated Risk Information System (IRIS) National Center for Environmental Assessment, Washington, DC. EPA/635/R-03/003. p. 10. Available online at: <http://www.epa.gov/ncea/iris/toxreviews/0364tr.pdf>.

²¹⁰ U.S. EPA. (2003). Toxicological review of acrolein in support of summary information on Integrated Risk Information System (IRIS) National Center for Environmental Assessment, Washington, DC. EPA/635/R-03/003. Available online at: <http://www.epa.gov/ncea/iris/toxreviews/0364tr.pdf>.

²¹¹ Morris JB, Symanowicz PT, Olsen JE, et al. (2003). Immediate sensory nerve-mediated respiratory responses to irritants in healthy and allergic airway-diseased mice. *J Appl Physiol* 94(4):1563–1571.

²¹² U.S. EPA. (2009). Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures (Final Report). U.S. Environmental Protection Agency, Washington, DC. EPA/600/R-09/061, 2009. <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=211003>.

²¹³ U.S. EPA. (2000). Integrated Risk Information System File for Benzene. This material is available electronically at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=276.

²¹⁴ International Agency for Research on Cancer. (1982). IARC monographs on the evaluation of carcinogenic risk of chemicals to humans, Volume 29, Some industrial chemicals and dyestuffs, International Agency for Research on Cancer, World Health Organization, Lyon, France 1982.

²¹⁵ Irons, R.D.; Stillman, W.S.; Colagiovanni, D.B.; Henry, V.A. (1992). Synergistic action of the benzene metabolite hydroquinone on myelopoietic stimulating activity of granulocyte/macrophage colony-stimulating factor in vitro. *Proc. Natl. Acad. Sci.* 89:3691–3695.

relationship between benzene exposure and chronic non-lymphocytic leukemia and chronic lymphocytic leukemia. EPA's IRIS documentation for benzene also lists a range of 2.2×10^{-6} to 7.8×10^{-6} per $\mu\text{g}/\text{m}^3$ as the unit risk estimate (URE) for benzene.^{216 217} The International Agency for Research on Cancer (IARC) has determined that benzene is a human carcinogen, and the U.S. Department of Health and Human Services (DHHS) has characterized benzene as a known human carcinogen.^{218 219}

A number of adverse noncancer health effects, including blood disorders such as preleukemia and aplastic anemia, have also been associated with long-term exposure to benzene.^{220 221} The most sensitive noncancer effect observed in humans, based on current data, is the depression of the absolute lymphocyte count in blood.^{222 223} EPA's inhalation reference concentration (RfC) for benzene is $30 \mu\text{g}/\text{m}^3$. The RfC is based on suppressed absolute lymphocyte counts seen in humans under occupational exposure conditions. In addition, studies sponsored by the Health Effects Institute (HEI) provide evidence that biochemical responses occur at lower levels of benzene exposure than previously known.^{224 225 226 227} EPA's IRIS program

has not yet evaluated these new data. EPA does not currently have an acute reference concentration for benzene. The Agency for Toxic Substances and Disease Registry (ATSDR) Minimal Risk Level (MRL) for acute exposure to benzene is $29 \mu\text{g}/\text{m}^3$ for 1–14 days exposure.^{228 229}

There is limited information from two studies regarding an increased risk of adverse effects to children whose parents have been occupationally exposed to benzene.^{230 231} Data from animal studies have shown benzene exposures result in damage to the hematopoietic (blood cell formation) system during development.^{232 233 234} Also, key changes related to the development of childhood leukemia occur in the developing fetus.²³⁵ Several studies have reported that genetic changes related to eventual leukemia development occur before birth. For example, there is one study of genetic

changes in twins who developed T cell leukemia at nine years of age.²³⁶

iv. 1,3-Butadiene

EPA has characterized 1,3-butadiene as carcinogenic to humans by inhalation.^{237 238} The IARC has determined that 1,3-butadiene is a human carcinogen and the U.S. DHHS has characterized 1,3-butadiene as a known human carcinogen.^{239 240 241 242} There are numerous studies consistently demonstrating that 1,3-butadiene is metabolized into genotoxic metabolites by experimental animals and humans. The specific mechanisms of 1,3-butadiene-induced carcinogenesis are unknown; however, the scientific evidence strongly suggests that the carcinogenic effects are mediated by genotoxic metabolites. Animal data suggest that females may be more sensitive than males for cancer effects associated with 1,3-butadiene exposure; there are insufficient data in humans from which to draw conclusions about sensitive subpopulations. The URE for 1,3-butadiene is 3×10^{-5} per $\mu\text{g}/\text{m}^3$.²⁴³

²¹⁶ A unit risk estimate is defined as the increase in the lifetime risk of cancer of an individual who is exposed for a lifetime to $1 \mu\text{g}/\text{m}^3$ benzene in air.

²¹⁷ U.S. EPA. (2000). Integrated Risk Information System File for Benzene. This material is available electronically at: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=276.

²¹⁸ International Agency for Research on Cancer (IARC). 2018. Monographs on the evaluation of carcinogenic risks to humans, volume 120. World Health Organization—Lyon, France. <http://publications.iarc.fr/Book-And-Report-Series/Iarc-Monographs-On-The-Identification-Of-Carcinogenic-Hazards-To-Humans/Benzene-2018>.

²¹⁹ NTP (National Toxicology Program). 2016. Report on Carcinogens, Fourteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. <https://ntp.niehs.nih.gov/go/roc14>.

²²⁰ Aksoy, M. (1989). Hematotoxicity and carcinogenicity of benzene. *Environ. Health Perspect.* 82: 193–197. EPA-HQ-OAR–2011–0135.

²²¹ Goldstein, B.D. (1988). Benzene toxicity. *Occupational medicine. State of the Art Reviews.* 3: 541–554.

²²² Rothman, N., G.L. Li, M. Dosemeci, W.E. Bechtold, G.E. Marti, Y.Z. Wang, M. Linet, L.Q. Xi, W. Lu, M.T. Smith, N. Titenko-Holland, L.P. Zhang, W. Blot, S.N. Yin, and R.B. Hayes. (1996). Hematotoxicity among Chinese workers heavily exposed to benzene. *Am. J. Ind. Med.* 29: 236–246.

²²³ U.S. EPA (2002). Toxicological Review of Benzene (Noncancer Effects). Environmental Protection Agency, Integrated Risk Information System (IRIS), Research and Development, National Center for Environmental Assessment, Washington DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0276tr.pdf.

²²⁴ Qu, O.; Shore, R.; Li, G.; Jin, X.; Chen, C.L.; Cohen, B.; Melikian, A.; Eastmond, D.; Rappaport,

S.; Li, H.; Rupa, D.; Suramaya, R.; Songnian, W.; Huifan, Y.; Meng, M.; Winnik, M.; Kwok, E.; Li, Y.; Mu, R.; Xu, B.; Zhang, X.; Li, K. (2003). HEI Report 115, Validation & Evaluation of Biomarkers in Workers Exposed to Benzene in China.

²²⁵ Qu, Q., R. Shore, G. Li, X. Jin, L.C. Chen, B. Cohen, et al. (2002). Hematological changes among Chinese workers with a broad range of benzene exposures. *Am. J. Industr. Med.* 42: 275–285.

²²⁶ Lan, Qing, Zhang, L., Li, G., Vermeulen, R., et al. (2004). Hematotoxicity in Workers Exposed to Low Levels of Benzene. *Science* 306: 1774–1776.

²²⁷ Turteltaub, K.W. and Mani, C. (2003). Benzene metabolism in rodents at doses relevant to human exposure from Urban Air. Research Reports Health Effect Inst. Report No.113.

²²⁸ U.S. Agency for Toxic Substances and Disease Registry (ATSDR). (2007). Toxicological profile for benzene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. <http://www.atsdr.cdc.gov/ToxProfiles/tp3.pdf>.

²²⁹ A minimal risk level (MRL) is defined as an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse noncancer health effects over a specified duration of exposure.

²³⁰ Corti, M; Snyder, CA. (1996) Influences of gender, development, pregnancy and ethanol consumption on the hematotoxicity of inhaled 10 ppm benzene. *Arch Toxicol* 70:209–217.

²³¹ McKinney P.A.; Alexander, F.E.; Cartwright, R.A.; et al. (1991) Parental occupations of children with leukemia in west Cumbria, north Humberside, and Gateshead, *Br Med J* 302:681–686.

²³² Keller, KA; Snyder, CA. (1986) Mice exposed in utero to low concentrations of benzene exhibit enduring changes in their colony forming hematopoietic cells. *Toxicology* 42:171–181.

²³³ Keller, KA; Snyder, CA. (1988) Mice exposed in utero to 20 ppm benzene exhibit altered numbers of recognizable hematopoietic cells up to seven weeks after exposure. *Fundam Appl Toxicol* 10:224–232.

²³⁴ Corti, M; Snyder, CA. (1996) Influences of gender, development, pregnancy and ethanol consumption on the hematotoxicity of inhaled 10 ppm benzene. *Arch Toxicol* 70:209–217.

²³⁵ U.S. EPA. (2002). Toxicological Review of Benzene (Noncancer Effects). National Center for Environmental Assessment, Washington, DC. Report No. EPA/635/R–02/001F. https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/0276tr.pdf.

²³⁶ Ford, AM; Pombo-de-Oliveira, MS; McCarthy, KP; MacLean, JM; Carrico, KC; Vincent, RF; Greaves, M. (1997) Monoclonal origin of concordant T-cell malignancy in identical twins. *Blood* 89:281–285.

²³⁷ U.S. EPA. (2002). Health Assessment of 1,3-Butadiene. Office of Research and Development, National Center for Environmental Assessment, Washington Office, Washington, DC. Report No. EPA600–P–98–001F. This document is available electronically at https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=54499.

²³⁸ U.S. EPA. (2002) “Full IRIS Summary for 1,3-butadiene (CASRN 106–99–0)” Environmental Protection Agency, Integrated Risk Information System (IRIS), Research and Development, National Center for Environmental Assessment, Washington, DC https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=139.

²³⁹ International Agency for Research on Cancer (IARC). (1999). Monographs on the evaluation of carcinogenic risk of chemicals to humans, Volume 71, Re-evaluation of some organic chemicals, hydrazine and hydrogen peroxide, World Health Organization, Lyon, France.

²⁴⁰ International Agency for Research on Cancer (IARC). (2008). Monographs on the evaluation of carcinogenic risk of chemicals to humans, 1,3-Butadiene, Ethylene Oxide and Vinyl Halides (Vinyl Fluoride, Vinyl Chloride and Vinyl Bromide) Volume 97, World Health Organization, Lyon, France.

²⁴¹ NTP (National Toxicology Program). 2016. Report on Carcinogens, Fourteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. <https://ntp.niehs.nih.gov/go/roc14>.

²⁴² International Agency for Research on Cancer (IARC). (2012). Monographs on the evaluation of carcinogenic risk of chemicals to humans, Volume 100F chemical agents and related occupations, World Health Organization, Lyon, France.

²⁴³ U.S. EPA. (2002). “Full IRIS Summary for 1,3-butadiene (CASRN 106–99–0)” Environmental Protection Agency, Integrated Risk Information System (IRIS), Research and Development, National Center for Environmental Assessment, Washington, DC https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=139.

1,3-butadiene also causes a variety of reproductive and developmental effects in mice; no human data on these effects are available. The most sensitive effect was ovarian atrophy observed in a lifetime bioassay of female mice.²⁴⁴ Based on this critical effect and the benchmark concentration methodology, an RfC for chronic health effects was calculated at 0.9 ppb (approximately 2 µg/m³).

v. Ethylbenzene

EPA's inhalation RfC for ethylbenzene is 1 mg/m³. This conclusion on a weight of evidence determination and RfC are contained in the 1991 IRIS file for ethylbenzene.²⁴⁵ The RfC is based on developmental effects. A study in rabbits found reductions in live rabbit kits per litter at 1000 ppm. In addition, a study on rats found an increased incidence of supernumerary and rudimentary ribs at 1000 ppm, and elevated incidence of extra ribs at 100 ppm. In 1988, EPA concluded that data were inadequate to give a weight of evidence characterization for carcinogenic effects. EPA released an IRIS Assessment Plan for Ethylbenzene in 2017²⁴⁶ and EPA will be releasing the Systematic Review Protocol for ethylbenzene in 2023.²⁴⁷

California EPA completed a cancer risk assessment for ethylbenzene in 2007 and developed an inhalation unit risk estimate of 2.5×10^{-6} .²⁴⁸ This value was based on incidence of kidney cancer in male rats. California EPA also developed a chronic inhalation noncancer reference exposure level (REL) of 2000 µg/m³, based on nephrotoxicity and body weight reduction in rats, liver cellular alterations, necrosis in mice, and hyperplasia of the pituitary gland in mice.²⁴⁹

ATSDR developed chronic Minimal Risk Levels (MRLs) for ethylbenzene of 0.06 ppm based on renal effects, and an acute MRL of 5 ppm based on auditory effects.

vi. Formaldehyde

In 1991, EPA concluded that formaldehyde is a Class B1 probable human carcinogen based on limited evidence in humans and sufficient evidence in animals.²⁵⁰ An Inhalation URE for cancer and a Reference Dose for oral noncancer effects were developed by EPA and posted on the IRIS database. Since that time, the NTP and IARC have concluded that formaldehyde is a known human carcinogen.^{251 252 253}

The conclusions by IARC and NTP reflect the results of epidemiologic research published since 1991 in combination with previous animal, human, and mechanistic evidence. Research conducted by the National Cancer Institute reported an increased risk of nasopharyngeal cancer and specific lymphohematopoietic malignancies among workers exposed to formaldehyde.^{254 255 256} A National Institute of Occupational Safety and Health study of garment workers also reported increased risk of death due to leukemia among workers exposed to formaldehyde.²⁵⁷ Extended follow-up of a cohort of British chemical workers did not report evidence of an increase in nasopharyngeal or lymphohematopoietic cancers, but a continuing statistically significant

excess in lung cancers was reported.²⁵⁸ Finally, a study of embalmers reported formaldehyde exposures to be associated with an increased risk of myeloid leukemia but not brain cancer.²⁵⁹

Health effects of formaldehyde in addition to cancer were reviewed by the Agency for Toxic Substances and Disease Registry in 1999, supplemented in 2010, and by the World Health Organization.^{260 261 262} These organizations reviewed the scientific literature concerning health effects linked to formaldehyde exposure to evaluate hazards and dose response relationships and defined exposure concentrations for minimal risk levels (MRLs). The health endpoints reviewed included sensory irritation of eyes and respiratory tract, reduced pulmonary function, nasal histopathology, and immune system effects. In addition, research on reproductive and developmental effects and neurological effects were discussed along with several studies that suggest that formaldehyde may increase the risk of asthma—particularly in the young.

In June 2010, EPA released a draft Toxicological Review of Formaldehyde—Inhalation Assessment through the IRIS program for peer review by the National Research Council (NRC) and public comment.²⁶³ That draft assessment reviewed more recent research from animal and human studies on cancer and other health effects. The NRC released their review report in April 2011.²⁶⁴ EPA's draft

²⁵⁰ EPA. Integrated Risk Information System. Formaldehyde (CASRN 50-00-0) https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=419.

²⁵¹ NTP (National Toxicology Program). 2016. Report on Carcinogens, Fourteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. <https://ntp.niehs.nih.gov/go/roc14>.

²⁵² IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 88 (2006): Formaldehyde, 2-Butoxyethanol and 1-tert-Butoxypropan-2-ol.

²⁵³ IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 100F (2012): Formaldehyde.

²⁵⁴ Hauptmann, M.; Lubin, J.H.; Stewart, P.A.; Hayes, R.B.; Blair, A. 2003. Mortality from lymphohematopoietic malignancies among workers in formaldehyde industries. *Journal of the National Cancer Institute* 95: 1615–1623.

²⁵⁵ Hauptmann, M.; Lubin, J.H.; Stewart, P.A.; Hayes, R.B.; Blair, A. 2004. Mortality from solid cancers among workers in formaldehyde industries. *American Journal of Epidemiology* 159: 1117–1130.

²⁵⁶ Beane Freeman, L.E.; Blair, A.; Lubin, J.H.; Stewart, P.A.; Hayes, R.B.; Hoover, R.N.; Hauptmann, M. 2009. Mortality from lymphohematopoietic malignancies among workers in formaldehyde industries: The National Cancer Institute cohort. *J. National Cancer Inst.* 101: 751–761.

²⁵⁷ Pinkerton, L.E. 2004. Mortality among a cohort of garment workers exposed to formaldehyde: an update. *Occup. Environ. Med.* 61: 193–200.

²⁵⁸ Coggon, D., EC Harris, J Poole, KT Palmer. 2003. Extended follow-up of a cohort of British chemical workers exposed to formaldehyde. *J. National Cancer Inst.* 95:1608–1615.

²⁵⁹ Hauptmann, M.; Stewart P.A.; Lubin J.H.; Beane Freeman, L.E.; Hornung, R.W.; Herrick, R.F.; Hoover, R.N.; Fraumeni, J.F.; Hayes, R.B. 2009. Mortality from lymphohematopoietic malignancies and brain cancer among embalmers exposed to formaldehyde. *Journal of the National Cancer Institute* 101:1696–1708.

²⁶⁰ ATSDR. 1999. Toxicological Profile for Formaldehyde, U.S. Department of Health and Human Services (HHS), July 1999.

²⁶¹ ATSDR. 2010. Addendum to the Toxicological Profile for Formaldehyde. U.S. Department of Health and Human Services (HHS), October 2010.

²⁶² IPCS. 2002. Concise International Chemical Assessment Document 40. Formaldehyde. World Health Organization.

²⁶³ EPA (U.S. Environmental Protection Agency). 2010. Toxicological Review of Formaldehyde (CAS No. 50-00-0)—Inhalation Assessment: In Support of Summary Information on the Integrated Risk Information System (IRIS). External Review Draft. EPA/635/R-10/002A. U.S. Environmental Protection Agency, Washington DC [online]. Available: http://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614.

²⁶⁴ NRC (National Research Council). 2011. Review of the Environmental Protection Agency's Draft IRIS Assessment of Formaldehyde.

²⁴⁴ Bevan, C.; Stadler, J.C.; Elliot, G.S.; et al. (1996). Subchronic toxicity of 4-vinylcyclohexene in rats and mice by inhalation. *Fundam. Appl. Toxicol.* 32:1–10.

²⁴⁵ U.S. EPA. (1991). Integrated Risk Information System File for Ethylbenzene. This material is available electronically at: https://iris.epa.gov/ChemicalLanding/&substance_nmbr=51.

²⁴⁶ U.S. EPA (2017). IRIS Assessment Plan for Ethylbenzene. EPA/635/R-17/332. This document is available electronically at: https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=337468.

²⁴⁷ U.S. EPA (2022). IRIS Program Outlook. June, 2022. This material is available electronically at: https://www.epa.gov/system/files/documents/2022-06/IRIS%20Program%20Outlook_June22.pdf.

²⁴⁸ California OEHHA, 2007. Adoption of a Unit Risk Value for Ethylbenzene. This material is available electronically at: <https://oehha.ca.gov/air/report-hot-spots/adoption-unit-risk-value-ethylbenzene>.

²⁴⁹ California OEHHA, 2008. Technical Supporting Document for Noncancer RELs, Appendix D3. This material is available electronically at: <https://oehha.ca.gov/media/downloads/cnrn/appendixd3final.pdf>.

assessment, which addresses NRC recommendations, was suspended in 2018.²⁶⁵ The draft assessment was unsuspended in March 2021, and an external review draft was released in April 2022.²⁶⁶ This draft assessment is now undergoing review by the National Academy of Sciences.²⁶⁷

vii. Naphthalene

Naphthalene is found in small quantities in gasoline and diesel fuels. Naphthalene emissions have been measured in larger quantities in both gasoline and diesel exhaust compared with evaporative emissions from mobile sources, indicating it is primarily a product of combustion.

Acute (short-term) exposure of humans to naphthalene by inhalation, ingestion, or dermal contact is associated with hemolytic anemia and damage to the liver and the nervous system.²⁶⁸ Chronic (long term) exposure of workers and rodents to naphthalene has been reported to cause cataracts and retinal damage.²⁶⁹ Children, especially neonates, appear to be more susceptible to acute naphthalene poisoning based on the number of reports of lethal cases in children and infants (hypothesized to be due to immature naphthalene detoxification pathways).²⁷⁰ EPA released an external review draft of a reassessment of the inhalation carcinogenicity of naphthalene based on a number of recent animal

carcinogenicity studies.²⁷¹ The draft reassessment completed external peer review.²⁷² Based on external peer review comments received, EPA is developing a revised draft assessment that considers inhalation and oral routes of exposure, as well as cancer and noncancer effects.²⁷³ The external review draft does not represent official agency opinion and was released solely for the purposes of external peer review and public comment. The NTP listed naphthalene as “reasonably anticipated to be a human carcinogen” in 2004 on the basis of bioassays reporting clear evidence of carcinogenicity in rats and some evidence of carcinogenicity in mice.²⁷⁴ California EPA has released a new risk assessment for naphthalene, and the IARC has reevaluated naphthalene and re-classified it as Group 2B: possibly carcinogenic to humans.²⁷⁵

Naphthalene also causes a number of non-cancer effects in animals following chronic and less-than-chronic exposure, including abnormal cell changes and growth in respiratory and nasal tissues.²⁷⁶ The current EPA IRIS assessment includes noncancer data on hyperplasia and metaplasia in nasal tissue that form the basis of the inhalation RfC of 3 µg/m³.²⁷⁷ The ATSDR MRL for acute and intermediate duration oral exposure to naphthalene is 0.6 mg/kg/day based on maternal

toxicity in a developmental toxicology study in rats.²⁷⁸ ATSDR also derived an ad hoc reference value of 6 × 10⁻² mg/m³ for acute (≤24-hour) inhalation exposure to naphthalene in a Letter Health Consultation dated March 24, 2014 to address a potential exposure concern in Illinois.²⁷⁹ The ATSDR acute inhalation reference value was based on a qualitative identification of an exposure level interpreted not to cause pulmonary lesions in mice. More recently, EPA developed acute RfCs for 1-, 8-, and 24-hour exposure scenarios; the ≤24-hour reference value is 2 × 10⁻² mg/m³.²⁸⁰ EPA’s acute RfCs are based on a systematic review of the literature, benchmark dose modeling of naphthalene-induced nasal lesions in rats, and application of a PBPK (physiologically based pharmacokinetic) model.

viii. POM/PAHs

The term polycyclic organic matter (POM) defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAHs). One of these compounds, naphthalene, is discussed separately in Section II.C.7.vii. POM compounds are formed primarily from combustion and are present in the atmosphere in gas and particulate form as well as in some fried and grilled foods. Epidemiologic studies have reported an increase in lung cancer in humans exposed to diesel exhaust, coke oven emissions, roofing tar emissions, and cigarette smoke; all of these mixtures contain POM compounds.²⁸¹ In 1991 EPA classified seven PAHs (benzo[a]pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and

Washington DC: National Academies Press. http://books.nap.edu/openbook.php?record_id=13142.

²⁶⁵ U.S. EPA (2018). See https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=419.

²⁶⁶ U.S. EPA. IRIS Toxicological Review of Formaldehyde-Inhalation (Interagency Science Consultation Draft, 2021). U.S. Environmental Protection Agency, Washington, DC, EPA/635/R-21/286, 2021.

²⁶⁷ <https://www.nationalacademies.org/our-work/review-of-epas-2021-draft-formaldehyde-assessment>.

²⁶⁸ U.S. EPA. 1998. Toxicological Review of Naphthalene (Reassessment of the Inhalation Cancer Risk), Environmental Protection Agency, Integrated Risk Information System, Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=56434.

²⁶⁹ U.S. EPA. 1998. Toxicological Review of Naphthalene (Reassessment of the Inhalation Cancer Risk), Environmental Protection Agency, Integrated Risk Information System, Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=56434.

²⁷⁰ U.S. EPA. (1998). Toxicological Review of Naphthalene (Reassessment of the Inhalation Cancer Risk), Environmental Protection Agency, Integrated Risk Information System, Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=56434.

²⁷¹ U.S. EPA. (1998). Toxicological Review of Naphthalene (Reassessment of the Inhalation Cancer Risk), Environmental Protection Agency, Integrated Risk Information System, Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=56434.

²⁷² Oak Ridge Institute for Science and Education. (2004). External Peer Review for the IRIS Reassessment of the Inhalation Carcinogenicity of Naphthalene. August 2004. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=84403>.

²⁷³ U.S. EPA. (2018) See: https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=436.

²⁷⁴ NTP (National Toxicology Program). 2016. Report on Carcinogens, Fourteenth Edition.; Research Triangle Park, NC: U.S. Department of Health and Human Services, Public Health Service. <https://ntp.niehs.nih.gov/go/roc14>.

²⁷⁵ International Agency for Research on Cancer (IARC). (2002). Monographs on the Evaluation of the Carcinogenic Risk of Chemicals for Humans. Vol. 82. Lyon, France.

²⁷⁶ U.S. EPA. (1998). Toxicological Review of Naphthalene, Environmental Protection Agency, Integrated Risk Information System, Research and Development, National Center for Environmental Assessment, Washington, DC. This material is available electronically at https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=56434.

²⁷⁷ U.S. EPA. (1998). Toxicological Review of Naphthalene. Environmental Protection Agency, Integrated Risk Information System (IRIS), Research and Development, National Center for Environmental Assessment, Washington, DC https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=56434.

²⁷⁸ ATSDR. Toxicological Profile for Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene (2005). <https://www.atsdr.cdc.gov/ToxProfiles/tp67-p.pdf>.

²⁷⁹ ATSDR. Letter Health Consultation, Radiac Abrasives, Inc., Chicago, Illinois (2014). [https://www.atsdr.cdc.gov/HAC/pha/RadiacAbrabives/Radiac%20Abrabives.%20Inc.%20_%20LHC%20\(Final\)%20_%2003-24-2014%20\(2\)_508.pdf](https://www.atsdr.cdc.gov/HAC/pha/RadiacAbrabives/Radiac%20Abrabives.%20Inc.%20_%20LHC%20(Final)%20_%2003-24-2014%20(2)_508.pdf).

²⁸⁰ U. S. EPA. Derivation of an acute reference concentration for inhalation exposure to naphthalene. Report No. EPA/600/R-21/292. <https://cfpub.epa.gov/ncea/risk/recorddisplay.cfm?deid=355035>.

²⁸¹ Agency for Toxic Substances and Disease Registry (ATSDR). (1995). Toxicological profile for Polycyclic Aromatic Hydrocarbons (PAHs). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service. Available electronically at <http://www.atsdr.cdc.gov/ToxProfiles/TP.asp?id=122&tid=25>.

²⁸² U. S. EPA (2002). Health Assessment Document for Diesel Engine Exhaust. EPA/600/8-90/057F Office of Research and Development, Washington DC. <http://cfpub.epa.gov/ncea/cfm/recorddisplay.cfm?deid=29060>.

indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens based on the 1986 EPA Guidelines for Carcinogen Risk Assessment.²⁸³ Studies in multiple animal species demonstrate that benzo[a]pyrene is carcinogenic at multiple tumor sites (alimentary tract, liver, kidney, respiratory tract, pharynx, and skin) by all routes of exposure. An increasing number of occupational studies demonstrate a positive exposure-response relationship with cumulative benzo[a]pyrene exposure and lung cancer. The inhalation URE in IRIS for benzo[a]pyrene is 6×10^{-4} per $\mu\text{g}/\text{m}^3$ and the oral slope factor for cancer is 1 per $\text{mg}/\text{kg}\cdot\text{day}$.²⁸⁴

Animal studies demonstrate that exposure to benzo[a]pyrene is also associated with developmental (including developmental neurotoxicity), reproductive, and immunological effects. In addition, epidemiology studies involving exposure to PAH mixtures have reported associations between internal biomarkers of exposure to benzo[a]pyrene (benzo[a]pyrene diol epoxide-DNA adducts) and adverse birth outcomes (including reduced birth weight, postnatal body weight, and head circumference), neurobehavioral effects, and decreased fertility. The inhalation RfC for benzo[a]pyrene is 2×10^{-6} mg/m^3 and the RfD for oral exposure is 3×10^{-4} $\text{mg}/\text{kg}\cdot\text{day}$.²⁸⁵

8. Exposure and Health Effects Associated With Traffic

Locations in close proximity to major roadways generally have elevated concentrations of many air pollutants emitted from motor vehicles. Hundreds of studies have been published in peer-reviewed journals, concluding that concentrations of CO, CO₂, NO, NO₂, benzene, aldehydes, particulate matter, black carbon, and many other compounds are elevated in ambient air within approximately 300–600 meters (about 1,000–2,000 feet) of major roadways. The highest concentrations of most pollutants emitted directly by motor vehicles are found at locations within 50 meters (about 165 feet) of the edge of a roadway's traffic lanes.

A large-scale review of air quality measurements in the vicinity of major

roadways between 1978 and 2008 concluded that the pollutants with the steepest concentration gradients in vicinities of roadways were CO, ultrafine particles, metals, elemental carbon (EC), NO, NO_x, and several VOCs.²⁸⁶ These pollutants showed a large reduction in concentrations within 100 meters downwind of the roadway. Pollutants that showed more gradual reductions with distance from roadways included benzene, NO₂, PM_{2.5}, and PM₁₀. In reviewing the literature, Karner et al., (2010) reported that results varied based on the method of statistical analysis used to determine the gradient in pollutant concentration. More recent studies continue to show significant concentration gradients of traffic-related air pollution around major roads.^{287 288 289 290 291 292 293 294 295 296}

²⁸⁶ Karner, A.A.; Eisinger, D.S.; Niemeier, D.A. (2010). Near-roadway air quality: synthesizing the findings from real-world data. *Environ Sci Technol* 44: 5334–5344.

²⁸⁷ McDonald, B.C.; McBride, Z.C.; Martin, E.W.; Harley, R.A. (2014) High-resolution mapping of motor vehicle carbon dioxide emissions. *J. Geophys. Res. Atmos.*, 119, 5283–5298, doi:10.1002/2013JD021219.

²⁸⁸ Kimbrough, S.; Baldauf, R.W.; Hagler, G.S.W.; Shores, R.C.; Mitchell, W.; Whitaker, D.A.; Croghan, C.W.; Vallero, D.A. (2013) Long-term continuous measurement of near-road air pollution in Las Vegas: seasonal variability in traffic emissions impact on air quality. *Air Qual Atmos Health* 6: 295–305. DOI 10.1007/s11869-012-0171-x.

²⁸⁹ Kimbrough, S.; Palma, T.; Baldauf, R.W. (2014) Analysis of mobile source air toxics (MSATs)—Near-road VOC and carbonyl concentrations. *Journal of the Air & Waste Management Association*, 64:3, 349–359, DOI: 10.1080/10962247.2013.863814.

²⁹⁰ Kimbrough, S.; Owen, R.C.; Snyder, M.; Richmond-Bryant, J. (2017) NO to NO₂ Conversion Rate Analysis and Implications for Dispersion Model Chemistry Methods using Las Vegas, Nevada Near-Road Field Measurements. *Atmos Environ* 165: 23–24.

²⁹¹ Hilker, N.; Wang, J.W.; Jong, C.-H.; Healy, R.M.; Sofowote, U.; Deboz, J.; Su, Y.; Noble, M.; Munoz, A.; Doerkson, G.; White, L.; Audette, C.; Herod, D.; Brook, J.R.; Evans, G.J. (2019) Traffic-related air pollution near roadways: discerning local impacts from background. *Atmos. Meas. Tech.*, 12, 5247–5261. <https://doi.org/10.5194/amt-12-5247-2019>.

²⁹² Grivas, G.; Stavroulas, I.; Liakakou, E.; Kaskaoutis, D.G.; Bougiatioti, A.; Paraskevopoulou, D.; Gerasopoulos, E.; Mihalopoulos, N. (2019) Measuring the spatial variability of black carbon in Athens during wintertime. *Air Quality, Atmosphere & Health* (2019) 12:1405–1417. <https://doi.org/10.1007/s11869-019-00756-y>.

²⁹³ Apte, J.S.; Messier, K.P.; Gani, S.; Brauer, M.; Kirchstetter, T.W.; Lunden, M.M.; Marshall, J.D.; Portier, C.J.; Vermeulen, R.C.H.; Hamburg, S.P. (2017) High-Resolution Air Pollution Mapping with Google Street View Cars: Exploiting Big Data. *Environ Sci Technol* 51: 6999–7008. <https://doi.org/10.1021/acs.est.7b00891>.

²⁹⁴ Dabek-Zlotorzynska, E.; Celo, V.; Ding, L.; Herod, D.; Jeong, C.-H.; Evans, G.; Hilker, N. (2019) Characteristics and sources of PM_{2.5} and reactive gases near roadways in two metropolitan areas in Canada. *Atmos Environ* 218: 116980. <https://doi.org/10.1016/j.atmosenv.2019.116980>.

²⁹⁵ Apte, J.S.; Messier, K.R.; Gani, S.; et al. (2017) High-resolution air pollution mapping with Google

There is evidence that EPA's regulations for vehicles have lowered the near-road concentrations and gradients.²⁹⁷ Starting in 2010, EPA required through the NAAQS process that air quality monitors be placed near high-traffic roadways for determining concentrations of CO, NO₂, and PM_{2.5} (in addition to those existing monitors located in neighborhoods and other locations farther away from pollution sources). The monitoring data for NO₂ indicate that in urban areas, monitors near roadways often report the highest concentrations of NO₂.²⁹⁸ More recent studies of traffic-related air pollutants continue to report sharp gradients around roadways, particularly within several hundred meters.^{299 300}

For pollutants with relatively high background concentrations relative to near-road concentrations, detecting concentration gradients can be difficult. For example, many carbonyls have high background concentrations as a result of photochemical breakdown of precursors from many different organic compounds. However, several studies have measured carbonyls in multiple weather conditions and found higher concentrations of many carbonyls downwind of roadways.^{301 302} These

Street View cars: exploiting big data. *Environ Sci Technol* 51: 6999–7018. [Online at <https://doi.org/10.1021/acs.est.7b00891>.]

²⁹⁶ Gu, P.; Li, H.Z.; Ye, Q.; et al. (2018) Intercity variability of particulate matter is driven by carbonaceous sources and correlated with land-use variables. *Environ Sci Technol* 52: 11545–11554. [Online at <http://dx.doi.org/10.1021/acs.est.8b03833>.]

²⁹⁷ Sarnat, J.A.; Russell, A.; Liang, D.; Moutinho, J.L.; Golan, R.; Weber, R.; Gao, D.; Sarnat, S.; Chang, H.H.; Greenwald, R.; Yu, T. (2018) Developing Multipollutant Exposure Indicators of Traffic Pollution: The Dorm Room Inhalation to Vehicle Emissions (DRIVE) Study. Health Effects Institute Research Report Number 196. [Online at: <https://www.healtheffects.org/publication/developing-multipollutant-exposure-indicators-traffic-pollution-dorm-room-inhalation>.]

²⁹⁸ Gantt, B.; Owen, R.C.; Watkins, N. (2021) Characterizing nitrogen oxides and fine particulate matter near major highways in the United States using the National Near-road Monitoring Network. *Environ Sci Technol* 55: 2831–2838. [Online at <https://doi.org/10.1021/acs.est.0c05851>.]

²⁹⁹ Apte, J.S.; Messier, K.R.; Gani, S.; et al. (2017) High-resolution air pollution mapping with Google Street View cars: exploiting big data. *Environ Sci Technol* 51: 6999–7018. [Online at <https://doi.org/10.1021/acs.est.7b00891>.]

³⁰⁰ Gu, P.; Li, H.Z.; Ye, Q.; et al. (2018) Intercity variability of particulate matter is driven by carbonaceous sources and correlated with land-use variables. *Environ Sci Technol* 52: 11545–11554. [Online at <http://dx.doi.org/10.1021/acs.est.8b03833>.]

³⁰¹ Liu, W.; Zhang, J.; Kwon, J.I.; et al. (2006). Concentrations and source characteristics of airborne carbonyl compounds measured outside urban residences. *J Air Waste Manage Assoc* 56: 1196–1204.

³⁰² Cahill, T.M.; Charles, M.J.; Seaman, V.Y. (2010). Development and application of a sensitive

findings suggest a substantial roadway source of these carbonyls.

In the past 30 years, many studies have been published with results reporting that populations who live, work, or go to school near high-traffic roadways experience higher rates of numerous adverse health effects, compared to populations far away from major roads.³⁰³ In addition, numerous studies have found adverse health effects associated with spending time in traffic, such as commuting or walking along high-traffic roadways, including studies among children.^{304 305 306 307} The health outcomes with the strongest evidence linking them with traffic-associated air pollutants are respiratory effects, particularly in asthmatic children, and cardiovascular effects.

Numerous reviews of this body of health literature have been published. In a 2022 final report, an expert panel of the Health Effects Institute (HEI) employed a systematic review focusing on selected health endpoints related to exposure to traffic-related air pollution.³⁰⁸ The HEI panel concluded that there was a high level of confidence in evidence between long-term exposure to traffic-related air pollution and health effects in adults, including all-cause, circulatory, and ischemic heart disease mortality.³⁰⁹ The panel also found that

method to determine concentrations of acrolein and other carbonyls in ambient air. Health Effects Institute Research Report 149. Available at <https://www.healtheffects.org/system/files/Cahill149.pdf>.

³⁰³ In the widely-used PubMed database of health publications, between January 1, 1990 and December 31, 2021, 1,979 publications contained the keywords “traffic, pollution, epidemiology,” with approximately half the studies published after 2015.

³⁰⁴ Laden, F.; Hart, J.E.; Smith, T.J.; Davis, M.E.; Garshick, E. (2007) Cause-specific mortality in the unionized U.S. trucking industry. *Environmental Health Perspect* 115:1192–1196.

³⁰⁵ Peters, A.; von Klot, S.; Heier, M.; Trentinaglia, I.; Hörmann, A.; Wichmann, H.E.; Löwel, H. (2004) Exposure to traffic and the onset of myocardial infarction. *New England J Med* 351: 1721–1730.

³⁰⁶ Zanobetti, A.; Stone, P.H.; Spelzer, F.E.; Schwartz, J.D.; Coull, B.A.; Suh, H.H.; Nearling, B.D.; Mittleman, M.A.; Verrier, R.L.; Gold, D.R. (2009) T-wave alternans, air pollution and traffic in high-risk subjects. *Am J Cardiol* 104: 665–670.

³⁰⁷ Adar, S.; Adamkiewicz, G.; Gold, D.R.; Schwartz, J.; Coull, B.A.; Suh, H. (2007) Ambient and microenvironmental particles and exhaled nitric oxide before and after a group bus trip. *Environ Health Perspect* 115: 507–512.

³⁰⁸ HEI Panel on the Health Effects of Long-Term Exposure to Traffic-Related Air Pollution (2022) Systematic review and meta-analysis of selected health effects of long-term exposure to traffic-related air pollution. Health Effects Institute Special Report 23. [Online at <https://www.healtheffects.org/publication/systematic-review-and-meta-analysis-selected-health-effects-long-term-exposure-traffic>.] This more recent review focused on health outcomes related to birth effects, respiratory effects, cardiometabolic effects, and mortality.

³⁰⁹ Boogaard, H.; Patton, A.P.; Atkinson, R.W.; Brook, J.R.; Chang, H.H.; Crouse, D.L.; Fussell, J.C.;

there is a moderate-to-high level of confidence in evidence of associations with asthma onset and acute respiratory infections in children and lung cancer and asthma onset in adults. This report follows on an earlier expert review published by HEI in 2010, where it found strongest evidence for asthma-related traffic impacts. Other literature reviews have been published with conclusions generally similar to the HEI panels.^{310 311 312 313} Additionally, in 2014, researchers from the U.S. Centers for Disease Control and Prevention (CDC) published a systematic review and meta-analysis of studies evaluating the risk of childhood leukemia associated with traffic exposure and reported positive associations between “postnatal” proximity to traffic and leukemia risks, but no such association for “prenatal” exposures.³¹⁴ The U.S. Department of Health and Human Services’ National Toxicology Program (NTP) published a monograph including a systematic review of traffic-related air pollution and its impacts on hypertensive disorders of pregnancy. The NTP concluded that exposure to traffic-related air pollution is “presumed to be a hazard to pregnant women” for developing hypertensive disorders of pregnancy.³¹⁵

Health outcomes with few publications suggest the possibility of other effects still lacking sufficient evidence to draw definitive conclusions. Among these outcomes with a small number of positive studies are neurological impacts (e.g., autism and

Hoek, G.; Hoffman, B.; Kappeler, R.; Kutlar Joss, M.; Ondras, M.; Sagiv, S.K.; Somoli, E.; Shaiikh, R.; Szpiro, A.A.; Van Vliet E.D.S.; Vinneau, D.; Weuve, J.; Lurmann, F.W.; Forastiere, F. (2022) Long-term exposure to traffic-related air pollution and selected health outcomes: a systematic review and meta-analysis. *Environ Intl* 164: 107262. [Online at <https://doi.org/10.1016/j.envint.2022.107262>.]

³¹⁰ Boothe, V.L.; Shendell, D.G. (2008). Potential health effects associated with residential proximity to freeways and primary roads: review of scientific literature, 1999–2006. *J Environ Health* 70: 33–41.

³¹¹ Salam, M.T.; Islam, T.; Gilliland, F.D. (2008). Recent evidence for adverse effects of residential proximity to traffic sources on asthma. *Curr Opin Pulm Med* 14: 3–8.

³¹² Sun, X.; Zhang, S.; Ma, X. (2014) No association between traffic density and risk of childhood leukemia: a meta-analysis. *Asia Pac J Cancer Prev* 15: 5229–5232.

³¹³ Raaschou-Nielsen, O.; Reynolds, P. (2006). Air pollution and childhood cancer: a review of the epidemiological literature. *Int J Cancer* 118: 2920–9.

³¹⁴ Boothe, V.L.; Boehmer, T.K.; Wendel, A.M.; Yip, F.Y. (2014) Residential traffic exposure and childhood leukemia: a systematic review and meta-analysis. *Am J Prev Med* 46: 413–422.

³¹⁵ National Toxicology Program (2019) NTP Monograph in the Systematic Review of Traffic-Related Air Pollution and Hypertensive Disorders of Pregnancy. NTP Monograph 7. https://ntp.niehs.nih.gov/ntp/ohat/trap/mgraph/trap_final_508.pdf.

reduced cognitive function) and reproductive outcomes (e.g., preterm birth, low birth weight).^{316 317 318 319 320}

In addition to health outcomes, particularly cardiopulmonary effects, conclusions of numerous studies suggest mechanisms by which traffic-related air pollution affects health. For example, numerous studies indicate that near-roadway exposures may increase systemic inflammation, affecting organ systems, including blood vessels and lungs.^{321 322 323 324} Additionally, long-term exposures in near-road environments have been associated with inflammation-associated conditions, such as atherosclerosis and asthma.^{325 326 327}

Several studies suggest that some factors may increase susceptibility to

³¹⁶ Volk, H.E.; Hertz-Picciotto, I.; Delwiche, L.; et al. (2011). Residential proximity to freeways and autism in the CHARGE study. *Environ Health Perspect* 119: 873–877.

³¹⁷ Franco-Suglia, S.; Gryparis, A.; Wright, R.O.; et al. (2007). Association of black carbon with cognition among children in a prospective birth cohort study. *Am J Epidemiol*. doi: 10.1093/aje/kwm308. [Online at <http://dx.doi.org/>].

³¹⁸ Power, M.C.; Weisskopf, M.G.; Alexeeff, S.E.; et al. (2011). Traffic-related air pollution and cognitive function in a cohort of older men. *Environ Health Perspect* 2011: 682–687.

³¹⁹ Wu, J.; Wilhelm, M.; Chung, J.; et al. (2011). Comparing exposure assessment methods for traffic-related air pollution in and adverse pregnancy outcome study. *Environ Res* 111: 685–692.

³²⁰ Stenson, C.; Wheeler, A.J.; Carver, A.; et al. (2021) The impact of traffic-related air pollution on child and adolescent academic performance: a systematic review. *Environ Intl* 155: 106696 [Online at <https://doi.org/10.1016/j.envint.2021.106696>.]

³²¹ Riediker, M. (2007). Cardiovascular effects of fine particulate matter components in highway patrol officers. *Inhal Toxicol* 19: 99–105. doi: 10.1080/08958370701495238.

³²² Alexeeff, S.E.; Coull, B.A.; Gryparis, A.; et al. (2011). Medium-term exposure to traffic-related air pollution and markers of inflammation and endothelial function. *Environ Health Perspect* 119: 481–486. doi:10.1289/ehp.1002560.

³²³ Eckel, S.P.; Berhane, K.; Salam, M.T.; et al. (2011). Residential Traffic-related pollution exposure and exhaled nitric oxide in the Children’s Health Study. *Environ Health Perspect*. doi:10.1289/ehp.1103516.

³²⁴ Zhang, J.; McCreanor, J.E.; Cullinan, P.; et al. (2009). Health effects of real-world exposure diesel exhaust in persons with asthma. *Res Rep Health Effects Inst* 138. [Online at <http://www.healtheffects.org/>].

³²⁵ Adar, S.D.; Klein, R.; Klein, E.K.; et al. (2010). Air pollution and the microvasculature: a cross-sectional assessment of in vivo retinal images in the population-based Multi-Ethnic Study of Atherosclerosis. *PLoS Med* 7(11): E1000372. doi:10.1371/journal.pmed.1000372. Available at <http://dx.doi.org/>.

³²⁶ Kan, H.; Heiss, G.; Rose, K.M.; et al. (2008). Prospective analysis of traffic exposure as a risk factor for incident coronary heart disease: The Atherosclerosis Risk in Communities (ARIC) study. *Environ Health Perspect* 116: 1463–1468. doi:10.1289/ehp.11290. Available at <http://dx.doi.org/>.

³²⁷ McConnell, R.; Islam, T.; Shankardass, K.; et al. (2010). Childhood incident asthma and traffic-related air pollution at home and school. *Environ Health Perspect* 1021–1026.

the effects of traffic-associated air pollution. Several studies have found stronger respiratory associations in children experiencing chronic social stress, such as in violent neighborhoods or in homes with high family stress.^{328 329 330}

The risks associated with residence, workplace, or schools near major roads are of potentially high public health significance due to the large population in such locations. The 2013 U.S. Census Bureau's American Housing Survey (AHS) was the last AHS that included whether housing units were within 300 feet of an "airport, railroad, or highway with four or more lanes."³³¹ The 2013 survey reports that 17.3 million housing units, or 13 percent of all housing units in the U.S., were in such areas. Assuming that populations and housing units are in the same locations, this corresponds to a population of more than 41 million U.S. residents within 300 feet (approximately 90 meters) of high-traffic roadways or other transportation sources. According to the Central Intelligence Agency's World Factbook, based on data collected between 2012–2014, the United States had 6,586,610 km of roadways, 293,564 km of railways, and 13,513 airports. As such, highways represent the overwhelming majority of transportation facilities described by this factor in the AHS.

We analyzed national databases that allowed us to evaluate whether homes and schools were located near a major road and whether disparities in exposure may be occurring in these environments. Until 2009, the AHS included descriptive statistics of over 70,000 housing units across the nation and asked about transportation infrastructure near respondents' homes every two years.^{332 333} We also analyzed

the U.S. Department of Education's Common Core of Data, which includes enrollment and location information for schools across the U.S.³³⁴

In analyzing the 2009 AHS, we focused on whether a housing unit was located within 300 feet of a "4-or-more lane highway, railroad, or airport" (this distance was used in the AHS analysis).³³⁵ We analyzed whether there were differences between households in such locations compared with those in locations farther from these transportation facilities.³³⁶ We included other variables, such as land use category, region of country, and housing type. We found that homes with a non-White householder were 22–34 percent more likely to be located within 300 feet of these large transportation facilities than homes with White householders. Homes with a Hispanic householder were 17–33 percent more likely to be located within 300 feet of these large transportation facilities than homes with non-Hispanic householders. Households near large transportation facilities were, on average, lower in income and educational attainment and more likely to be a rental property and located in an urban area compared with households more distant from transportation facilities.

In examining schools near major roadways, we used the Common Core of Data from the U.S. Department of Education, which includes information on all public elementary and secondary schools and school districts nationwide.³³⁷ To determine school proximities to major roadways, we used a geographic information system (GIS) to map each school and roadways based on the U.S. Census's TIGER roadway file.³³⁸ We estimated that about 10 million students attend public schools within 200 meters of major roads, about 20 percent of the total number of public school students in the U.S.³³⁹ About

within half a block of the housing unit but has not maintained the question since then.

³³⁴ <http://nces.ed.gov/ccd/>.

³³⁵ This variable primarily represents roadway proximity. According to the Central Intelligence Agency's World Factbook, in 2010, the United States had 6,506,204 km of roadways, 224,792 km of railways, and 15,079 airports. Highways thus represent the overwhelming majority of transportation facilities described by this factor in the AHS.

³³⁶ Bailey, C. (2011) Demographic and Social Patterns in Housing Units Near Large Highways and other Transportation Sources. Memorandum to docket.

³³⁷ <http://nces.ed.gov/ccd/>.

³³⁸ Pedde, M.; Bailey, C. (2011) Identification of Schools within 200 Meters of U.S. Primary and Secondary Roads. Memorandum to the docket.

³³⁹ Here, "major roads" refer to those TIGER classifies as either "Primary" or "Secondary." The Census Bureau describes primary roads as

800,000 students attend public schools within 200 meters of primary roads, or about 2 percent of the total. We found that students of color were overrepresented at schools within 200 meters of primary roadways, and schools within 200 meters of primary roadways had a disproportionate population of students eligible for free or reduced-price lunches.³⁴⁰ Black students represent 22 percent of students at schools located within 200 meters of a primary road, compared to 17 percent of students in all U.S. schools. Hispanic students represent 30 percent of students at schools located within 200 meters of a primary road, compared to 22 percent of students in all U.S. schools.

Research into the impact of traffic-related air pollution on school performance is tentative. Two reviews of this literature found some evidence that children exposed to higher levels of traffic-related air pollution show poorer academic performance than those exposed to lower levels of traffic-related air pollution.^{341 342} However, this evidence was judged to be weak due to limitations in the assessment methods.

EPA also conducted a study to estimate the number of people living near truck freight routes in the United States, which includes many large highways and other routes where light- and medium-duty vehicles operate.^{343 344} Based on a population

"generally divided limited-access highways within the Federal interstate system or under state management." Secondary roads are "main arteries, usually in the U.S. highway, state highway, or county highway system."

³⁴⁰ For this analysis we analyzed a 200-meter distance based on the understanding that roadways generally influence air quality within a few hundred meters from the vicinity of heavily traveled roadways or along corridors with significant trucking traffic. See U.S. EPA, 2014. Near Roadway Air Pollution and Health: Frequently Asked Questions. EPA-420-F-14-044. For a surrogate of lower socioeconomic status (SES), we used student eligibility for the U.S. Department of Agriculture's (USDA) National School Lunch Program.

³⁴¹ Stenson, C.; Wheeler, A.J.; Carver, A.; et al. (2021) The impact of traffic-related air pollution on child and adolescent academic performance: a systematic review. *Environ Intl* 155: 106696. [Online at <https://doi.org/10.1016/j.envint.2021.106696>.]

³⁴² Gartland, N.; Aljof, H.E.; Dienes, K.; Munford, L.A.; Theakston, A.L.; van Tongeren, M. (2022) The effects of traffic air pollution in and around schools on executive function and academic performance in children: a rapid review. *Int J Environ Res Public Health* 10: 749. [Online at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8776123/>.]

³⁴³ U.S. EPA (2021). Estimation of Population Size and Demographic Characteristics among People Living Near Truck Routes in the Conterminous United States. Memorandum to the Docket.

³⁴⁴ FAF4 includes the following roadway types: interstate highways, other FHWA-designated routes

³²⁸ Islam, T.; Urban, R.; Gauderman, W.J.; et al. (2011). Parental stress increases the detrimental effect of traffic exposure on children's lung function. *Am J Respir Crit Care Med*.

³²⁹ Clougherty, J.E.; Levy, J.I.; Kubzansky, L.D.; et al. (2007). Synergistic effects of traffic-related air pollution and exposure to violence on urban asthma etiology. *Environ Health Perspect* 115: 1140–1146.

³³⁰ Chen, E.; Schrier, H.M.; Strunk, R.C.; et al. (2008). Chronic traffic-related air pollution and stress interact to predict biologic and clinical outcomes in asthma. *Environ Health Perspect* 116: 970–5.

³³¹ The variable was known as "ETTRANS" in the questions about the neighborhood.

³³² U.S. Department of Housing and Urban Development, & U.S. Census Bureau. (n.d.). Age of other residential buildings within 300 feet. In *American Housing Survey for the United States: 2009* (pp. A–1). Retrieved from <https://www.census.gov/programs-surveys/ahs/data/2009/ahs-2009-summary-tables0/h150-09.html>.

³³³ The 2013 AHS again included the "etrans" question about highways, airports, and railroads

analysis using the U.S. Department of Transportation's (USDOT) Freight Analysis Framework 4 (FAF4) and population data from the 2010 decennial census, an estimated 72 million people live within 200 meters of these FAF4 roads, which are used by all types of vehicles.^{345 346} This analysis includes the population living within twice the distance of major roads compared with the analysis of housing units near major roads described earlier in this section. The larger distance and other methodological differences explain the difference in the two estimates for populations living near major roads. Relative to the rest of the population, people of color and those with lower incomes are more likely to live near FAF4 roads.

EPA's Exposure Factor Handbook also indicates that, on average, Americans spend more than an hour traveling each day, bringing nearly all residents into a high-exposure microenvironment for part of the day.³⁴⁷ The duration of commuting results in another important contributor to overall exposure to traffic-related air pollution. Studies of health that address time spent in transit have found evidence of elevated risk of cardiac impacts.^{348 349 350}

in the National Highway System (NHS), National Network (NN) routes not part of the NHS, other rural and urban principal arterials, intermodal connectors, rural minor arterials for those counties not served by either NHS or NN routes, and urban bypass and streets as appropriate for network connectivity. Full documentation of the FAF4 road network is found at https://fafdev.ornl.gov/fafweb/data/Final%20Report_FAF4_August_2016_BP.pdf.

³⁴⁵ FAF4 is a model from the USDOT's Bureau of Transportation Statistics (BTS) and Federal Highway Administration (FHWA), which provides data associated with freight movement in the U.S. It includes data from the 2012 Commodity Flow Survey (CFS), the Census Bureau on international trade, as well as data associated with construction, agriculture, utilities, warehouses, and other industries. FAF4 estimates the modal choices for moving goods by trucks, trains, boats, and other types of freight modes. It includes traffic assignments, including truck flows on a network of truck routes. https://ops.fhwa.dot.gov/freight/freight_analysis/faf/.

³⁴⁶ The same analysis estimated the population living within 100 meters of a FAF4 truck route is 41 million.

³⁴⁷ EPA. (2011) Exposure Factors Handbook: 2011 Edition. Chapter 16. Online at <https://www.epa.gov/expobox/about-exposure-factors-handbook>.

³⁴⁸ Riediker, M.; Cascio, W.E.; Griggs, T.R.; et al. (2004) Particulate matter exposure in cars is associated with cardiovascular effects in healthy young men. *Am J Respir Crit Care Med* 169. [Online at <https://doi.org/10.1164/rccm.200310-1463OC>.]

³⁴⁹ Peters, A.; von Klot, S.; Heier, M.; et al. (2004) Exposure to traffic and the onset of myocardial infarction. *New Engl J Med* 1721–1730. [Online at <https://doi.org/10.1056/NEJMoa040203>.]

³⁵⁰ Adar, S.D.; Gold, D.R.; Coull, B.A.; (2007) Focused exposure to airborne traffic particles and heart rate variability in the elderly. *Epidemiology* 18: 95–103 [Online at 351: <https://doi.org/10.1097/01.ede.0000249409.81050.46>.]

D. Welfare Effects Associated With Exposure to Criteria and Air Toxics Pollutants Impacted by the Proposed Standards

This section discusses the welfare effects associated with pollutants affected by this rule, specifically particulate matter, ozone, NO_x, SO_x, and air toxics.

1. Visibility

Visibility can be defined as the degree to which the atmosphere is transparent to visible light.³⁵¹ Visibility impairment is caused by light scattering and absorption by suspended particles and gases. It is dominated by contributions from suspended particles except under pristine conditions. Visibility is important because it has direct significance to people's enjoyment of daily activities in all parts of the country. Individuals value good visibility for the well-being it provides them directly, where they live and work, and in places where they enjoy recreational opportunities. Visibility is also highly valued in significant natural areas, such as national parks and wilderness areas, and special emphasis is given to protecting visibility in these areas. For more information on visibility see the final 2019 PMISA.³⁵²

EPA is working to address visibility impairment. Reductions in air pollution from implementation of various programs associated with the Clean Air Act Amendments of 1990 provisions have resulted in substantial improvements in visibility and will continue to do so in the future. Nationally, because trends in haze are closely associated with trends in particulate sulfate and nitrate due to the relationship between their concentration and light extinction, visibility trends have improved as emissions of SO₂ and NO_x have decreased over time due to air pollution regulations such as the Acid Rain Program.³⁵³ However, in the western part of the country, changes in total light extinction were smaller, and the contribution of particulate organic

matter to atmospheric light extinction was increasing due to increasing wildfire emissions.³⁵⁴

In the Clean Air Act Amendments of 1977, Congress recognized visibility's value to society by establishing a national goal to protect national parks and wilderness areas from visibility impairment caused by manmade pollution.³⁵⁵ In 1999, EPA finalized the regional haze program to protect the visibility in Mandatory Class I Federal areas.³⁵⁶ There are 156 national parks, forests and wilderness areas categorized as Mandatory Class I Federal areas.³⁵⁷ These areas are defined in CAA section 162 as those national parks exceeding 6,000 acres, wilderness areas and memorial parks exceeding 5,000 acres, and all international parks which were in existence on August 7, 1977.

EPA has also concluded that PM_{2.5} causes adverse effects on visibility in other areas that are not targeted by the Regional Haze Rule, such as urban areas, depending on PM_{2.5} concentrations and other factors such as dry chemical composition and relative humidity (*i.e.*, an indicator of the water composition of the particles). The secondary (welfare-based) PM NAAQS provide protection against visibility effects. In recent PM NAAQS reviews, EPA evaluated a target level of protection for visibility impairment that is expected to be met through attainment of the existing secondary PM standards.³⁵⁸

2. Ozone Effects on Ecosystems

The welfare effects of ozone include effects on ecosystems, which can be observed across a variety of scales, *i.e.*, subcellular, cellular, leaf, whole plant, population, and ecosystem. Ozone effects that begin at small spatial scales, such as the leaf of an individual plant, when they occur at sufficient magnitudes (or to a sufficient degree) can result in effects being propagated along a continuum to higher and higher levels of biological organization. For example, effects at the individual plant level, such as altered rates of leaf gas exchange, growth, and reproduction, can, when widespread, result in broad changes in ecosystems, such as productivity, carbon storage, water

³⁵¹ National Research Council, (1993). *Protecting Visibility in National Parks and Wilderness Areas*. National Academy of Sciences Committee on Haze in National Parks and Wilderness Areas. National Academy Press, Washington, DC. This book can be viewed on the National Academy Press website at <https://www.nap.edu/catalog/2097/protecting-visibility-in-national-parks-and-wilderness-areas>.

³⁵² U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019.

³⁵³ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-19/188, 2019.

³⁵⁴ Hand, J.L.; Prenni, A.J.; Copeland, S.; Schichtel, B.A.; Malm, W.C. (2020). Thirty years of the Clean Air Act Amendments: Impacts on haze in remote regions of the United States (1990–2018). *Atmos Environ* 243: 117865.

³⁵⁵ See Section 169(a) of the Clean Air Act.

³⁵⁶ 64 FR 35714, July 1, 1999.

³⁵⁷ 62 FR 38680–38681, July 18, 1997.

³⁵⁸ On June 10, 2021, EPA announced that it will reconsider the decision to retain the PM NAAQS. <https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm>.

cycling, nutrient cycling, and community composition.

Ozone can produce both acute and chronic injury in sensitive plant species depending on the concentration level and the duration of the exposure.³⁵⁹ In those sensitive species,³⁶⁰ effects from repeated exposure to ozone throughout the growing season of the plant can tend to accumulate, so even relatively low concentrations experienced for a longer duration have the potential to create chronic stress on vegetation.^{361 362} Ozone damage to sensitive plant species includes impaired photosynthesis and visible injury to leaves. The impairment of photosynthesis, the process by which the plant makes carbohydrates (its source of energy and food), can lead to reduced crop yields, timber production, and plant productivity and growth. Impaired photosynthesis can also lead to a reduction in root growth and carbohydrate storage below ground, resulting in other, more subtle plant and ecosystems impacts.³⁶³ These latter impacts include increased susceptibility of plants to insect attack, disease, harsh weather, interspecies competition and overall decreased plant vigor. The adverse effects of ozone on areas with sensitive species could potentially lead to species shifts and loss from the affected ecosystems,³⁶⁴ resulting in a loss or reduction in associated ecosystem goods and services. Additionally, visible ozone injury to leaves can result in a loss of aesthetic value in areas of special scenic significance like national parks and wilderness areas and reduced use of sensitive ornamentals in landscaping.³⁶⁵ In addition to ozone effects on vegetation, newer evidence suggests that ozone affects interactions between plants and insects by altering chemical signals (e.g., floral scents) that plants use to communicate to other community

members, such as attraction of pollinators.

The Ozone ISA presents more detailed information on how ozone affects vegetation and ecosystems.^{366 367} The Ozone ISA reports causal and likely causal relationships between ozone exposure and a number of welfare effects and characterizes the weight of evidence for different effects associated with ozone.³⁶⁸ The ISA concludes that visible foliar injury effects on vegetation, reduced vegetation growth, reduced plant reproduction, reduced productivity in terrestrial ecosystems, reduced yield and quality of agricultural crops, alteration of below-ground biogeochemical cycles, and altered terrestrial community composition are causally associated with exposure to ozone. It also concludes that increased tree mortality, altered herbivore growth and reproduction, altered plant-insect signaling, reduced carbon sequestration in terrestrial ecosystems, and alteration of terrestrial ecosystem water cycling are likely to be causally associated with exposure to ozone.

3. Deposition

The Integrated Science Assessment for Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter—Ecological Criteria documents the ecological effects of the deposition of these criteria air pollutants.³⁶⁹ It is clear from the body of evidence that oxides of nitrogen, oxides of sulfur, and particulate matter contribute to total nitrogen (N) and sulfur (S) deposition. In turn, N and S deposition cause either nutrient enrichment or acidification depending on the sensitivity of the landscape or the species in question. Both enrichment and acidification are characterized by an alteration of the biogeochemistry and the physiology of organisms, resulting in harmful declines in biodiversity in terrestrial, freshwater, wetland, and estuarine ecosystems in the U.S.

Decreases in biodiversity mean that some species become relatively less abundant and may be locally extirpated. In addition to the loss of unique living species, the decline in total biodiversity can be harmful because biodiversity is an important determinant of the stability of ecosystems and their ability to provide socially valuable ecosystem services.

Terrestrial, wetland, freshwater, and estuarine ecosystems in the U.S. are affected by N enrichment/eutrophication caused by N deposition. These effects have been consistently documented across the U.S. for hundreds of species. In aquatic systems increased nitrogen can alter species assemblages and cause eutrophication. In terrestrial systems nitrogen loading can lead to loss of nitrogen-sensitive lichen species, decreased biodiversity of grasslands, meadows and other sensitive habitats, and increased potential for invasive species. For a broader explanation of the topics treated here, refer to the description in Chapter 9 of the DRIA.

The sensitivity of terrestrial and aquatic ecosystems to acidification from nitrogen and sulfur deposition is predominantly governed by geology. Prolonged exposure to excess nitrogen and sulfur deposition in sensitive areas acidifies lakes, rivers, and soils. Increased acidity in surface waters creates inhospitable conditions for biota and affects the abundance and biodiversity of fishes, zooplankton and macroinvertebrates and ecosystem function. Over time, acidifying deposition also removes essential nutrients from forest soils, depleting the capacity of soils to neutralize future acid loadings and negatively affecting forest sustainability. Major effects in forests include a decline in sensitive tree species, such as red spruce (*Picea rubens*) and sugar maple (*Acer saccharum*).

Building materials including metals, stones, cements, and paints undergo natural weathering processes from exposure to environmental elements (e.g., wind, moisture, temperature fluctuations, sunlight, etc.). Pollution can worsen and accelerate these effects. Deposition of PM is associated with both physical damage (materials damage effects) and impaired aesthetic qualities (soiling effects). Wet and dry deposition of PM can physically affect materials, adding to the effects of natural weathering processes, by potentially promoting or accelerating the corrosion of metals, by degrading paints and by deteriorating building materials such as

³⁵⁹ 73 FR 16486, March 27, 2008.

³⁶⁰ 73 FR 16491, March 27, 2008. Only a small percentage of all the plant species growing within the U.S. (over 43,000 species have been catalogued in the USDA PLANTS database) have been studied with respect to ozone sensitivity.

³⁶¹ U.S. EPA. Integrated Science Assessment (ISA) for Ozone and Related Photochemical Oxidants (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/012, 2020.

³⁶² The concentration at which ozone levels overwhelm a plant's ability to detoxify or compensate for oxidant exposure varies. Thus, whether a plant is classified as sensitive or tolerant depends in part on the exposure levels being considered.

³⁶³ 73 FR 16492, March 27, 2008.

³⁶⁴ 73 FR 16493–16494, March 27, 2008. Ozone impacts could be occurring in areas where plant species sensitive to ozone have not yet been studied or identified.

³⁶⁵ 73 FR 16490–16497, March 27, 2008.

³⁶⁶ U.S. EPA. Integrated Science Assessment (ISA) for Ozone and Related Photochemical Oxidants (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/012, 2020.

³⁶⁷ U.S. EPA. Integrated Science Assessment (ISA) for Ozone and Related Photochemical Oxidants (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/012, 2020.

³⁶⁸ The Ozone ISA evaluates the evidence associated with different ozone related health and welfare effects, assigning one of five “weight of evidence” determinations: causal relationship, likely to be a causal relationship, suggestive of a causal relationship, inadequate to infer a causal relationship, and not likely to be a causal relationship. For more information on these levels of evidence, please refer to Table II of the ISA.

³⁶⁹ U.S. EPA. Integrated Science Assessment (ISA) for Oxides of Nitrogen, Oxides of Sulfur and Particulate Matter Ecological Criteria (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-20/278, 2020.

stone, concrete, and marble.³⁷⁰ The effects of PM are exacerbated by the presence of acidic gases and can be additive or synergistic due to the complex mixture of pollutants in the air and surface characteristics of the material. Acidic deposition has been shown to have an effect on materials including zinc/galvanized steel and other metal, carbonate stone (as monuments and building facings), and surface coatings (paints).³⁷¹ The effects on historic buildings and outdoor works of art are of particular concern because of the uniqueness and irreplaceability of many of these objects. In addition to aesthetic and functional effects on metals, stone, and glass, altered energy efficiency of photovoltaic panels by PM deposition is also becoming an important consideration for impacts of air pollutants on materials.

4. Welfare Effects Associated With Air Toxics

Emissions from producing, transporting, and combusting fuel contribute to ambient levels of pollutants that contribute to adverse effects on vegetation. VOCs, some of which are considered air toxics, have long been suspected to play a role in vegetation damage.³⁷² In laboratory experiments, a wide range of tolerance to VOCs has been observed.³⁷³ Decreases in harvested seed pod weight have been reported for the more sensitive plants, and some studies have reported effects on seed germination, flowering, and fruit ripening. Effects of individual VOCs or their role in conjunction with other stressors (*e.g.*, acidification, drought, temperature extremes) have not been well studied. In a recent study of a mixture of VOCs including ethanol and toluene on herbaceous plants, significant effects on seed production, leaf water content and photosynthetic efficiency were reported for some plant species.³⁷⁴

Research suggests an adverse impact of vehicle exhaust on plants, which has in some cases been attributed to aromatic compounds and in other cases to NO_x.^{375 376 377} The impacts of VOCs on plant reproduction may have long-term implications for biodiversity and survival of native species near major roadways. Most of the studies of the impacts of VOCs on vegetation have focused on short-term exposure and few studies have focused on long-term effects of VOCs on vegetation and the potential for metabolites of these compounds to affect herbivores or insects.

III. EPA Proposal for Light- and Medium-Duty Vehicle Standards for Model Years 2027 and Later

A. Introduction and Background

This Preamble Section III outlines the proposed GHG and criteria pollutant standards and related provisions that are included in the proposal.

Throughout this section and elsewhere in this NPRM, EPA uses the following conventions to identify specific vehicle technology types. More information about these vehicle technologies may be found in the 2016 EPA Draft Technical Assessment Report.³⁷⁸

- ICE vehicle: an internal combustion engine (ICE) vehicle with no powertrain electrification
- BEV: Battery Electric Vehicle
- PHEV: Plug-in Hybrid Electric Vehicle
- PEV: Plug-in Electric Vehicle (refers collectively to BEVs and PHEVs)
- HEV: Hybrid Electric Vehicle (or strong hybrid)³⁷⁹
- MHEV: Mild Hybrid Electric Vehicle³⁸⁰
- Hybrid: refers collectively to HEVs (or strong hybrid) and MHEVs

³⁷⁵ Viskari E-L. (2000). Epicuticular wax of Norway spruce needles as indicator of traffic pollutant deposition. *Water, Air, and Soil Pollut.* 121:327–337.

³⁷⁶ Ugrekhelidze D, F Korte, G Kvesitadze. (1997). Uptake and transformation of benzene and toluene by plant leaves. *Ecotox. Environ. Safety* 37:24–29.

³⁷⁷ Kammerbauer H, H Selinger, R Rommelt, A Ziegler-Jons, D Knoppik, B Hock. (1987). Toxic components of motor vehicle emissions for the spruce *Picea abies*. *Environ. Pollut.* 48:235–243.

³⁷⁸ Draft Technical Assessment Report, EPA–420–D–16–900, July 2016.

³⁷⁹ Strong hybrids typically operate at high voltage (greater than 60 volts and most often up to several hundred volts) to provide significant engine assist and regenerative braking, and most commonly occur in what are known as P2 and power-split or other parallel/series drive configurations. See also Draft Technical Assessment Report, EPA–420–D–16–900, July 2016, pp. 5–11 and 5–12.

³⁸⁰ Mild hybrids most commonly operate at or about 48 volts and provide idle-stop capability and launch assistance. See also Draft Technical Assessment Report, EPA–420–D–16–900, July 2016, p. 5–11.

- FCEV: Fuel Cell Electric Vehicle
- Electrified: any of the preceding vehicle types with an electric drive, including FCEV
- ZEV: Zero-Emission Vehicle (used primarily in reference to the California ZEV program)

Because ZEV has a specific meaning under the California program, EPA in this proposal is generally refraining from using the term except in reference to the California program. Executive Order (E.O.) 14037 also uses the term “zero-emission vehicle” to refer generally to BEVs, FCEVs, and PHEVs, so EPA may also use “ZEV” when referencing the E.O.

Additionally, in the context of the criteria pollutant program, the abbreviation LDV refers to light-duty vehicles that are not otherwise designated as a light-duty truck (LDT) or medium-duty passenger vehicle (MDPV).³⁸¹ In this proposal, the new nomenclature “medium-duty vehicle” (MDV) refers to Class 2b and 3 vehicles, as described in the following section.

1. What vehicle categories and pollutants are covered by the proposal?

EPA is proposing emissions standards for both light-duty vehicles and medium-duty (Class 2b and 3) vehicles. The light-duty vehicle category includes passenger cars, light trucks, and medium-duty passenger vehicles (MDPVs), consistent with previous EPA GHG and criteria pollutant rules.³⁸² In this proposed rule, Class 2b and 3 vehicles are referred to as “medium-duty vehicles” (MDVs) to distinguish them from Class 4 and higher vehicles that remain under the heavy-duty program in 40 CFR parts 1036 and 1037. EPA has not previously used the MDV nomenclature, referring to these larger vehicles in prior rules as either heavy-duty Class 2b and 3 vehicles or heavy-duty pickups and vans.³⁸³ The MDV category includes large pickups, vans, and incomplete vehicles, but excludes MDPVs. Examples of vehicles in this

³⁸¹ Title 40 CFR 86.1803.

³⁸² Light-duty trucks (LDTs) that have gross vehicle weight ratings above 6,000 pounds and all MDVs are considered “heavy-duty vehicles” under the CAA. See section 202(b)(3)(C). For regulatory purposes, we generally refer to those LDTs which are above 6,000 pounds GVWR and at or below 8,500 pounds GVWR as “heavy light-duty trucks” made up of LDT3s and LDT4s, and we have defined MDPVs primarily as vehicles between 8,501 and 10,000 pounds GVWR designed primarily for the transportation of persons. See 40 CFR 86.1803–01.

³⁸³ See 76 FR 57106 and 79 FR 23414. Heavy-duty vehicles subject to standards under 40 CFR part 86, subpart S, are defined at 40 CFR 86.1803–01 to include all vehicles above 8,500 pounds GVWR, and also incomplete vehicles with lower GVWR if they have curb weight above 6,000 pounds or basic vehicle frontal area greater than 45 square feet.

³⁷⁰ U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter (Final Report, 2019). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R–19/188, 2019.

³⁷¹ Irving, P.M., e.d. 1991. Acid Deposition: State of Science and Technology, Volume III, Terrestrial, Materials, Health, and Visibility Effects, The U.S. National Acid Precipitation Assessment Program, Chapter 24, page 24–76.

³⁷² U.S. EPA. (1991). Effects of organic chemicals in the atmosphere on terrestrial plants. EPA/600/3–91/001.

³⁷³ Cape JN, ID Leith, J Binnie, J Content, M Donkin, M Skewes, DN Price AR Brown, AD Sharpe. (2003). Effects of VOCs on herbaceous plants in an open-top chamber experiment. *Environ. Pollut.* 124:341–343.

³⁷⁴ Cape JN, ID Leith, J Binnie, J Content, M Donkin, M Skewes, DN Price AR Brown, AD Sharpe. (2003). Effects of VOCs on herbaceous plants in an open-top chamber experiment. *Environ. Pollut.* 124:341–343.

category include GM or Stellantis 2500 and 3500 series, and Ford 250 and 350 series, pickups and vans. EPA notes that it is proposing that certain Class 2b and 3 vehicles would be subject to engine-based criteria pollutant emissions standards under EPA's heavy-duty engine standards rather than being included in the MDV category, as discussed in Section III.C.

EPA is proposing new standards for emissions of GHGs and hydrocarbons, oxides of nitrogen (NO_x), and particulate matter (PM). EPA's proposed standards are based on an assessment of all available and potential vehicle emissions control technologies, including advancements in gasoline vehicle technologies, strong hybridization, and zero-emission

technologies over the model years affected by the proposal.

2. Light-Duty and Medium-Duty Vehicle Standards: Background and History

Previously, EPA has addressed medium-duty vehicle emissions as part of regulatory programs for GHG emissions along with the heavy-duty sector, and for criteria pollutant emissions along with the light-duty sector. As a result, the program structure for medium-duty vehicles is similar to that of the light-duty program for criteria pollutants but differs from that of light-duty program for GHG emissions. This section provides a brief overview of the rules and the standards structures for EPA's light-duty GHG emissions standards, MDV GHG emissions standards, and criteria

pollutant emissions standards. While the current proposal is addressing both light- and medium-duty vehicles under a single umbrella rulemaking, EPA is proposing standards for each class and for each pollutant pursuant to the relevant statutory provisions for each class and pollutant based on its assessment of the feasibility of more stringent standards for each class and pollutant, and the programs would continue to follow the basic structures EPA has previously adopted.

i. GHG Standards

EPA has issued four rules establishing light-duty vehicle GHG standards, which EPA refers to in this proposal based on the year in which the previous final rule was issued, as shown in Table 20.³⁸⁴

TABLE 20—PREVIOUS GHG LIGHT-DUTY VEHICLES STANDARDS RULES

Rule	MYs covered	Title	Federal Register citation
2010 Rule	Initial 2010 rule established standards for MYs 2012–2016 and later.	Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards.	75 FR 25324, May 7, 2010.
2012 Rule	Set more stringent standards for MYs 2017–2025 and later.	2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards.	77 FR 62624, October 15, 2012.
2020 Rule	Revised the standards for MYs 2022–2025 to make them less stringent and established a new standard for MYs 2026 and later.	The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks.	85 FR 24174, April 30, 2020.
2021 Rule	Revised the standards for MYs 2023–2026 to make them more stringent, with the MY 2026 standards being the most stringent GHG standards established by EPA to date.	Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards.	86 FR 74434, December 30, 2021.

The GHG standards have all been based on fleet average CO₂ emissions. Each vehicle model is assigned a CO₂ target based on the vehicle's "footprint" in square feet (ft²), generally consisting of the area of the rectangle formed by the four points at which the tires rest on the ground. Generally, vehicles with larger footprints have higher assigned CO₂ emissions targets. The most recent set of footprint curves established by the 2021 rule for model years 2023–2026 are

shown in Figure 4 and Figure 5, along with the curves for MYs 2021–2022, included for comparison. As shown, passenger cars and light trucks have separate footprint standards curves, which result in separate fleet average standards for the two sets of vehicles. The fleet-average standards are the production-weighted fleet average of the footprint targets for all the vehicles in a manufacturer's fleet for a given model year. As a result, the footprint-based

fleet average standards, which manufacturers are required to meet on an annual basis, will vary for each manufacturer based on its actual production of vehicles in a given model year. Individual vehicles are not required to meet their footprint-based CO₂ targets, although they are required to demonstrate compliance with applicable in-use standards.

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³⁸⁴ The first three rules were issued jointly with NHTSA, while EPA issued the 2021 Rule in

coordination with NHTSA but not as a joint rulemaking.

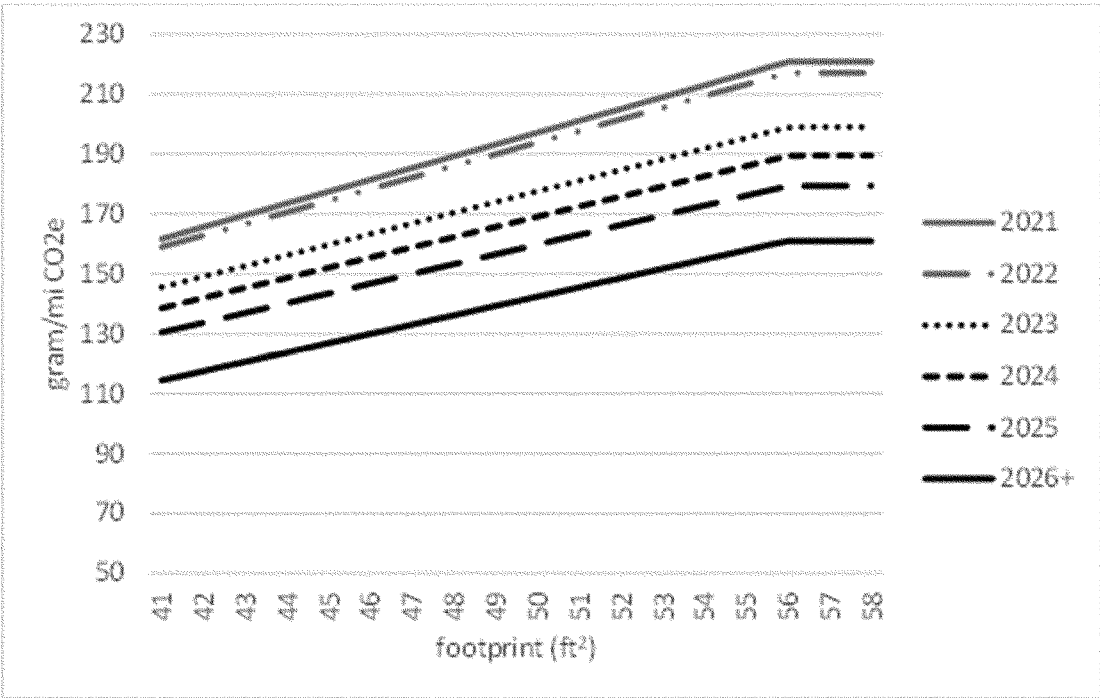


Figure 4. Car footprint curves for MYs 2021-2026.

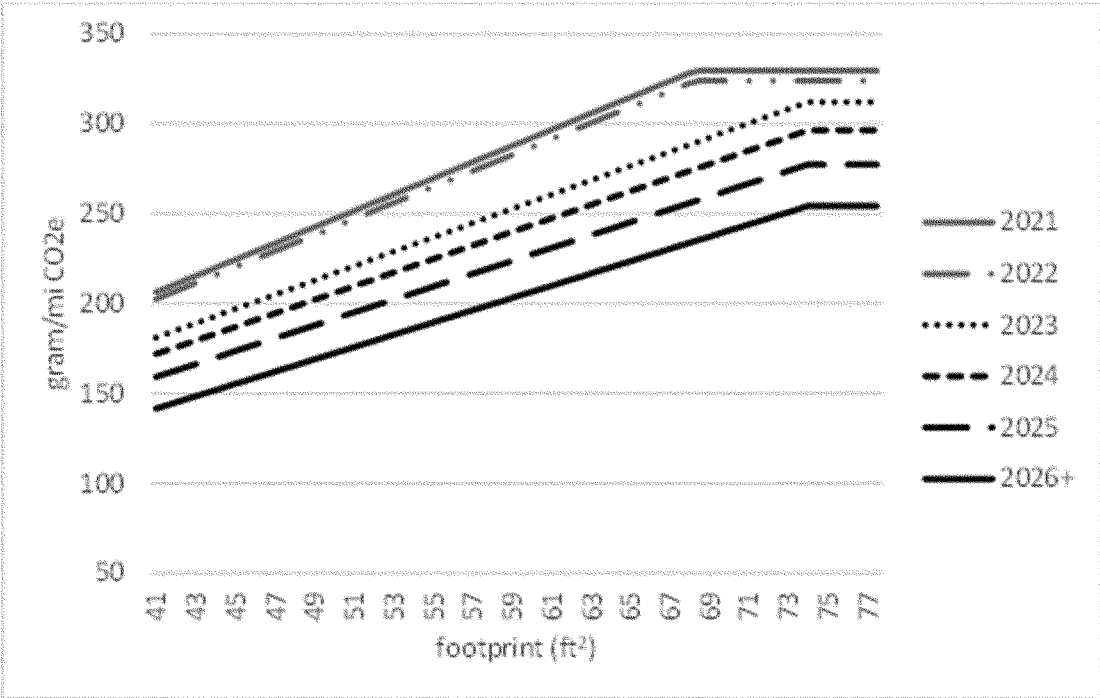


Figure 5. Truck footprint curves for MYs 2021-2026.

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For medium-duty vehicles,³⁸⁵ EPA has established GHG standards

previously as part of our heavy-duty vehicle GHG Phase 1 and 2 rules, shown in Table 21.

vehicle GHG Phase 1 and 2 rules, shown in Table 21.

³⁸⁵ Note, the HD GHG rules referred to MDVs as HD pickups and vans.

TABLE 21—PRIOR HEAVY-DUTY GHG RULES COVERING MDVS

Rule	MYs covered	Title	Federal Register citation
HD Phase 1	Initial MDV standards phased in over MYs 2014–2018.	Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles.	76 FR 57106, September 15, 2011.
HD Phase 2	More stringent MDV standards phased in over MYs 2021–2027.	Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2.	81 FR 73478, October 25, 2016.

The MDV standards are also attribute-based. However, they are based on a “work factor” attribute rather than the footprint attribute used in the light-duty vehicle program. Work-based measures such as payload and towing capability are two key factors that characterize differences in the design of vehicles, as well as differences in how the vehicles are expected to be regularly used. The work factor attribute combines vehicle payload capacity and vehicle towing capacity, in pounds (lb), with an additional fixed adjustment for four-wheel drive vehicles. This adjustment

accounts for the fact that four-wheel drive, critical to enabling heavy-duty work (payload or trailer towing) in certain road conditions, adds roughly 500 pounds to the vehicle weight. The work factor is calculated as follows:

75 percent maximum payload + 25 percent of maximum towing + 375 lb if four-wheel drive.

—Maximum payload is calculated as GVWR minus curb weight

—Maximum towing is calculated as Gross Combined Weight Rating (GCWR) minus GVWR

Under this approach, GHG targets are determined for each vehicle with a unique work factor (analogous to a target for each discrete vehicle footprint in the light-duty vehicle rules). These targets are then production weighted and summed to derive a manufacturer’s annual fleet average standard for its MDVs. The current program includes separate standards for gasoline and diesel-fueled vehicles.³⁸⁶ The Phase 2 work factors are shown in Figure 6 and Figure 7.

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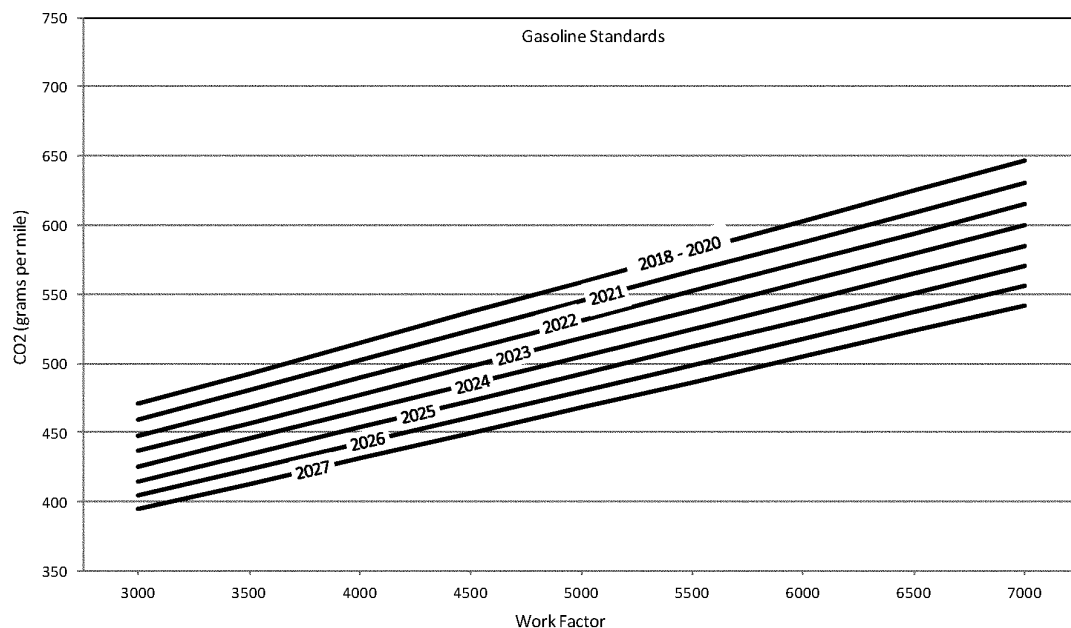


Figure 6. EPA Phase 2 CO₂ work factor targets for gasoline fueled MDVs.

³⁸⁶ See 81 FR 73736–73739.

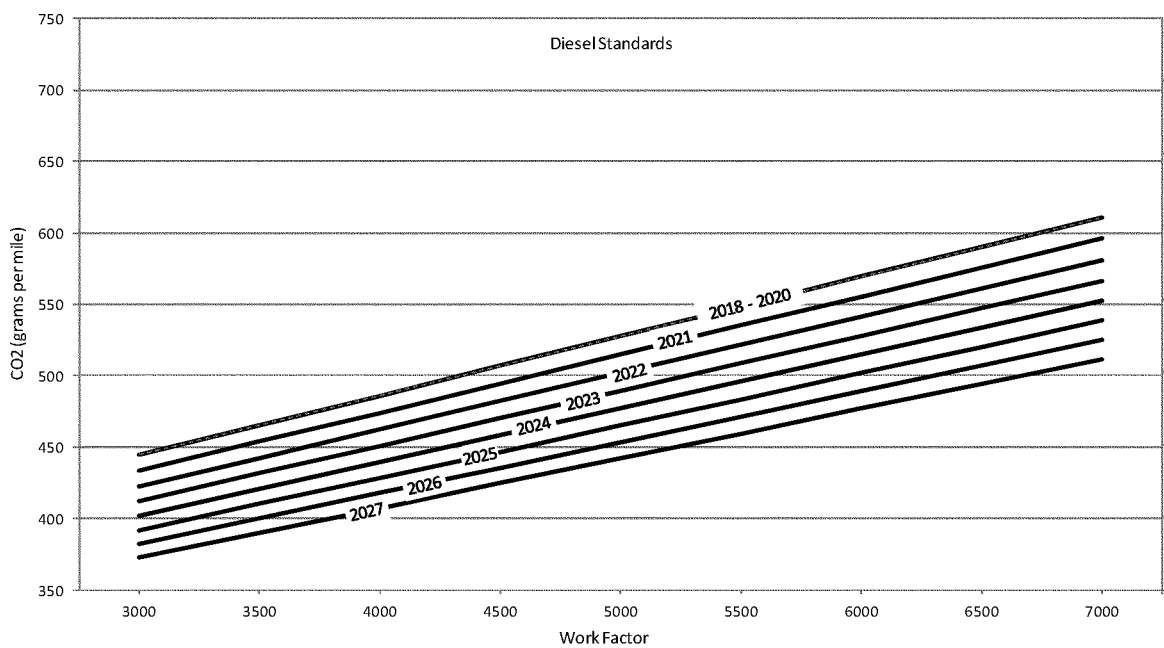


Figure 7. EPA Phase 2 CO₂ work factor targets for diesel fueled MDVs.

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ii. Criteria and Toxic Pollutant Emissions Standards

Over the last several decades, EPA has set progressively more stringent vehicle emissions standards for criteria pollutants. Most recently, in 2014, EPA

adopted Tier 3 emissions standards. Unlike GHG standards, criteria pollutant standards are not attribute-based. The Tier 3 rule included standards for both light-duty and medium-duty vehicles. Similar to the prior Tier 2 standards, Tier 3 established “bins” of Federal Test Procedure (FTP) standards, shown in

Table 22. Each bin contains a milligrams per mile (mg/mile) standard for non-methane organic gases (NMOG) plus oxides of nitrogen (NO_x) or NMOG+NO_x, particulate matter (PM), carbon monoxide (CO), and formaldehyde (HCHO).

TABLE 22—TIER 3 FTP STANDARDS FOR LDVs AND MDPVs
[mg/mile]

	NMOG+NO _x	PM	CO	HCHO
Bin 160	160	3	4.2	4
Bin 125	125	3	2.1	4
Bin 70	70	3	1.7	4
Bin 50	50	3	1.7	4
Bin 30	30	3	1.0	4
Bin 20	20	3	1.0	4
Bin 0	0	0	0	0

Manufacturers select, or assign, a standards bin to each vehicle model and vehicles must meet all of the standards in that bin over the vehicle’s full useful life. Each manufacturer must also meet a fleet average NMOG + NO_x standard

each model year, which declines over a phase-in period for the Tier 3 final standards. The declining NMOG+NO_x standards are shown in Table 23. As shown, the fleet is split between two categories: (1) Passenger cars and small

light trucks and (2) larger light trucks and MDPVs, with final NMOG+NO_x fleet average standards of 30 mg/mile for both vehicle categories.³⁸⁷

³⁸⁷ Small light trucks are those vehicles in the LDT1 class, while larger light trucks are those in the LDT2–4 classes.

TABLE 23—TIER 3 NMOG+NO_x FLEET AVERAGE FTP STANDARDS FOR LIGHT-DUTY VEHICLES AND MDPVs
[mg/mile]

	Model year								
	2017	2018	2019	2020	2021	2022	2023	2024	2025 and later
Passenger cars and small trucks	86	79	72	65	58	51	44	37	30
Large light trucks and MDPVs	101	93	83	74	65	56	47	38	30

The Tier 3 rule also established more stringent criteria pollutant emissions standards for MDVs. The Tier 3 MDV standards are also based on a bin structure, but with generally less stringent bin standards and with less stringent NMOG+NO_x fleet average standards. As discussed in Section III.A.1, the MDV category consists of

vehicles with gross vehicle weight ratings (GVWR) between 8,501–14,000 pounds. For Tier 3, EPA set separate standards for two sub-categories of vehicles, Class 2b (8,501–10,000 pounds GVWR) and Class 3 (10,001–14,000 pounds GVWR) vehicles. Table 24 provides the final Tier 3 FTP standards bins for MDVs and Table 25 provides

the NMOG+NO_x fleet average standards that apply to these vehicles in MYs 2018 and later. It is important to note that MDVs are tested at a higher test weight than light-duty vehicles, as discussed in Section III.B.3, and as such the numeric standards are not directly comparable across the light-duty and MDV categories.

TABLE 24—MDV TIER 3 FTP FINAL STANDARDS BINS

	NMOG+NO _x	PM	CO	HCHO
Class 2b (10,001–14,000 lb GVWR)				
Bin 250	250	8	6.4	6
Bin 200	200	8	4.2	6
Bin 170	170	8	4.2	6
Bin 150	150	8	3.2	6
Bin 0	0	0	0	0
Class 3 (8,501–10,000 lb GVWR)				
Bin 400	400	10	7.3	6
Bin 270	270	10	4.2	6
Bin 230	230	10	4.2	6
Bin 200	200	10	3.7	6
Bin 0	0	0	0	0

TABLE 25—MDV FINAL FLEET AVERAGE NMOG+NO_x STANDARDS
[mg/mile]

	2018	2019	2020	2021	2022 and later
Class 2b	278	253	228	203	178
Class 3	451	400	349	298	247

EPA has also established supplemental Federal test procedure (SFTP) standards for light and medium-duty vehicles, as well as cold temperature standards for CO and HC. These standards address emissions outside of the FTP test conditions such as at high vehicle speeds and differing ambient temperatures. EPA is not reopening the current SFTP standards in this rulemaking.

3. EPA's Statutory Authority Under the Clean Air Act (CAA)

Title II of the Clean Air Act provides for comprehensive regulation of mobile sources, authorizing EPA to regulate emissions of air pollutants from all mobile source categories, including

motor vehicles under CAA section 202(a). EPA is setting standards under multiple provisions of CAA section 202(a). GHG standards for all motor vehicles and light duty criteria pollutant standards are set under section 202(a)(1)–(2). Criteria pollutant standards for larger light-duty trucks and MDVs, which are considered “heavy-duty vehicles” under the CAA by virtue of having GVWR above 6,000 pounds, are being set pursuant to section 202(a)(3), which requires that standards applicable to emissions of hydrocarbons, NO_x, CO, and PM from heavy-duty vehicles (which includes MDVs) reflect the greatest degree of emission reduction available for the model year to which such standards

apply, giving appropriate consideration to cost, energy, and safety. In turn, CAA section 216(2) defines “motor vehicle” as “any self-propelled vehicle designed for transporting persons or property on a street or highway.” Congress has intentionally and consistently used the broad term “any self-propelled vehicle” since the Motor Vehicle Control Act of 1965 so as not to limit standards adopted under CAA section 202 to vehicles running on a particular fuel, power source, or system of propulsion. Congress's focus was on emissions from classes of motor vehicles and the “requisite technologies” that could feasibly reduce those emissions giving appropriate consideration to cost of compliance and lead time, as opposed

to being limited to any particular type of vehicle.

Section 202(a)(1) of the CAA states that “the Administrator shall by regulation prescribe (and from time to time revise) . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles . . . which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” CAA section 202(a)(1) also requires that any standards promulgated thereunder “shall be applicable to such vehicles and engines for their useful life (as determined under [CAA section 202(d)], relating to useful life of vehicles for purposes of certification), whether such vehicle and engines are designed as complete systems or incorporate devices to prevent or control such pollution.”

While emission standards set by the EPA under CAA section 202(a)(1) generally do not mandate use of particular technologies, they are technology-based, as the levels chosen must be premised on a finding of technological feasibility. Thus, standards promulgated under CAA section 202(a) are to take effect only “after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.” CAA section 202(a)(2); see also *NRDC v. EPA*, 655 F. 2d 318, 322 (D.C. Cir. 1981). EPA must consider costs to those entities which are directly subject to the standards. *Motor & Equipment Mfrs. Ass’n Inc. v. EPA*, 627 F. 2d 1095, 1118 (D.C. Cir. 1979). Thus, “the [s]ection 202(a)(2) reference to compliance costs encompasses only the cost to the motor-vehicle industry to come into compliance with the new emission standards, and does not mandate consideration of costs to other entities not directly subject to the proposed standards.” Coalition for Responsible Regulation, 684 F.3d at 128. EPA is afforded considerable discretion under section 202(a) when assessing issues of technical feasibility and availability of lead time to implement new technology. Such determinations are “subject to the restraints of reasonableness,” which “does not open the door to ‘crystal ball’ inquiry.” *NRDC*, 655 F. 2d at 328, quoting *International Harvester Co. v. Ruckelshaus*, 478 F. 2d 615, 629 (D.C. Cir. 1973). However, “EPA is not obliged to provide detailed solutions to every engineering problem posed in the perfection of [a particular device]. In the absence of theoretical objections to the technology, the agency need only

identify the major steps necessary for development of the device and give plausible reasons for its belief that the industry will be able to solve those problems in the time remaining. EPA is not required to rebut all speculation that unspecified factors may hinder ‘real world’ emission control.” *NRDC*, 655 F. 2d at 333–34. In developing such technology-based standards, EPA has the discretion to consider different standards for appropriate groupings of vehicles (“class or classes of new motor vehicles”), or a single standard for a larger grouping of motor vehicles. *NRDC*, 655 F. 2d at 338.³⁸⁸

Although standards under CAA section 202(a)(1) are technology-based, they are not based exclusively on technological capability. Pursuant to the broad grant of authority in section 202, when setting emission standards for light duty vehicles EPA may also consider other factors and has done so previously when setting such standards. For instance, in recent light duty greenhouse gas rules, EPA has also considered such issues as: Technology effectiveness; its cost (per vehicle, per manufacturer, and per consumer); the feasibility and practicability of potential standards in light of the lead time available to implement the technology; the impacts of potential standards on emissions reductions of both GHGs and criteria pollutants; the impacts of standards on oil conservation and energy security; the impacts of standards on fuel savings by consumers; as well as other relevant factors such as safety.

In addition, EPA has clear authority to set standards under CAA section 202(a)(1)–(2) that are technology-forcing when EPA considers that to be appropriate but is not required to do so (as compared to standards under section 202(a)(3), which require the greatest degree of emissions reduction achievable, giving appropriate consideration to cost, energy and safety factors). CAA section 202(a) does not specify the degree of weight to apply to each factor, and EPA accordingly has discretion in choosing an appropriate balance among factors. See *Sierra Club v. EPA*, 325 F.3d 374, 378 (D.C. Cir. 2003) (even where a provision is technology-forcing, the provision “does not resolve how the Administrator

should weigh all [the statutory] factors in the process of finding the ‘greatest emission reduction achievable’”); *National Petrochemical and Refiners Ass’n v. EPA*, 287 F.3d 1130, 1135 (D.C. Cir. 2002) (EPA decisions, under CAA provision authorizing technology-forcing standards, based on complex scientific or technical analysis are accorded particularly great deference); see also *Husqvarna AB v. EPA*, 254 F. 3d 195, 200 (D.C. Cir. 2001) (great discretion to balance statutory factors in considering level of technology-based standard, and statutory requirement “to [give appropriate] consideration to the cost of applying . . . technology” does not mandate a specific method of cost analysis); *Hercules Inc. v. EPA*, 598 F. 2d 91, 106 (D.C. Cir. 1978) (“In reviewing a numerical standard we must ask whether the agency’s numbers are within a zone of reasonableness, not whether its numbers are precisely right.”).³⁸⁹

With regard to the specific technologies that could be used to meet the emission standards promulgated under the relevant statutory authorities, EPA’s rules have historically not required the use of any particular technology, but rather have allowed manufacturers to use any technology that demonstrates the engines or vehicles meet the standards over the applicable test procedures. Similarly, in determining the standards, EPA appropriately considers updated data and analysis on pollution control technologies, without a priori limiting its consideration to a particular set of technologies. Given the continuous development of pollution control technologies since the early days of the CAA, this approach means that EPA routinely considers novel and projected technologies developed or refined since the time of the CAA’s enactment, including, for instance, electric vehicle technologies. This forward-looking regulatory approach keeps pace with real-world technological developments and comports with Congressional intent.

Section 202 does not specify or expect any particular type of motor vehicle propulsion system to remain prevalent, and it was clear as early as the 1960s that ICE vehicles might be inadequate to achieve the country’s air quality goals. In 1967, the Senate Committees on Commerce and Public Works held five days of hearings on “electric vehicles and other alternatives to the internal

³⁸⁸ Additionally, with respect to regulation of vehicular greenhouse gas emissions, EPA is not “required to treat NHTSA’s . . . regulations as establishing the baseline for the [section 202(a) standards].” Coalition for Responsible Regulation, 684 F.3d at 127 (noting that the section 202(a) standards provide “benefits above and beyond those resulting from NHTSA’s fuel-economy standards”).

³⁸⁹ See also; *Permian Basin Area Rate Cases*, 390 U.S. 747, 797 (1968) (same); *Federal Power Commission v. Conway Corp.*, 426 U.S. 271, 278 (1976) (same); *Exxon Mobil Gas Marketing Co. v. Federal Energy Regulatory Comm’n*, 297 F. 3d 1071, 1084 (D.C. Cir. 2002) (same).

combustion engine,” which Chairman Magnuson opened by saying “The electric will help alleviate air pollution. . . . The electric car does not mean a new way of life, but rather it is a new technology to help solve the new problems of our age.”³⁹⁰ In a 1970 message to Congress seeking a stronger CAA, President Nixon stated he was initiating a program to develop “an unconventionally powered, virtually pollution free automobile” because of the possibility that “the sheer number of cars in densely populated areas will begin outrunning the technological limits of our capacity to reduce pollution from the internal combustion engine.”³⁹¹

Since the earliest days of the CAA, Congress has emphasized that the goal of section 202 is to address air quality hazards from motor vehicles, not to simply reduce emissions from internal combustion engines to the extent feasible. In the Senate Report accompanying the 1970 CAA Amendments, Congress made clear the EPA “is expected to press for the development and application of improved technology rather than be limited by that which exists” and identified several unconventional technologies that could successfully meet air quality-based emissions targets for motor vehicles.³⁹² In the 1970 amendments Congress further demonstrated its recognition that developing new technology to ensure that pollution control keeps pace with economic development is not merely a matter of refining the ICE, but requires considering new types of motor vehicle propulsion. Congress provided EPA with authority to fund the development of “low emission alternatives to the present internal combustion engine” as well as a program to encourage Federal purchases of “low-emission vehicles.” See CAA section 104(a)(2) (previously codified as CAA section 212). Congress also adopted section 202(e) expressly to grant the Administrator discretion regarding the certification of vehicles and engines based on “new power source[s] or propulsion system[s],” that is to say, power sources and propulsion systems beyond the existing internal combustion engine and fuels available at the time of the statute’s enactment, if

those vehicles emit pollutants which the Administrator judges contribute to dangerous air pollution but has not yet established standards for under section 202(a). As the D.C. Circuit held in 1973, “We may also note that it is the belief of many experts—both in and out of the automobile industry—that air pollution cannot be effectively checked until the industry finds a substitute for the conventional automotive power plant—the reciprocating internal combustion (i.e., “piston”) engine. . . . It is clear from the legislative history that Congress expected the Clean Air Amendments to force the industry to broaden the scope of its research—to study new types of engines and new control systems.” *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 634–35 (D.C. Cir. 1973).

Since that time, Congress has continued to emphasize the importance of technology development to achieving the goals of the CAA. In the 1990 amendments, Congress instituted a clean fuel vehicles program to promote further progress in emissions reductions and the adoption of new technologies and alternative fuels, which also applied to motor vehicles as defined under section 216, see CAA section 241(1), and explicitly defined motor vehicles qualifying under the program as including vehicles running on an alternative fuel or “power source (including electricity),” CAA section 241(2). Congress also directed EPA to phase-in certain section 202(a) standards, see CAA section 202(g), which confirms EPA’s authority to promulgate standards, such as fleet averages, phase-ins, and averaging, banking, and trading programs, that are fulfilled through compliance over an entire fleet, or a portion thereof, rather than through compliance by individual vehicles.³⁹³

The recently enacted Inflation Reduction Act³⁹⁴ “reinforces the longstanding authority and responsibility of [EPA] to regulate GHGs as air pollutants under the Clean Air

Act.”³⁹⁵ and “the IRA clearly and deliberately instructs EPA to use” this authority by “combin[ing] economic incentives to reduce climate pollution with regulatory drivers to spur greater reductions under EPA’s CAA authorities.”³⁹⁶ The IRA specifically affirms Congress’s previously articulated statements that non-ICE technologies will be a key component of achieving emissions reductions from the mobile source sector, and Congress provided a number of significant financial incentives for PEVs and the infrastructure necessary to support them.³⁹⁷ The Congressional Record reflects that “Congress recognizes EPA’s longstanding authority under CAA section 202 to adopt standards that rely on zero emission technologies, and Congress expects that future EPA regulations will increasingly rely on and incentivize zero-emission vehicles as appropriate.”³⁹⁸

Consistent with Congress’s intent, EPA’s CAA Title II emission standards have been based on and stimulated the development of a broad set of advanced automotive technologies, such as on-board computers and fuel injection systems, which have been the building blocks of automotive designs and have yielded not only lower pollutant emissions, but improved vehicle performance, reliability, and durability. Beginning in 2010, EPA has set standards under section 202 for GHGs and manufacturers have responded by continuing to develop and deploy a wide range of technologies, including more fuel-efficient engine designs, transmissions, aerodynamics, tires, materials improvements for mass reduction, as well as various levels of electrified vehicle technologies including mild hybrids, strong and plug-in hybrids, battery electric vehicles, and fuel cell electric vehicles. In addition, the continued application of performance-based standards with fleet-wide averaging provides an opportunity for all technology improvements and innovation to be reflected in a vehicle manufacturer’s compliance results.

i. Testing Authority

Under section 203 of the CAA, sales of vehicles are prohibited unless the

³⁹⁰ *Electric Vehicles and Other Alternatives to the Internal Combustion Engine: Joint Hearings before the Comm. on Commerce and the Subcomm. on Air and Water Pollution of the Comm. on Pub. Works*, 90th Cong. (1967).

³⁹¹ Richard Nixon, Special Message to the Congress on Environmental Quality (Feb. 10, 1970), <https://www.presidency.ucsb.edu/documents/special-message-the-congress-environmental-quality>.

³⁹² S. Rep. No. 91–1196, at 24–27 (1970).

³⁹³ EPA has a long history of exercising its authority to include compliance flexibilities in standards. As early as 1983, manufacturers could comply with criteria-pollutant standards using averaging. EPA introduced banking and trading in 1990. Fleet average standards were adopted for light duty vehicles in 2000. All of these flexibilities have likewise been part of EPA’s GHG standards program since the program’s inception in 2010, and consistently since then. Averaging, banking, and trading is discussed further in Section III.B.4 and additional history is discussed in EPA’s Answering Brief in *Texas v. EPA* (D.C. Cir., 22–1031).

³⁹⁴ See Inflation Reduction Act, Public Law 117–169, at §§ 13403, 13404, 13501, 13502, 60101, 136 Stat. 1818, (2022), available at <https://www.congress.gov/117/bills/hr5376/BILLS-117hr5376enr.pdf>.

³⁹⁵ 168 Cong. Rec. E868–02 (daily ed. Aug. 12, 2022) (statement of Rep. Pallone).

³⁹⁶ 168 Cong. Rec. E879–02, at 880 (daily ed. Aug. 26, 2022) (statement of Rep. Pallone).

³⁹⁷ See Inflation Reduction Act, Public Law 117–169, at §§ 13403, 13404, 13501, 13502, 60101, 136 Stat. 1818, (2022), available at <https://www.congress.gov/117/bills/hr5376/BILLS-117hr5376enr.pdf>.

³⁹⁸ 168 Cong. Rec. E879–02, at 880 (daily ed. Aug. 26, 2022) (statement of Rep. Pallone).

vehicle is covered by a certificate of conformity. EPA issues certificates of conformity pursuant to section 206 of the CAA, based on (necessarily) pre-sale testing conducted either by EPA or by the manufacturer. The Federal Test Procedure (FTP or “city” test) and the Highway Fuel Economy Test (HFET or “highway” test) are used for this purpose. Compliance with standards is required not only at certification but throughout a vehicle’s useful life, so that testing requirements may continue post-certification. To assure each vehicle complies during its useful life, EPA may apply an adjustment factor to account for vehicle emission control deterioration or variability in use (section 206(a)).

EPA establishes the test procedures under which compliance with the CAA emissions standards is measured. EPA’s testing authority under the CAA is broad and flexible. EPA has also developed tests with additional cycles (the so-called 5-cycle tests) which are used for purposes of fuel economy labeling, SFTP standards, and extending off-cycle credits under the light-duty vehicle GHG program.

ii. Compliance and Enforcement Authority

EPA oversees testing, collects and processes test data, and performs calculations to determine compliance with CAA standards. CAA standards apply not only at certification but also throughout the vehicle’s useful life. The CAA provides for penalties should manufacturers fail to comply with their fleet average standards, and there is no option for manufacturers to pay fines in lieu of compliance with the standards. Under the CAA, penalties for violation of a fleet average standard are typically determined on a vehicle-specific basis by determining the number of a manufacturer’s highest emitting vehicles that cause the fleet average standard violation. Penalties for reporting requirements under Title II of the CAA apply per day of violation, and other violations apply on a per vehicle, or a per part or component basis. See CAA sections 203(a) and 205(a) and 40 CFR 19.4.

Section 207 of the CAA grants EPA broad authority to require manufacturers to remedy vehicles if EPA determines there are a substantial number of noncomplying vehicles. In addition, under CAA section 207, manufacturers are required to provide emission-related warranties. CAA section 207(i) specifies that the warranty period for light-duty vehicles is 2 years or 24,000 miles of use (whichever first occurs), except for specified major

emission control components, for which the warranty period is 8 years or 80,000 miles of use (whichever first occurs).

B. Proposed GHG Standards for Model Years 2027 and Later

1. Overview

This Section III.B provides details regarding EPA’s proposed GHG standards and related program provisions. EPA is proposing significantly more stringent GHG standards for light and medium-duty vehicles for MYs 2027 and later. For light-duty, the proposed standards would further reduce the fleet average GHG emissions target levels by 56 percent from the MY 2026 standards, the final year of standards established in the 2021 rule. For MDVs, the standards would represent a reduction of 37 percent compared to the MY 2027 standards, the final phase year of the previously established Phase 2 standards for those vehicles.

Section III.B.2 provides details regarding the structure and level of the proposed light-duty vehicle standards while Section III.B.3 provides details regarding EPA’s proposed GHG standards for MDVs. Additional GHG program provisions are discussed in Sections III.B.4–III.B.9, including averaging, banking, and trading, proposed air conditioning system requirements, proposed phase out of off-cycle credits, proposed treatment of PEVs and FCEVs in the GHG fleet average, and proposed alternative standards for small volume manufacturers.

2. Proposed Light-Duty Vehicle GHG Standards

i. Structure of the Existing Light-Duty Vehicle CO₂ Standards

Since MY 2012, EPA has adopted attribute-based standards for passenger cars and light trucks. The CAA has no requirement to promulgate attribute-based standards, though in past rules EPA has relied on both universal and attribute-based standards (e.g., for nonroad engines, EPA uses the attribute of horsepower). However, given the advantages of using attribute-based standards, from MY 2012 onward EPA has adopted and maintained vehicle footprint as the attribute for the GHG standards. Footprint is defined as a vehicle’s wheelbase multiplied by its track width—in other words, the area enclosed by the points at which the wheels meet the ground.

EPA has implemented footprint-based standards since MY 2012 by establishing two kinds of standards—fleet average standards determined by a

manufacturer’s fleet makeup, and in-use standards that will apply to the individual vehicles that make up the manufacturer’s fleet. Under the footprint-based standards, each manufacturer has a CO₂ emissions performance target unique to its fleet, depending on the footprints of the vehicles produced by that manufacturer. While a manufacturer’s fleet average standard could be estimated throughout the model year based on projected production volume of its vehicle fleet, the fleet average standard to which the manufacturer must comply is based on its final model year production figures. Each vehicle in the fleet has a compliance value which is used to calculate both the in-use standard applicable to that vehicle and the fleet average emissions. A manufacturer’s calculation of fleet average emissions at the end of the model year will thus be based on the production-weighted average emissions of each vehicle in its fleet. EPA is not reopening the footprint-based structure for the standards or seeking comment on any alternatives to this structure.

Each manufacturer has separate footprint-based standards for cars and for trucks. EPA is not reopening the existing regulatory definitions of passenger cars and light trucks; we propose to continue to reference the NHTSA regulatory class definitions as EPA has done since the inception of the GHG program. Similarly, EPA is not requesting comment on alternatives to the regulatory class definitions which are being maintained.

ii. How did EPA determine the proposed slopes and relative stringencies of the car and truck footprint standards curves?

In this proposal, EPA is retaining vehicle footprint, the existing car/truck regulatory class definitions, and separate standards curves for each regulatory class, as in previous rulemakings. However, we propose to adjust the relative slope and offset between the car and truck footprint standards curves as described in this section.

We analyzed the fleet and found that most light-duty vehicles (which do not tow or haul) are used to move passengers and their nominal cargo and could be represented by a single curve. However, within our analysis we identified a subset of light trucks that provide additional towing and hauling capabilities which are more appropriately controlled with a

modified set of standards.³⁹⁹ We have accommodated those vehicles by providing an additional GHG offset for this increased utility which is embodied in the truck curve. In this way, we maintain two curves—one for cars and one for trucks—that are closely related from an analytical perspective.

When setting GHG standards, EPA recognizes the current diversity and distribution of vehicles in the market and that Americans have widely varying preferences in vehicles and that GHG control technology is feasible for a wide variety of vehicles. This is one of the primary reasons for adopting attribute-based standards and is also an important consideration in choosing specific attribute-based standards (*i.e.*, the footprint curves). Over time, vehicle footprint sizes have steadily increased.⁴⁰⁰ This has partially offset gains in fuel economy and reductions in emissions. For example, in MY 2021, average fuel economy and emissions were essentially flat (despite improvements in emissions for all classes of vehicles) because of increases in the sizes of vehicles purchased. In developing footprint curves for this proposal, EPA's intent was to establish slopes that would not (of their own accord) initiate overall fleet upsizing or downsizing as a compliance strategy. A slope too flat would incentivize overall fleet downsizing, while a steep slope would foster upsizing. Fuller details on the analysis that was used to determine a "neutral" slope determination is provided in DRIA Chapter 1.1.3.

The slopes proposed in this rulemaking, especially the car curves, are flatter than those of prior rulemakings. This is by design and reflects our projection of the likelihood that a future fleet will be characterized by a greatly increased penetration of BEVs, even in a no-action scenario. Consider that for the 2012 LD GHG rulemaking, the footprint-based curves were originally developed for a fleet that was completely made up of internal combustion engine (ICE) vehicles. From a physics perspective, a positive footprint slope for ICE vehicles makes sense because as a vehicle's size increases, its mass, road loads, and required power (and corresponding tailpipe CO₂ emissions) will increase accordingly. However, because the proposed standards are based on tailpipe emissions (and upstream

emissions are not included as part of a manufacturer's compliance calculation) for all vehicle types and BEVs emit zero tailpipe emissions, a fleet of all BEVs would emit 0 g/mi, regardless of their respective footprints. As the percentage of BEVs increases, the percentage of ICE vehicles (those vehicles correlated to a positive slope) decrease. Mathematically, the slope of the average footprint targets should trend towards zero as the percentage of BEVs increases.

All-wheel drive (AWD) is one of the defining features for crossover vehicles to be classified as light trucks,⁴⁰¹ and for this reason the offset in tailpipe emissions targets (*i.e.*, between the car and truck regulatory classes) for these vehicles should be appropriately set. The design differences for many crossover vehicle models that are offered in both a two-wheel drive (2WD) and an AWD version (aside from their driveline) are difficult to detect. They often have the same engine, similar curb weight (except for the additional weight of an AWD system), and similar operating features (although AWD versions might be offered at a premium trim level that is not required of the drivetrain). EPA analyzed empirical data for models that were offered in both 2WD and AWD versions to quantify the average increase in tailpipe emissions due to addition of AWD for an otherwise identical vehicle model.

The light truck classification consists of crossovers (ranging from compact up through large crossovers), sport utility vehicles and pickup trucks. Many crossover vehicles and SUVs exhibit similar towing capability between their 2WD and AWD versions (there are some exceptions in cases where AWD is packaged with a larger more powerful engine than the base 2WD version). However, full size pickup trucks are the light-duty market segment with the most towing and hauling capability. The purpose of maintaining a unique truck curve is centered around accounting for the utility of these vehicles in particular.

EPA is therefore proposing that the truck curve be based on the car curve (to represent the base utility across all vehicles for carrying people and their light cargo), but with the additional allowance of increased utility that distinguishes these vehicles used for more work-like activity. EPA determined a relationship between gross combined weight rating (GCWR) (which combines the cumulative utility for

hauling and towing to a vehicle's curb weight) and required engine torque. EPA then used its ALPHA model to predict how the tailpipe emissions at equivalent test weight (ETW) (curb weight + 300 pounds) would increase as a function of increased utility (GCWR) based on required engine torque and assumed modest increases in vehicle weight and road loads commensurate with a more tow-capable vehicle.

EPA also assessed the relative magnitude of tow rating across the light truck fleet as a function of footprint. Vehicles with the greatest utility are full size pickup trucks, while light trucks with the least utility tend to be the smaller crossovers, with an increased tow or haul rating near zero. As a result, EPA proposes a simple offset for the truck curve, compared to the car curve, that increases with footprint.

The offsets for AWD and utility were then scaled as a function of the nominal fleet-wide BEV penetrations anticipated to be achieved under the proposed stringency levels. For example, in our feasibility assessment we would project approximately 50 percent BEV penetration on average across the fleet by MY 2030 and thus, the AWD offset and the utility-based offset for the MY 2030 were each multiplied by 50 percent to reflect the share of the new vehicle sales that are projected to remain as ICE vehicles for that year.

In summary, the truck curve is, mathematically, the sum of the scaled AWD and utility-based offsets to the car curve. A more thorough description of the truck curve as it relates to the car curve, and a discussion of the empirical and modeling data used in developing these offsets is presented in DRIA Chapter 1.1.3.2. EPA solicits comments on the proposed changes to the shape of the footprint curves, including the flattening of the car curve and our approach for deriving the truck curve from the car curve.

iii. How did EPA determine the proposed cutpoints for the footprint standards curves?

The cutpoints are defined as the footprint boundaries (low and high) within which the sloped portion of the footprint curve resides. Above the high, and below the low, cutpoints, the curves are flat. The rationale for the setting of the original cutpoints for the 2017–2025 rule was based on analysis of the distribution of vehicle footprint for the 2008 fleet and is discussed in the 2012

³⁹⁹ This analysis is described in a Memo to Docket ID No. EPA-HQ-OAR-2022-0829 titled "Fleet and Vehicle Attribute Analysis for the Development of Standard Curves."

⁴⁰⁰ The 2022 EPA Automotive Trends Report, <https://www.epa.gov/system/files/documents/2022-12/420r22029.pdf>.

⁴⁰¹ We use the term AWD to include all types of four-wheel drive systems, consistent with SAE standard J1952.

proposal⁴⁰² and the Technical Support Document (TSD).⁴⁰³

EPA is proposing to increase the lower cutpoint for the car and truck curves by 1 square foot per year from MY 2027 through MY 2030 from 41 to 45 square feet. This will provide slightly less stringent standards for the smallest vehicles and may encourage more vehicle model offerings by manufacturers of these vehicles, which are already among the cleanest vehicles and which may be more accessible to lower-income households. At a minimum, EPA believes the structure of the footprint standards should not disincentivize manufacturers from offering these smallest vehicles, as the continuation of offerings in this segment is an important affordability consideration.

EPA is also proposing to gradually reduce the upper cutpoint for trucks, which will be 74.0 square feet starting in 2023 through 2026, and then decreasing by 1.0 square foot per year from MY 2027 through MY 2030 (down to 70.0 square feet by MY 2030). As the upper cutpoint for trucks has increased from 66.0 square feet in 2016 to 69.0 square feet in 2020, we have witnessed

a corresponding trend towards larger full size pickup trucks which are subject to less stringent CO₂ targets. The proposed MY 2030 upper truck cutpoint of 70.0 square feet (consistent with the sales-weighted average footprint of current full-size pickups) is intended to help ensure no loss of emissions reductions in the future through upsizing. However, we do not view the cutpoints as a primary driver for significant additional emissions reductions beyond those achieved by the year-over-year change in the curves. Both the truck size trend and an analysis of truck footprint vs. CO₂ are detailed in DRIA Chapter 1.3. The upper cutpoint for cars (56 feet) will remain unchanged.

EPA requests comments on the proposed cutpoints and may consider different cutpoints based on comments in the final rule.

iv. What are the proposed light-duty vehicle CO₂ standards?

a. What CO₂ footprint standards curves is EPA proposing?

EPA is proposing separate car and light truck standards—that is, vehicles

defined as passenger vehicles (“cars”) would have one set of footprint-based standards curves, and vehicles defined as light trucks would have a different set.⁴⁰⁴ In general, for a given footprint, the CO₂ g/mile target⁴⁰⁵ for trucks is higher than the target for a car with the same footprint. The curves are described mathematically in EPA’s regulations by a family of piecewise linear functions (with respect to vehicle footprint) that gradually and continually ramp down from the MY 2026 curves established in the 2021 rule. EPA’s proposed minimum and maximum footprint targets and the corresponding cutpoints are provided for cars and trucks, respectively, in Table 26 and Table 27 for MYs 2027–2032 along with the slope and intercept defining the linear function for footprints falling between the minimum and maximum footprint values. For footprints falling between the minimum and maximum, the targets are calculated as follows: Slope × Footprint + Intercept = Target.

TABLE 26—PROPOSED FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR CARS

	2027	2028	2029	2030	2031	2032
MIN CO ₂ (g/mi)	130.9	114.1	96.9	89.5	81.2	71.8
MAX CO ₂ (g/mi)	139.8	121.3	102.5	94.2	85.5	75.6
Slope (g/mi/ft ²)	0.64	0.56	0.47	0.43	0.39	0.35
Intercept (g/mi)	104.0	90.2	76.3	70.1	63.6	56.2
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	56	56	56	56	56	56

TABLE 27—PROPOSED FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR LIGHT TRUCKS

	2027	2028	2029	2030	2031	2032
MIN CO ₂ (g/mi)	133.0	117.5	101.0	94.4	85.6	75.7
MAX CO ₂ (g/mi)	212.3	181.7	151.5	137.3	124.5	110.1
Slope (g/mi/ft ²)	2.56	2.22	1.87	1.72	1.56	1.38
Intercept (g/mi)	25.6	22.2	18.7	17.2	15.6	13.8
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	73	72	71	70	70	70

Figure 8 and Figure 9 show the car and truck curves, respectively, for MY 2027 through MY 2032. Included for reference is the original MY 2026 curve for each. However, to compare tailpipe stringency between MY 2026 with the

proposed standards, it was necessary to adjust the MY 2026 curve to reflect the proposed reduction in allowable AC and off-cycle credits⁴⁰⁶ effective in MY 2027. In the figures, the adjusted MY 2026 curve has been increased by the

amount of the total credits reduced from MY 2026 to MY 2027. The magnitude of this adjustment is calculated in Table 28.

⁴⁰² Preamble, II.C.6.a.b.

⁴⁰³ 2017–2025 TSD.

⁴⁰⁴ See 49 CFR part 523. Generally, passenger cars include cars and smaller crossovers and SUVs, while the truck category includes larger crossovers and SUVs, minivans, and pickup trucks.

⁴⁰⁵ Because compliance is based on a sales-weighting of the full range of vehicles in a manufacturer’s car and truck fleets, the footprint-based CO₂ emission levels of specific vehicles within the fleet are referred to as targets, rather than standards.

⁴⁰⁶ As proposed, AC efficiency and off-cycle credits are only eligible to ICE vehicles for MY 2027 and beyond. The AC and off-cycle credits in Table 28 for MY 2027 reflect scaling of a projected reduced number of ICE vehicles.

TABLE 28—OFF-CYCLE AND AIR CONDITIONING (AC) CREDIT ADJUSTMENTS MADE TO NORMALIZE MY 2026 STANDARDS

Reg class	MY 2026 (no action)				MY 2027 (proposed)				2026 Adjust g/mi
	Off-cycle	AC eff	AC refriger	Total	Off-cycle	AC eff	AC refriger	Total	
Car	10.0	5.0	13.8	28.8	6.0	3.0	0	9.0	19.8
Truck	10.0	7.2	17.2	34.4	6.0	4.3	0	10.3	24.1

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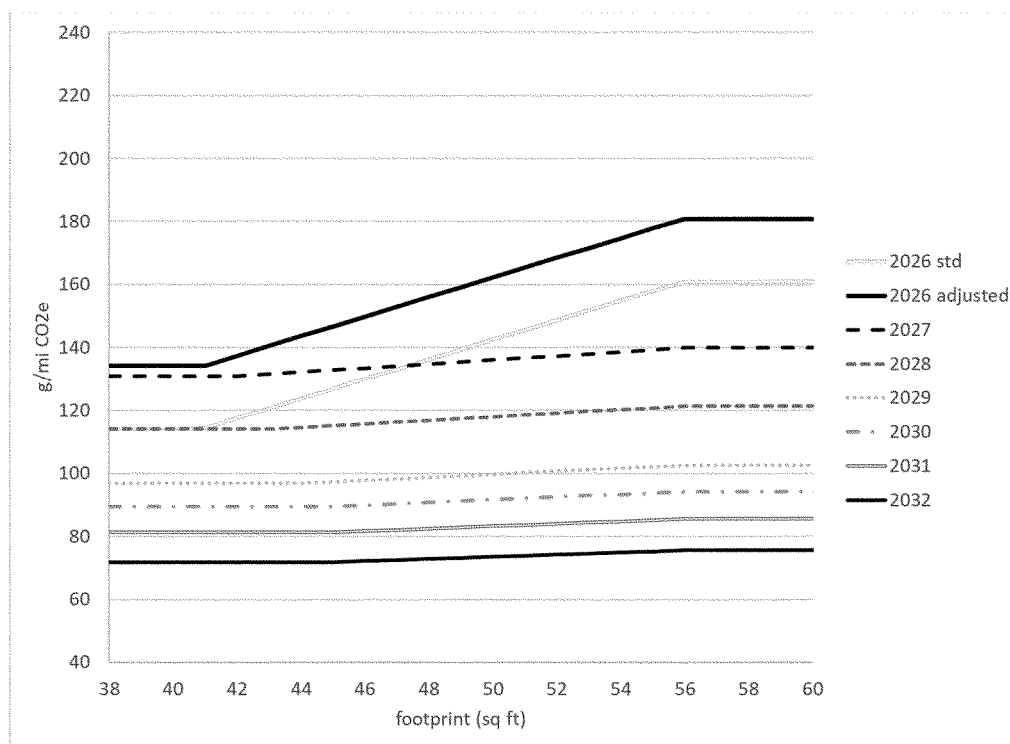


Figure 8. Proposed standards for cars, MY 2027-2032.

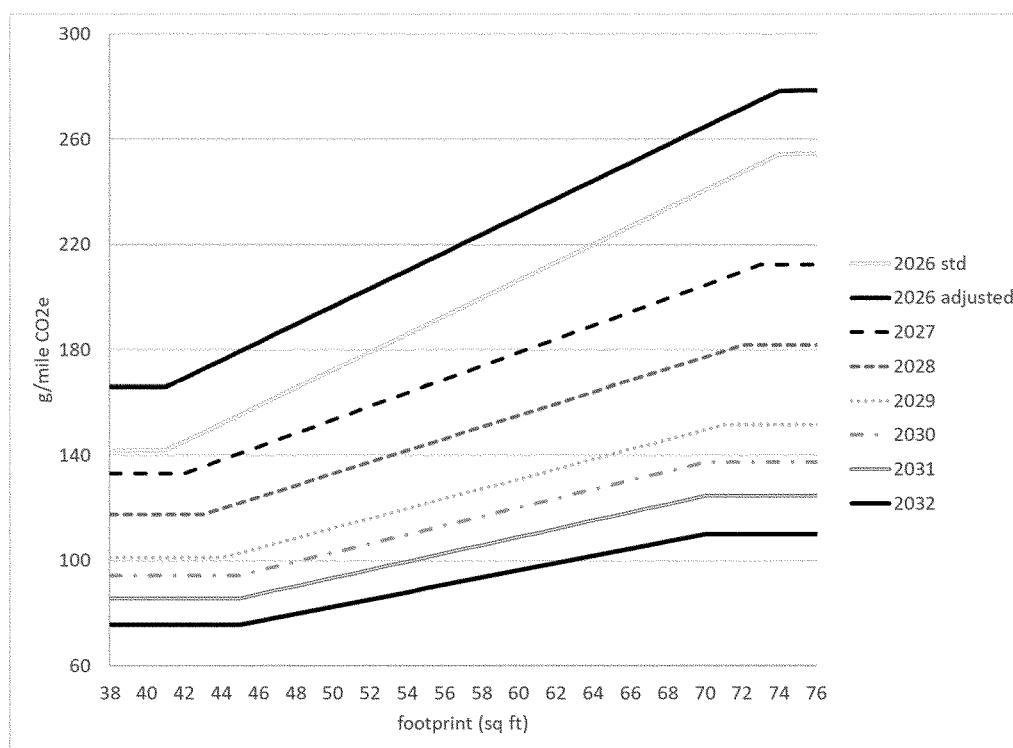


Figure 9. Proposed standards for trucks, MY 2027-2032.

As discussed in Section III.B.2.ii, the slope of the car curve is significantly flatter in 2027 and continues to flatten progressively each year through 2032. The truck curve, largely driven by the allowance for towing utility, has a similar shape as in past rulemakings although its slope also flattens progressively each year from 2027 through 2032.

b. What fleet-wide CO₂ emissions levels correspond to the standards?

EPA is proposing more stringent standards for MYs 2027–2032 that are projected to result in an industry-wide average target for the light-duty fleet of 82 g/mile of CO₂ in MY 2032. The projected average annual decrease in combined industry average targets from the current standards in MY 2026 to the new standards in MY 2032 is 12.8 percent per year. Compared to past rulemakings the annual percentage reductions are significantly higher; however, EPA's feasibility assessments in past rulemakings were predominantly

based on ICE-based technologies that provided incremental tailpipe GHG reductions. Since then, advancements in BEV technology and the increasing feasibility of BEVs as an available and reasonable-cost compliance technology have changed the magnitude of the emissions reductions that will be achievable during the timeframe of this rulemaking compared to prior rules. The combination of economic incentives provided in the IRA and the auto manufacturers' stated plans for producing significant volumes of zero and near-zero emission vehicles in the timeframe of this rule makes it possible for EPA to propose standards at a level of stringency greater than was feasible in past rules. While tailpipe emissions controls for criteria pollutants from conventional ICE-based vehicles can have effectiveness values greater than 90 percent under certain circumstances, electrification provides 100 percent effectiveness under all operating and environmental conditions. This is

nearly two orders of magnitude more effective than the historical improvements in GHG emission reductions.

EPA is not reopening its current approach of having separate standards for cars and light trucks under existing program definitions. The 82 g/mile estimated industry-wide target for MY 2032 noted in the previous paragraph is based on EPA's current fleet mix projections for MY 2032 (approximately 40 percent cars and 60 percent trucks, assuming only slight variations from MY 2026). As is the nature of attribute-based standards, the final fleet average standards for each manufacturer ultimately will depend on each manufacturer's actual rather than projected production in each MY from MY 2027 to MY 2032 under the sales-weighted footprint-based standard curves for the car and truck regulatory classes. Figure 10 shows the projected industry-average CO₂ targets based on projected fleet mix through MY 2032.

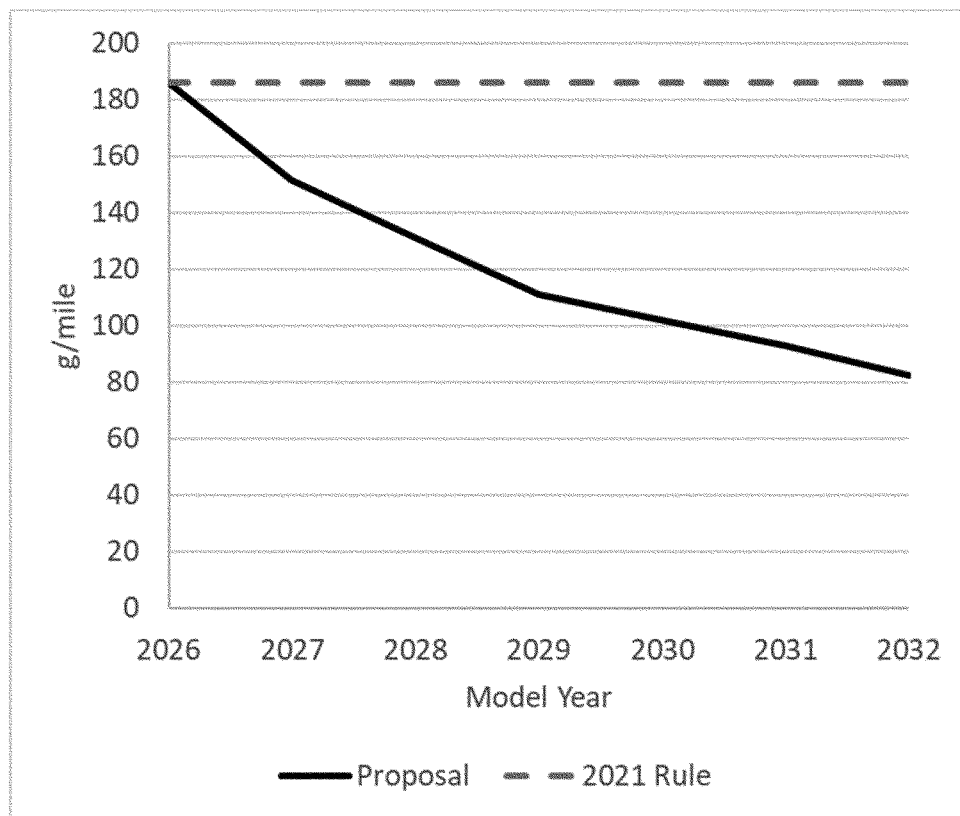


Figure 10. Projected industry average targets under the proposed 2027-2032 standards compared to the current MY 2026 standards (adjusted).

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Prior EPA standards have been based in part on EPA's projection of average industry wide CO₂-equivalent emission reductions from AC improvements, where the footprint curves were made numerically more stringent by an amount equivalent to this projection of AC refrigerant leakage credits. As discussed in Section III.B.5-6, EPA is proposing to end refrigerant-based credits in MY 2027, to limit off-cycle credits and AC efficiency credits to vehicles equipped with an IC engine, and to phase-out off-cycle credits.

Table 29 shows overall fleet average target levels for both cars and light trucks that are projected for the proposed standards. A more detailed manufacturer by manufacturer break down of the projected CO₂ targets and achieved levels is provided in DRIA Chapter 13. The actual fleet-wide average g/mile level that would be achieved in any year for cars and trucks will depend on the actual production of vehicles for that year, as well as the use of the various credit and averaging, banking, and trading provisions. For example, in any year, manufacturers would be able to generate credits from

cars and use them for compliance with the truck standard, or vice versa. In DRIA Chapter 9.6, EPA discusses the year-by-year estimate of GHG emissions reductions that are projected to be achieved by the proposed standards.

In general, the structure of the proposed standards allows an incremental phase-in to the MY 2032 level and reflects consideration of the appropriate lead time for manufacturers to take actions necessary to meet the proposed standards. The technical feasibility of the standards is discussed in Section IV.A and in the DRIA. Note that MY 2032 is the final MY in which the proposed CO₂ standards would become more stringent. The MY 2032 standards would remain in place for later MYs, unless and until revised by EPA in a future rulemaking for those MYs.

EPA is requesting comments on whether the standards should increase in stringency beyond MY 2032. EPA seeks comment on whether the trajectory (*i.e.*, the levels of year-over-year stringency rates) of the proposed standards for MYs 2027 through 2032 should be extended through 2033, 2034 or 2035, or whether EPA should

consider additional approaches to the trajectory of any standards that were to continue increasing in stringency beyond 2032. EPA is interested in stakeholders' feedback on any additional data and information that could inform EPA's consideration of potential standards beyond MY 2032. This request for comment on standards beyond MY 2032 is not specific to the light-duty GHG program but also for the medium-duty GHG program and the criteria pollutant standards as well.

EPA has estimated the overall fleet-wide CO₂ emission levels that correspond with the attribute-based footprint standards, based on projections of the composition of each manufacturer's fleet in each year of the program. As shown in Table 29, for passenger cars, the proposed MY 2032 standards are projected to result in CO₂ fleet-average levels of 73 g/mi in MY 2032, which is 52 percent lower than that of the (adjusted) MY 2026 standards. For trucks, the projected MY 2032 fleet average CO₂ target is 89 g/mi which is 57 percent lower than that of the (adjusted) MY 2026 standards. The projected MY 2032 combined fleet target

of 82 g/mi is 56 percent lower than that of the (adjusted) MY 2026 standards.

The derivation of the 82 g/mile estimate is described in Section IV.D.

EPA aggregated the estimates for individual manufacturers based on projected production volumes into the fleet-wide averages for cars, trucks, and

the entire fleet.⁴⁰⁷ The combined fleet estimates are based on a projected fleet mix of cars and trucks that varies over the MY 2027–2032 timeframe.

TABLE 29—ESTIMATED FLEET-WIDE CO₂ TARGETS CORRESPONDING TO THE PROPOSED STANDARDS^{408 409}

Model year	Cars CO ₂ (g/mile)	Trucks CO ₂ (g/mile)	Fleet CO ₂ (g/mile)
2026 adjusted	152	207	186
2027	134	163	152
2028	116	142	131
2029	99	120	111
2030	91	110	102
2031	82	100	93
2032 and later	73	89	82

EPA is proposing standards that set increasingly stringent levels of CO₂ control from MY 2027 through MY 2032. Applying the CO₂ footprint curves applicable in each MY to the vehicles (and their footprint distributions) expected to be sold in each MY produces progressively more stringent estimates of fleet-wide CO₂ emission standards. EPA believes manufacturers can achieve the proposed standards' important CO₂ emissions reductions through the application of available control technology at reasonable cost, as well as the use of program averaging, credit banking and trading, and optional air conditioning efficiency credits and off-cycle credits, as available.

While EPA believes the proposed standards are appropriate for light-duty vehicle manufacturers on an overall industry basis, we recognize that some companies have made public announcements for plans for zero emission vehicle product launches (as discussed in Section I.A.2.ii) that may lead to CO₂ emissions even lower than those projected under the proposed standards. The existing program's averaging, banking, and trading provisions allow manufacturers to earn credits for overcompliance with the standards that can be banked for the company's future use (up to five model years) or traded to other companies (as discussed further in Section III.B.4). Beyond these credit banking and trading provisions, EPA is interested in public comments on whether there could be additional ways in which the program could provide for alternative pathways that could encourage manufacturers to achieve even lower CO₂ emissions earlier in the program; for example, by

producing higher volumes of zero-emission vehicles earlier than would be necessitated under the proposed standards. Such an alternative pathway could be one way to recognize the environmental benefits of earlier introductions of even greater volumes of the cleanest vehicles. EPA seeks public comment on the potential merits of such an alternative pathway concept, whether it would be advantageous for both the GHG as well as the criteria pollutant standards program, and how it might be structured.

The existing program includes several provisions that we are not reopening and so would continue during the implementation timeframe of this proposed rule. Consistent with the requirement of CAA section 202(a)(1) that standards be applicable to vehicles "for their useful life," the proposed MY 2027–2032 vehicle standards will apply for the useful life of the vehicle.⁴¹⁰ EPA is proposing one test procedure change and that is the use of Tier 3 test fuel to demonstrate GHG compliance as described in Section III.B.2.iv.c; criteria pollutant standard demonstration already require the use of Tier 3 fuel. No other changes are proposed to the test procedures over which emissions are measured and weighted to determine compliance with the GHG standards. These procedures are the Federal Test Procedure (FTP or "city" test) and the Highway Fuel Economy Test (HFET or "highway" test). While EPA may consider requiring the use of test procedures other than the 2-cycle test procedures in a future rulemaking, EPA is not considering any test procedure changes in this rulemaking.

EPA has analyzed the feasibility of achieving the proposed CO₂ standards through the application of currently available technologies, based on projections of the technology and technology penetration rates to reduce emissions of CO₂, during the normal redesign process for cars and trucks, taking into account the effectiveness and cost of the technology. The results of the analysis are discussed in detail in Section IV, and in the DRIA. EPA also presents the overall estimated costs and benefits of the proposed car and truck CO₂ standards in Section VIII.

c. What test fuel is EPA proposing?

Within the structure of the footprint-based GHG standards, EPA is also proposing that gasoline powered vehicle compliance with the proposed standards be demonstrated on Tier 3 test fuel. The current GHG standards for light-duty gasoline vehicles are set on the required use of Indolene, or Tier 2 test fuel. Tier 3 test fuel more closely represents the typical market fuel available to consumers in that it contains 10 percent ethanol. EPA proposed an adjustment factor to allow demonstration of compliance with the existing GHG standards using Tier 3 test fuel but has not yet adopted those changes (85 FR 28564, May 13, 2020). This proposal does not include an adjustment factor for tailpipe GHG emissions but rather requires manufacturers to test on Tier 3 test fuel and use the resultant tailpipe emissions directly in their compliance calculation. Such an adjustment factor is not required because the technology penetrations, feasibility, and cost

⁴⁰⁷ Due to rounding during calculations, the estimated fleet-wide CO₂ levels may vary by plus or minus 1 gram.

⁴⁰⁸ MY 2026 targets are provided for reference, based on for fleet mix (40% cars and 60% trucks) and then adjusted (upward) by 20 g/mi for cars, 24

g/mi for trucks, and 22 g/mi total for the fleet, to normalize as a point of comparison to reflect the reduced available off-cycle and AC credits as proposed for MY 2027.

⁴⁰⁹ Fleet CO₂ targets are calculated based on projected car and truck share. Truck share for the

fleet is expected at 60% for MY 2026–2029, and 59% for MY 2030 and later.

⁴¹⁰ The GHG emission standards apply for a useful life of 10 years or 120,000 miles for LDVs and LLDTs and 11 years or 120,000 miles for HLDTs and MDPVs. See 40 CFR 86.1805–17.

estimates in this proposal are based on compliance using Tier 3 test fuel.

Both the current and proposed criteria pollutant standards were set based on vehicle performance with Tier 3 test fuel; as a result, manufacturers currently use two different test fuels to demonstrate compliance with GHG and criteria pollutant standards. Setting new GHG standards based on Tier 3 test fuel is intended to address concern for test burden related to using two different test fuels.

The difference in GHG emissions between the two fuels is small but significant. EPA estimates that testing on Tier 3 test fuel will result in about 1.5 percent lower CO₂ emissions.⁴¹¹ Because this difference in GHG emissions between the two fuels is significant in the context of measuring compliance with existing GHG standards, but small relative to the change in stringency of the proposed GHG standards, and because the cost of compliance on Tier 3 test fuel is reflected in this analysis for this proposal, EPA believes that this rulemaking and the associated proposed new GHG standards create an opportune time to shift compliance to Tier 3 fuel.

EPA is proposing to apply the change from Indolene to Tier 3 test fuel for demonstrating compliance with GHG standards starting in model year 2027. Manufacturers may optionally carry-over Indolene-based for test results for model years 2027 through 2029. We accordingly propose to allow manufacturers to continue to rely on the interim provisions adopted in 40 CFR 600.117 through model year 2029. These interim provisions address various testing concerns related to the arrangement for using different test fuels for different purposes.

For manufacturers that rely on testing with Indolene in model years 2027 through 2029, we propose to allow

manufacturers to use good engineering judgment to apply a downward adjustment of 1.0166 percent to GHG emission test results as a correction to correlate with test results that would be expected when testing with Tier 3 test fuel. We separately proposed to apply an analogous correction for the opposite arrangement—testing with Tier 3 test fuel to demonstrate compliance with a GHG standard referenced to Indolene test fuel (85 FR 28564; May 13, 2020). We did not separately finalize the provisions in that proposed rule.

Similar considerations apply for measuring fuel economy, both to meet Corporate Average Fuel Economy requirements and to determine values for fuel economy labeling. EPA is proposing to apply the corrections described in the 2020 proposal. Those changes include: (1) New test fuel specifications for specific gravity and carbon weight fraction to properly calculate emissions in a way that accounts for the fuel properties of ethanol, (2) a revised equation for calculating fuel economy that uses an “R-factor” of 0.81 to account for the greater energy content of Indolene, and (3) amended instructions for calculating fuel economy label values based on 5-cycle values and derived 5-cycle values. Our overall goal is for manufacturers to transition to fuel economy testing with Tier 3 test fuel on the same schedule as described for demonstrating compliance with GHG standards in the preceding paragraphs. We will be reevaluating comments received on the 2020 proposal as well as the comments for this proposal and considering if any corrections and adjustments are required, with any appropriate modifications based on the comments received and on the changing circumstances reflected in the current proposed rule for setting new standards for MY 2027 and later vehicles. The

proposed change to Tier 3 test fuel impacts the demonstration of compliance with GHG and fuel economy standards and the fuel economy label. In addition, several vehicle manufacturers have requested to move to Tier 3 test fuel in advance of the MY 2027 start of this proposed program.

For the GHG compliance program, we are proposing to evaluate GHG compliance with standards that are set using Tier 3 fuel starting in MY 2027; therefore, any vehicles that continue to be tested on Indolene, would need to have the results adjusted to be consistent with results on Tier 3 fuel. For the CAFE fuel economy standards, we are proposing to continue to evaluate fuel economy compliance with standards that are established on Indolene; therefore, any vehicles that are tested on Tier 3 fuel would need to have the results adjusted to be consistent with results on Indolene. Similar to the CAFE fuel economy standards, we are proposing to keep the fuel economy label consistent with the current program; therefore, any vehicles that are tested on Tier 3 fuel would need to have the results adjusted to be consistent with results on Indolene.

Supported by the data and analysis in the 2020 proposal, EPA proposes the following (Table 30) to address fuel-related testing and certification requirements through the transition to the proposed standards. Vehicle manufacturers may choose to test their vehicles with either Indolene or Tier 3 test fuel through MY 2029. Manufacturers must certify all vehicles to GHG standards using Tier 3 test fuel starting in MY 2027; however, manufacturers may continue to meet fuel economy requirements through MY 2029 for any appropriate vehicles based on carryover data from testing performed before MY 2027.

TABLE 30—PROPOSED FUEL-RELATED TESTING AND CERTIFICATION REQUIREMENTS

Test fuel	GHG standards			Fuel economy standards			Fuel economy and environment label values		
	Pre-MY 2027	MYs 2027–2029	MY 2030 and beyond	Pre-MY 2027	MYs 2027–2029	MY 2030 and beyond	Pre-MY 2027	MYs 2027–2029	MY 2030 and beyond
Indolene	No adjustment required.	Carry-over test results only; divide test results by 1.0166.	Not allowed ...	No adjustment required.	Carry-over results only; no adjustment required.	Not allowed ...	No adjustment required.	Carry-over results only; no adjustment required.	Not allowed.
Tier 3	Multiply test results by 1.0166.	No adjustment required		Apply revised FE equation proposed in 2020 rule			Apply revised FE equation proposed in 2020 rule. Apply proposed CO ₂ adjustment (multiply test results by 1.0166).		

⁴¹¹ EPA-420-R-18-004, “Tier 3 Certification Fuel Impacts Test Program,” January 2018.

EPA requests comment regarding the implementation of this test fuel change and whether the change to Tier 3 test fuel should apply to GHG standards only or to GHG standards, fuel economy standards and fuel economy and environmental label combined, as described in Table 30.

3. Proposed Medium-Duty Vehicle GHG Standards

i. What CO₂ standards curves is EPA proposing?

Medium-duty vehicles (8,501 to 14,000 pounds GVWR) that are not categorized as MDPVs utilize a “work-factor” metric for determining GHG targets. Unlike the light-duty attribute metric of footprint, which is oriented around a vehicle’s usage for personal transportation, the work-factor metric is designed around work potential for

commercially oriented vehicles and accounts for a combination of payload, towing and 4-wheel drive equipment.

Our proposed GHG standards for MDVs are entirely chassis-dynamometer based and continue to be work-factor-based as with the previous heavy-duty Phase 2 standards. The standards also continue to use the same work factor (WF) and GHG target definitions (81 FR 73478, October 25, 2016). However, for MDVs above 22,000 pounds GCWR, we are proposing to limit the GCWR input into the work factor equation to 22,000 pounds GCWR in order to prevent increases in the GHG emissions target standards that are not fully captured within the loads and operation reflected during chassis dynamometer GHG emissions testing. The testing methodology does not directly incorporate any GCWR (*i.e.*, trailer

towing) related direct load or weight increases; however, they are reflected in the higher target standards when calculating the GHG targets using GCWR values above 22,000 pounds Without some limiting “cap,” the resulting high target standards relative to actual measured performance are unsupported and may generate windfall compliance credits for higher GCWR ratings.

CO₂e Target (g/mi) = [a × WF] + b
WF = Work Factor = [0.75 × [Payload Capacity + xwd] + [0.25 × Towing Capacity]
Payload Capacity = GVWR (lb.) – Curb Weight (lb.)
xwd = 500 lb. if equipped with 4-wheel-drive, otherwise 0 lb.
Towing Capacity = GCWR (lb.) – GVWR (lb.)
and with a and b as defined in Table 31:

TABLE 31—PROPOSED COEFFICIENTS FOR MDV TARGET GHG STANDARDS

Model year	a	b
2027	0.0348	268
2028	0.0339	261
2029	0.0310	239
2030	0.0280	216
2031	0.0251	193
2032	0.0221	170

The MDV target GHG standards are compared to the current HD Phase 2 gasoline standards in Figure 11. Note that the standards continue beyond the data markers shown in Figure 11. The data markers within the figure reflect the approximate transition from light-duty trucks to MDVs at a WF of approximately 3,000 pounds and the approximate location of 22,000 pounds GCWR in work factor space (*e.g.*, a WF of approximately 5,500 pounds).

Beginning in 2027, the MDV GHG program moves gasoline, diesel, and PEV MDVs to fuel-neutral standards, *i.e.*, identical standards regardless of the fuel or energy source used. We consider these standards feasible taking into consideration the opportunities for increased MDV electrification, primarily within the van segment.

The smaller displacement diesel engines remaining within the MDV program are currently within the van

segment and are all derived from passenger car or other light-duty applications. The gasoline MDVs have also historically used engines derived from light-duty applications. The larger displacement (6L and above) diesel engines in Class 2b and Class 3 applications all have GCWR above (in some cases, significantly above) 22,000 pounds and were not derived from light-duty applications.

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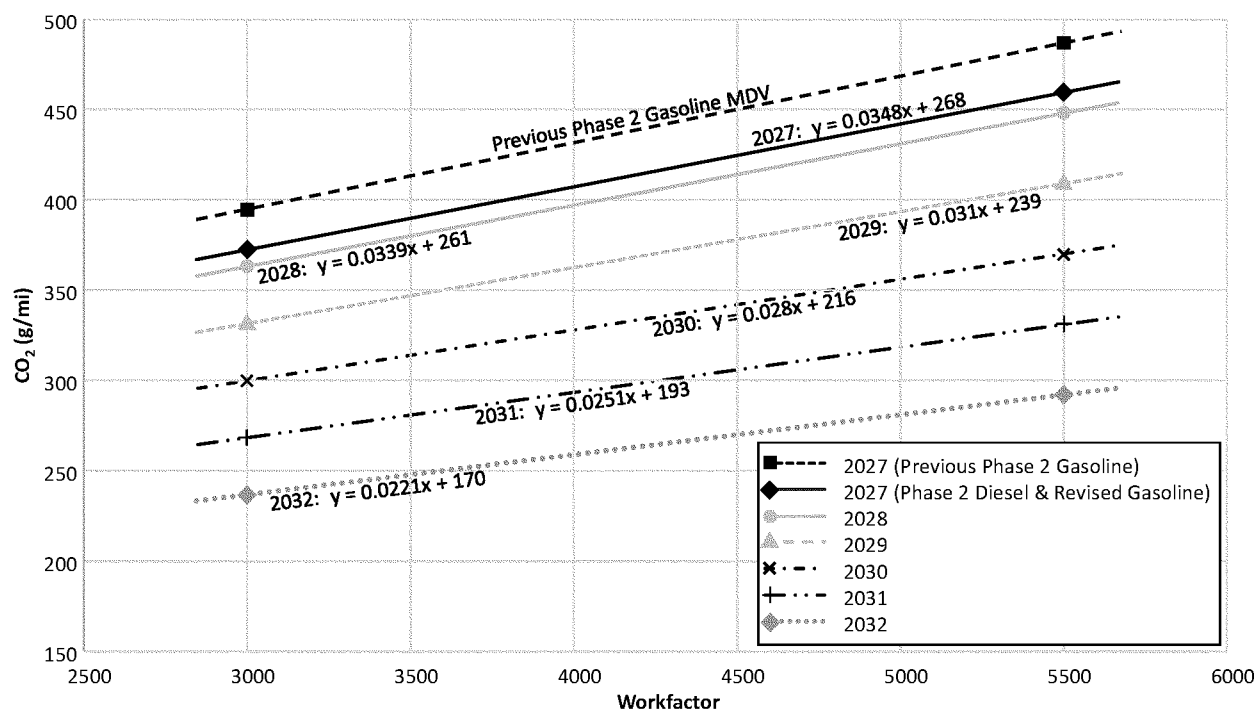


Figure 11: Proposed MDV GHG standards.

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The agency seeks comment on the proposed target standards for MDV for the different model years and the approach of a single target for all propulsion fuels including zero emission technologies. The agency also seeks comment on the appropriateness of the proposed GCWR input limit to the

work factor equation to more accurately capture the work performed as tested.

ii. What fleet-wide CO₂ emissions levels correspond to the standards?

Table 32 shows overall fleet average target levels for both medium-duty vans and pickup trucks that are projected for the proposed standards. A more detailed break-down of the projected CO₂ targets

and achieved levels is provided in DRIA Chapter 13. The actual fleet-wide average g/mile level that would be achieved in any year for medium-duty vans and pickup trucks will depend on the actual production of vehicles for that year, as well as the use of the credit averaging, banking, and trading provisions.

TABLE 32—PROJECTED TARGETS FOR PROPOSED MDV STANDARDS, BY BODY STYLE

Model year	Vans CO ₂ (g/mile)	Pickups CO ₂ (g/mile)	Combined CO ₂ (g/mile)
2027	393	462	438
2028	379	452	427
2029	345	413	389
2030	309	374	352
2031	276	331	312
2032 and later	243	292	275

iii. MDV Incentive Multipliers

In HD GHG Phase 1, EPA provided advanced technology credits for heavy-duty vehicles and engines, including for MDVs. EPA included incentive multipliers in Phase 1 for hybrid powertrains, all-electric vehicles, and fuel cell electric vehicles to promote the implementation of advanced technologies that were not included in

our technical basis of the feasibility of the Phase 1 emission standards (see 40 CFR 86.1819–14(k)(7), 1036.150(h), and 1037.150(p)). For MDV, the HD GHG Phase 2 CO₂ emission standards that followed Phase 1 were premised on the use of mild hybrid powertrains and we removed mild hybrid powertrains as an option for advanced technology credits. At the time of the HD GHG Phase 2 final rule, we believed the HD GHG Phase 2

standards themselves provided sufficient incentive to develop those specific technologies. However, none of the HD GHG Phase 2 standards for MDV were based on projected utilization of the other, even more-advanced Phase 1 advanced credit technologies (e.g., plug-in hybrid electric vehicles, all-electric vehicles, and fuel cell electric vehicles). For HD GHG Phase 2, EPA promulgated advanced technology credit multipliers

through MY 2027, as shown in Table 33 (see also 40 CFR 1037.150(p)).

TABLE 33—ADVANCED TECHNOLOGY MULTIPLIERS IN EXISTING HD GHG PHASE 2 FOR MYs 2021 THROUGH 2027

Technology	Multiplier
Plug-in hybrid electric vehicles	3.5
All-electric vehicles	4.5
Fuel cell electric vehicles	5.5

As stated in the HD GHG Phase 2 rulemaking, our intention with these multipliers was to create a meaningful incentive for those manufacturers considering developing and applying these qualifying advanced technologies into their vehicles. The multipliers under the existing program are consistent with values recommended by CARB in their HD GHG Phase 2 comments.⁴¹² CARB's values were based on a cost analysis that compared the costs of these advanced technologies to costs of other GHG-reducing technologies. CARB's cost analysis showed that multipliers in the range we ultimately promulgated as part of the HD GHG Phase 2 final rule would make these advanced technologies more competitive with the other GHG-reducing technologies and could allow manufacturers to more easily generate a viable business case to develop these advanced technologies for HD vehicles and bring them to market at a competitive price.

In establishing the multipliers in the HD GHG Phase 2 final rule, we also considered the tendency of the HD sector to lag behind the light-duty sector in the adoption of a number of advanced technologies. There are many possible reasons for this, such as:

- HD vehicles are more expensive than light-duty vehicles, which makes it a greater monetary risk for purchasers to invest in new technologies.
- These vehicles are primarily work vehicles, which makes predictable reliability of existing technologies and versatility important.
- Sales volumes are much lower for HD vehicles, especially for some specialized vehicles applications.

At the time of the HD GHG Phase 2 rulemaking, we concluded that as a result of factors such as these, and the fact that adoption rates for the aforementioned advanced technologies in HD vehicles were essentially non-existent in 2016, it seemed unlikely that market adoption of these advanced

technologies would grow significantly within the next decade without additional incentives.

As we stated in the HD GHG Phase 2 final rule preamble, our determination that it was appropriate to provide large multipliers for these advanced technologies, at least in the short term, was because these advanced technologies have the potential to lead to very large reductions in GHG emissions and fuel consumption, and advance technology development substantially in the long term. However, because the credit multipliers are so large, we also stated that they should not be made available indefinitely. Therefore, they were included in the HD GHG Phase 2 final rule as an interim program continuing only through MY 2027.

The HD GHG Phase 2 advanced technology credit multipliers represent a tradeoff between incentivizing new advanced technologies that could have significant benefits well beyond what is required under the standards and providing credits that do not reflect real world reductions in emissions, which could allow higher emissions from credit-using engines and vehicles. At low adoption levels, we believe the balance between the benefits of encouraging additional electrification as compared to any negative emissions impacts of multipliers would be appropriate and would justify maintaining the current advanced technology multipliers. At the time we finalized the HD GHG Phase 2 program in 2016, we balanced these factors based on our estimate that there would be very little market penetration of ZEVs in the heavy-duty market in the MY 2021 to MY 2027 timeframe, during which the advanced technology credit multipliers would be in effect. Additionally, the primary technology packages in our technical assessment of the feasibility of the HD GHG Phase 2 standards did not include any ZEVs.

In our assessment conducted during the development of HD GHG Phase 2, we found only one manufacturer had certified HD BEVs through MY 2016, and we projected “limited adoption of all-electric vehicles into the market” for

MYs 2021 through 2027.⁴¹³ However, as discussed in Section IV, we are now in a transitional period where manufacturers are actively increasing their PHEV and BEV vehicle offerings and are being further supported through the IRA tax credits, and we expect this growth to continue through the remaining timeframe for the HD GHG Phase 2 program and into the time frame of the proposed program.

While we did anticipate some growth in electrification would occur due to the credit incentives in the HD GHG Phase 2 final rule when we finalized the rule, we did not expect the level of innovation since observed, or the IRA or BIL incentives. Based on this new information, we believe the existing advanced technology multiplier credit levels for MDVs are no longer appropriate for maintaining the balance between encouraging manufacturers to continue to invest in new advanced technologies over the long term and potential emissions increases in the short term. We believe that, if left as is, the MDV multiplier credits may allow for backsliding of emission reductions expected from ICE vehicles for some manufacturers in the near term (*i.e.*, the generation of excess credits which could delay the introduction of technology in the near or mid-term) as sales of advanced technology MDVs which can generate the incentive credit continue to increase. In light of the rapid increase in vehicle electrification in the MDV market, EPA proposes to remove the BEV, PHEV, and FCEV multipliers for MY 2027 (EPA is not proposing revisions or requesting comment in this proposed rulemaking on the Phase 2 multipliers for the vocational vehicle and tractor vehicle segments of the heavy-duty Phase 2 program). We also request comment on phasing out the multipliers over multiple model years by revising the multipliers to reduce their magnitude for model years prior to MY 2027, for example for MYs 2025–2026. We note that we did not rely on credits generated from credit multipliers in developing the proposed MDV GHG standards, nor did EPA assess the

⁴¹² Letter from Michael Carter, CARB, to Gina McCarthy, Administrator, EPA and Mark Rosekind, Administrator, NHTSA, June 16, 2016. EPA Docket ID EPA–HQ–OAR–2014–0827 attachment 2.

⁴¹³ 81 FR 75300 (October 25, 2016).

impacts of the Phase 2 multipliers on our feasibility assessment. We request comment, including data & analysis, regarding the potential impact of Phase 2 MDV multipliers on our proposed standards in this action, and how EPA should consider such comments in the determining the continued appropriateness of the Phase 2 multipliers for MDVs.

4. Averaging, Banking, and Trading Provisions for GHG Standards

Averaging, banking, and trading (ABT) is an important compliance flexibility that has long been built into various highway engine and vehicle programs (and nonroad engine and equipment programs) to support emissions standards that, through the introduction and application of new technologies, result in reductions in air pollution. EPA's first mobile source program to feature averaging was issued in 1983 and included averaging for diesel light-duty vehicles to provide flexibility in meeting new PM standards.⁴¹⁴ EPA introduced NO_x and PM averaging for highway heavy-duty vehicles in 1985.⁴¹⁵ EPA introduced credit banking and trading in 1990 with new more stringent highway heavy-duty NO_x and PM standards to provide additional compliance flexibility for manufacturers.⁴¹⁶ Since those early rules, EPA has included ABT in many programs across a wide range of mobile sources.⁴¹⁷ For light-duty vehicles, EPA has included ABT in several criteria pollutant emissions standards rules including in the National Low Emissions Vehicle (NLEV) program,⁴¹⁸ the Tier 2 standards,⁴¹⁹ and the Tier 3 standards.⁴²⁰ ABT has also been a key feature of all GHG rules for both light-duty and heavy-duty vehicles.⁴²¹

ABT is important because it can help to address issues of technological feasibility and lead-time, as well as considerations of cost. In many cases,

ABT resolves issues of lead-time or technical feasibility, enabling automakers to comply with standards that are more economically efficient and with less lead time. This provides important environmental benefits and at the same time it increases flexibility and reduces costs for the regulated industry. Furthermore, by encouraging automakers to exceed minimum requirements where possible, the ABT program encourages technological innovation, which makes further reductions in fleetwide emissions possible. The light-duty ABT program for GHG standards includes existing provisions initially established in the 2010 rule for how credits may be generated and used within the program.⁴²² These provisions include credit carry-forward, credit carry-back (also called deficit carry-forward), credit transfers (within a manufacturer), and credit trading (across manufacturers). The MDV GHG program includes similar ABT provisions. EPA is explaining the ABT provisions of the GHG program for the public's convenience and information but is not proposing changes or reopening these provisions.

Credit carry-forward refers to banking (saving) credits for future use, after satisfying any needs to offset prior MY debits within a vehicle category (car fleet or truck fleet). Credit carry-back refers to using credits to offset any deficit in meeting the fleet average standards that had accrued in a prior MY. A manufacturer may have a deficit at the end of a MY (after averaging across its fleet using credit transfers between cars and trucks)—that is, a manufacturer's fleet average emissions level may fail to meet the manufacturer's required fleet average standard for the MY, for a limited number of model years, as provided in the regulations. The CAA does not specify or limit the duration of such credit provisions. In previous rules, EPA chose to generally adopt 5-year credit carry-forward and 3-year credit carry-back provisions⁴²³ as a reasonable approach that maintained consistency between EPA's GHG and NHTSA CAFE

regulatory provisions.⁴²⁴ While some stakeholders had suggested that light-duty GHG credits should have an unlimited credit life, EPA did not adopt that suggestion for the light-duty GHG program because it would pose enforcement challenges and could lead to some manufacturers accumulating large banks of credits that could interfere with the program's goal to develop and transition to progressively more advanced emissions control technologies in the future.

Transferring credits in the GHG program refers to exchanging credits between the two averaging sets—passenger cars and light trucks—within a manufacturer. For example, credits accrued by overcompliance with a manufacturer's car fleet average standard can be used to offset debits accrued due to that manufacturer not meeting the truck fleet average standard in a given model year.⁴²⁵ MDVs are a separate averaging set and credits are not allowed to be transferred between vehicles meeting the light and medium-duty GHG standards due to the very different standards structure, vehicle testing differences (e.g., MDVs are tested at an adjusted loaded vehicle weight of vehicle curb weight plus half payload whereas light-duty vehicles are tested at an estimated test weight of curb weight plus 300 pounds) and marketplace competitiveness issues.⁴²⁶ This prohibition includes traded credits such that, once traded, credits may not be transferred between the light and medium-duty fleets. Finally, accumulated credits may be traded to another manufacturer. Credit trading has occurred on a regular basis in EPA's light-duty vehicle program.⁴²⁷ Manufacturers acquiring credits may offset credit shortfalls and bank credits for use toward future compliance within the carry-forward constraints of the program.

⁴²⁴ The EPCA/EISA statutory framework for the CAFE program limits credit carry-forward to 5 years and credit carry-back to 3 years.

⁴²⁵ There is a VMT factor included in the credit calculations such that light trucks generate and use more credits than passenger cars based on higher lifetime VMT projections for light trucks compared to passenger cars. The lifetime VMT used for passenger cars and light trucks are 195,264 and 225,865, respectively.

⁴²⁶ Only a small subset of manufacturers produce both light and medium-duty vehicles and allowing credits to be transferred between the two categories could provide additional flexibility to those manufacturers not available to manufacturer of only light-duty vehicles.

⁴²⁷ EPA provides general information on credit trades annually as part of its annual Automotive Trends and GHG Compliance Report. The latest report is available at: <https://www.epa.gov/automotive-trends> and in the docket for this rulemaking.

⁴¹⁴ 48 FR 33456, July 21, 1983.

⁴¹⁵ 50 FR 30584, March 15, 1985.

⁴¹⁶ 55 FR 30584, July 26, 1990.

⁴¹⁷ We note that in upholding the first HD final rule that included averaging, the D.C. Circuit rejected petitioner's challenge that Congress meant to prohibit averaging in standards promulgated under section 202(a). *NRDC v. Thomas*, 805 F.2d 410, 425 (D.C. Cir. 1986). In the 1990 Clean Act Amendments, Congress, noting *NRDC v. Thomas*, opted to let the existing law "remain in effect," reflecting that "[t]he intention was to retain the status quo," i.e., EPA's existing authority to allow averaging for standards under section 202(a). 136 Cong. Rec. 36,713, 1990 WL 1222468 at *1136 Cong. Rec. 35,367, 1990 WL 1222469 at *1.

⁴¹⁸ 62 FR 31192, June 6, 1997.

⁴¹⁹ 65 FR 6698, February 10, 2000.

⁴²⁰ 79 FR 23414, April 28, 2014.

⁴²¹ The Federal Register citations for previous vehicle GHG rules are provided in Section III.A.2.

⁴²² 40 CFR 86.1865–12.

⁴²³ Although the existing credit carry-forward and carry-back provisions generally remained in place for MY 2017 and later standards, EPA finalized provisions in the 2012 rule allowing all unused (banked) credits generated in MYs 2010–2015 (but not MY 2009 early credits) to be carried forward through MY 2021. See 77 FR 62788. In addition, in the 2021 rule, EPA adopted a targeted one-year extension (6 years total carry-forward) of credit carry-forward for MY 2017 and 2018 credits. See 86 FR 74453.

The ABT provisions are an integral part of the vehicle GHG program, and the agency expects that manufacturers will continue to utilize these provisions into the future. EPA's annual Automotive Trends Report provides details on the use of these provisions in the GHG program.⁴²⁸ ABT allows EPA to consider standards more stringent than we would otherwise consider by giving manufacturers an important tool to resolve any potential lead time and cost issues. EPA is not proposing any revisions to the GHG program ABT provisions or reopening them.

5. Proposed Vehicle Air Conditioning System Related Provisions

EPA has included air conditioning (AC) system credits in its light-duty GHG program since the initial program adopted in the 2010 rule. Although the use of AC credits has been voluntary, EPA has consistently adjusted the level of the CO₂ standards downward, making them more stringent, to reflect the availability of the credits. Manufacturers opting not to use the AC credits would need to meet the standards through additional CO₂ reductions. EPA is proposing to revise the AC credits program for light-duty vehicles in two ways. First, for AC system efficiency credits, EPA is proposing to limit the eligibility for voluntary credits for tailpipe CO₂ emissions control to ICE vehicles starting in MY 2027 (*i.e.*, BEVs would not earn AC efficiency credits). Second, for AC refrigerant leakage control, EPA is proposing to remove the credit. EPA is also proposing to sunset the refrigerant-related provisions applicable to MDV standards. EPA requests comment on its proposed changes to the AC credit program.

i. Background on AC Credits in Current Programs

There are two mechanisms by which AC systems contribute to the emissions of GHGs: Through leakage of hydrofluorocarbon refrigerants into the atmosphere (sometimes called "direct emissions") and through the consumption of fuel to provide mechanical power to the AC system (sometimes called "indirect emissions").⁴²⁹ When EPA established the current light-duty refrigerant credits in the 2012 rule, the most common refrigerant was hydrofluorocarbon (HFC) 134a which has a global warming potential of 1430. The high global warming potential of HFC-134a, means

that leakage of a gram of HFC134(a) would have 1430 times the global warming potential of a gram of CO₂. Since the 2012 rule, manufacturers have reduced the impacts of refrigerant leakage significantly by using systems that incorporate leak-tight components, or, ultimately, by using a refrigerant with a lower global warming potential. Manufacturers have steadily increased their use of low GWP refrigerant HFO-1234yf which has a GWP of 4, much lower than the GWP of the HFC refrigerant it replaces. The AC system also contributes to increased tailpipe CO₂ emissions through the additional work required to operate the compressor, fans, and blowers. This additional power demand is ultimately met by using additional fuel, which is converted into CO₂ by the engine during combustion and exhausted through the tailpipe. These emissions can be reduced by increasing the overall efficiency of an AC system, thus reducing the additional load on the engine from AC operation, which in turn means a reduction in fuel consumption and a commensurate reduction in CO₂ emissions.

EPA has consistently adjusted the stringency of the light-duty CO₂ footprint curves to reflect the availability of AC credits by shifting the footprint curves downward. In the 2012 rule and again in subsequent rules, EPA increased the stringency of the footprint curves by a total of 19 g/mile for cars and 24 g/mile for trucks to reflect the availability and anticipated use of the relatively low-cost AC credit opportunities.

For MDVs, EPA adopted a somewhat different approach to address AC refrigerant emissions. In the Phase 1 rule, EPA adopted a refrigerant leakage standard rather than a voluntary credit program.⁴³⁰ This approach eliminated the need to adjust the CO₂ work factor-based standards to account for the availability of refrigerant-based credit, as EPA has done in setting the prior light-duty standards. EPA projected that manufacturers would meet the leakage standard either through the use of leak tight components or through the use of alternative refrigerants. In the Phase 2 rule, EPA revised the refrigerant leakage standard to be refrigerant neutral.⁴³¹ The MDV program does not include AC

efficiency related credits or requirements.⁴³²

ii. Proposed Modifications to the AC Efficiency Credits

The current light-duty vehicle AC indirect emissions reduction credits in 40 CFR 86.1868–12, which EPA also commonly refers to as AC efficiency credits, are based on a technology menu with a testing component to confirm that the technologies provide emissions reductions when installed as a system on vehicles. The menu includes credits for improved system components and air recirculation settings designed to reduce the AC load on the IC engine.⁴³³ The AC efficiency credits are capped at 5.0 g/mile for passenger cars and 7.2 g/mile for light trucks. In addition, a limited amount of vehicle tailpipe testing (*i.e.*, the "AC17" test) is required for manufacturers claiming credits to verify anticipated emissions reductions are occurring. The credits have been effective in incentivizing AC efficiency improvements since the program's inception, and manufacturers' use of AC menu credits has steadily increased over time. In MY 2021, 17 of 20 manufacturers reported efficiency credits resulting in an average credit of 5.7 g/mile.⁴³⁴

EPA is proposing to retain AC efficiency credits but, starting with MY 2027, limit eligibility to only vehicles equipped with IC engines. Thus, BEVs would no longer be eligible for these credits after MY 2026. The AC efficiency credits are based on emissions reductions from ICE vehicles. Currently, BEVs are generating credits even though the credits are based solely on improvements to ICE vehicles, and not representative of emissions reductions for BEVs. When EPA adopted this construct in the MY 2012 rule, BEV sales were relatively small, and the 0 g/mile accounting was temporary with upstream net emissions accounting part of the final standards. However, as discussed in Section III.B.7, EPA is proposing to continue the 0 g/mile treatment of PEV electric operation (by removing the MY 2027 date currently specified in the regulations for including upstream emissions in

⁴³² In the previous heavy-duty GHG rules, EPA discussed but did not propose or finalize AC efficiency credits for MDVs. For further discussion see 76 FR 57196 and 81 FR 73742.

⁴³³ Joint Technical Support Document, Final Rulemaking for 2017–2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, EPA-420-R-12-901, August 2012.

⁴³⁴ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029, December 2022.

⁴²⁸ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029, December 2022.

⁴²⁹ 40 CFR 1867–12 and 40 CFR 86.1868–12.

⁴³⁰ 76 FR 57194 and 73525.

⁴³¹ Under the Phase 2 program, loss of refrigerant from air conditioning systems may not exceed a total leakage rate of 11.0 grams per year or a percent leakage rate of 1.50 percent per year, whichever is greater. See 81 FR 73742 and 40 CFR 1037.115(e).

compliance calculations for BEVs). Another BEV related issue is that BEVs have generated g/mile AC credits even though they have been counted as 0 g/mile in the fleet average calculations. This accounting has contributed to manufacturers reporting BEV emissions as less than zero, which is not representative of actual vehicle emissions and can be a source of confusion. For example, in the latest Trends report, Tesla, which sells only BEVs, reported a fleet average performance value of negative 126 g/mile including 18.8 g/mile of AC credits.⁴³⁵ Initially, when BEV sales were very low, these issues and their impacts were small, and the AC efficiency credits in turn provided some amount of incentive for more efficient BEVs overall and resulting upstream emission reductions. However, EPA has reconsidered the appropriateness of applying AC efficiency credits to BEVs in light of the increasing level of BEVs anticipated in future model years and the proposal to indefinitely exclude upstream emissions from BEV compliance calculations. For all these reasons, EPA believes limiting eligibility for AC efficiency credits to only ICE vehicles in the longer term is appropriate. EPA notes that the stringency of the proposed standards have been adjusted to reflect the inclusion of AC credits only for ICE equipped vehicles, as discussed in Section III.B.2.

In the 2012 rule, as a condition for claiming credits, EPA required manufacturers to conduct a limited number of emissions tests to help confirm that projected emissions reductions based on the menu are occurring with actual vehicles.⁴³⁶ The test procedure used for testing is the “AC17” test and consists of the SC03 driving cycle (part of fuel economy label 5-cycle testing, where vehicles are tested under high temperature conditions), the fuel economy highway cycle, a preconditioning cycle, and a solar peak period (4-hour duration).⁴³⁷ The AC17 test is mandatory for MYs 2017 and later (with the exception that manufacturers are not required to test BEVs).⁴³⁸ Testing is at a limited “AC grouping” level, rather than the every

model type level required for the CO₂ footprint standards. In MYs 2017–2019, AC17 test data was required to be reported to EPA but was not used to determine the credit levels for vehicles. Starting in MY 2020, the AC17 test results factor into “qualifying/adjusting” the level of credits through an A to B comparison with a baseline system. In cases where the test results do not support full menu credits, proportional credits may be generated based on the test results. Testing is limited in any given model year to no more than one vehicle from each vehicle platform that generates credits. Manufacturers with vehicles in a platform that are generating credits must choose a different vehicle model each year, starting with the highest sales volume vehicle, then the next highest the following year and so on until all models are tested or the platform undergoes a major redesign. EPA is not proposing to change the AC17 testing provisions from their current form for manufacturers claiming AC efficiency credits.

EPA notes that its proposed approaches for AC efficiency credits and off-cycle credits, discussed in detail in Section III.B.6, differ even though the types of emissions the credits are designed to address (*i.e.*, emissions not considered on the 2-cycle compliance test cycles) are similar. As discussed in Section III.B.6, while EPA is proposing to phase out the off-cycle credits entirely after MY 2030, EPA is not proposing to phase out AC efficiency credits for ICE vehicles or reopening them because the AC efficiency credits program is more robust as it includes a check of vehicle emissions performance through AC17 testing. EPA established the AC17 testing requirements as part of the 2012 rule to provide an assurance that the AC systems earning credits were providing anticipated emissions reductions. The off-cycle credits program includes no such mechanism to check performance. EPA is not reopening or proposing any changes to the existing AC17 testing provisions as part of this rule; therefore, the AC17 testing requirements of manufacturers earning AC efficiency credits would remain in effect under the MY 2027 and later program.

EPA’s MDV work factor-based program does not include AC system efficiency provisions⁴³⁹ and EPA is not reopening or considering new provisions for MDVs in this proposed rule.

iii. Proposed Removal of AC Credits for Reduced Refrigerant Leakage

The current light-duty vehicle AC credits program in 40 CFR 86.1867–12 that was adopted in the 2012 rule also includes credits for low refrigerant leakage systems and/or the use of alternative low global warming potential (GWP) refrigerants rather than hydrofluorocarbons (HFCs). The potential available AC leakage credits are larger than the AC efficiency credits. The program caps refrigerant related credits for passenger cars and light trucks, respectively, at 13.8 and 17.2 g/mile when an alternative refrigerant is used and 6.3 and 7.8 g/mile in cases where an alternative refrigerant is not used. Although the credits program has been voluntary since its inception, it has been effective in helping to incentivize the use of low GWP refrigerants. Since EPA established the voluntary refrigerant-based credits, low GWP refrigerant HFO–1234yf has been successfully used by many manufacturers to claim the full refrigerant replacement credits. As of MY 2021, 95 percent of new vehicles used the low GWP refrigerant.⁴⁴⁰ EPA adopted a somewhat different approach for MDVs by including in the program a refrigerant leakage standard rather than a voluntary credit.⁴⁴¹

In December 2020, the American Innovation and Manufacturing (AIM) Act (42 U.S.C. 7675) was enacted. The AIM Act, among other things, authorizes EPA to phase down production and consumption of HFCs in specific sectors and subsectors, including their use in vehicle AC systems. The AIM Act has sent a strong signal to all vehicle manufacturers that there is no future for using high GWP refrigerants in new vehicles. In December 2022, in response to the AIM Act, EPA proposed to restrict the use of high GWP refrigerants such as HFCs in vehicle applications.⁴⁴² The new restriction on refrigerant use, if finalized as proposed, would be effective in MY 2025 for light-duty vehicles and MY 2026 for MDVs, well ahead of the start of the new CO₂ vehicle standards EPA is proposing.⁴⁴³

⁴⁴⁰ “The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975,” EPA–420–R–22–029, December 2022.

⁴⁴¹ See 40 CFR 1037.115(e) and 81 FR 73726, October 25, 2016.

⁴⁴² 87 FR 76738.

⁴⁴³ EPA is not reopening or proposing to eliminate the refrigerant-based credits for MYs 2025–2026 because such an action would need to be accompanied by a proposal to revise the stringency of the footprint curves for those model years, established in the 2021 rule to account for the absence of the availability of refrigerant-based

⁴³⁵ “The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975,” EPA–420–R–22–029, December 2022.

⁴³⁶ See 77 FR 62721.

⁴³⁷ Joint Technical Support Document, Final Rulemaking for 2017–2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, Chapter 5, EPA–420–R–12–901, August 2012.

⁴³⁸ 77 FR 62722.

⁴³⁹ See 81 FR 73742, October 25, 2016.

Auto manufacturers have already successfully developed and employed HFO-1234-yf low GWP refrigerants across the large majority of the fleet and there is no reason at this time to believe that manufacturers would redesign those systems again under the AIM Act, in the absence of EPA vehicle-based credits, to develop and use systems equipped with a higher GWP refrigerant. In light of the proposed high GWP phase out and the fact that EPA has been directed by the AIM Act to do so, EPA believes sunsetting the voluntary refrigerant-related credits in MY 2027 in its vehicles GHG program is appropriate and reasonable. This would avoid duplicative programs established under two different statutes, simplify EPA's vehicles program, and reduce manufacturer reporting burden associated with claiming the voluntary credits. For all these reasons, EPA is also ending the MDV refrigerant leakage standard in MY 2027. EPA requests comment on its AC refrigerant-related proposals. While EPA does not believe continuing the light-duty and medium-duty vehicle refrigerants provisions in this program is necessary, EPA requests comments on whether there is any value in retaining its current provisions. EPA notes that for light-duty vehicles the footprint-based standards would need to be adjusted to be made more stringent

to account for the availability and use of refrigerant credits if they are retained, consistent with previous light-duty vehicle GHG rules.

6. Off-Cycle Credits Program

i. Background on the Off-Cycle Credits Provisions

Starting with MY 2008, EPA started employing a "five-cycle" test methodology to measure fuel economy for purposes of new car window stickers (labels) to give consumers better information on the fuel economy they could more reasonably expect under real-world driving conditions.⁴⁴⁴ However, for GHG compliance, EPA continues to use the established "two-cycle" (city and highway test cycles, also known as the FTP and HFET) test methodology.⁴⁴⁵ As learned through development of the "five-cycle" methodology and prior rulemakings, there are technologies that provide real-world GHG emissions improvements, but whose improvements are not fully reflected on the "two-cycle" test. EPA established the off-cycle credit program in 40 CFR 86.1869–12 to provide an appropriate level of CO₂ credit for technologies that achieve CO₂ reductions but may not otherwise be chosen as a GHG control strategy, as their GHG benefits are not measured on the specified 2-cycle test. For example:

High efficiency lighting is not measured on EPA's 2-cycle tests because lighting is not turned on as part of the test procedure, but it reduces CO₂ emissions by decreasing the electrical load on the alternator and engine. Both light-duty and medium-duty vehicles may generate off-cycle credits, but the program is much more limited in the medium-duty work factor-based program.

Under EPA's existing regulations, there are three pathways by which a manufacturer may accrue light-duty vehicle off-cycle technology credits.⁴⁴⁶ The first pathway is a predetermined list or "menu" of credit values for specific off-cycle technologies that was effective starting in MY 2014.⁴⁴⁷ This pathway allows manufacturers to use credit values established by EPA for a wide range of off-cycle technologies, with minimal or no data submittal or testing requirements. The menu includes a fleetwide cap on credits to address the uncertainty of a one-size-fits-all credit level for all vehicles and the limitations of the data and analysis used as the basis of the menu credits. The menu cap is 10 g/mile except for a temporary increased cap of 15 g/mile available only for MYs 2023–2026, adopted by EPA in the 2021 rule.⁴⁴⁸ The existing menu technologies and associated credits are summarized in Table 34 and Table 35.⁴⁴⁹

TABLE 34—EXISTING OFF-CYCLE TECHNOLOGIES AND CREDITS FOR CARS AND LIGHT TRUCKS

Technology	Credit for cars (g/mile)	Credit for light trucks (g/mile)
High Efficiency Alternator (at 73%; scalable)	1.0	1.0.
High Efficiency Exterior Lighting (at 100W)	1.0	1.0.
Waste Heat Recovery (at 100W; scalable)	0.7	0.7.
Solar Roof Panels (for 75W, battery charging only)	3.3	3.3.
Solar Roof Panels (for 75W, active cabin ventilation plus battery charging)	2.5	2.5.
Active Aerodynamic Improvements (scalable)	0.6	1.0.
Engine Idle Start-Stop with heater circulation system	2.5	4.4.
Engine Idle Start-Stop without heater circulation system	1.5	2.9.
Active Transmission Warm-Up	1.5	3.2.
Active Engine Warm-Up	1.5	3.2.
Solar/Thermal Control	Up to 3.0	Up to 4.3.

TABLE 35—EXISTING OFF-CYCLE TECHNOLOGIES AND CREDITS FOR SOLAR/THERMAL CONTROL TECHNOLOGIES FOR CARS AND LIGHT TRUCKS

Thermal control technology	Car credit (g/mile)	Truck credit (g/mile)
Glass or Glazing	Up to 2.9	Up to 3.9

credits. EPA is not proposing to revisit the standards it established for MYs 2023–2026.

⁴⁴⁴ <https://www.epa.gov/vehicle-and-fuel-emissions-testing/dynamometer-drive-schedules>. See also 75 FR 25439 for a discussion of 5-cycle testing.

⁴⁴⁵ The city and highway test cycles, commonly referred to together as the "2-cycle tests" are laboratory compliance tests that are effectively

required by law for CAFE, and also used for determining compliance with the GHG standards. 49 U.S.C. 32904(c).

⁴⁴⁶ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029, December 2022, for information regarding the use of each pathway by manufacturers.

⁴⁴⁷ See 40 CFR 86.1869–12(b).

⁴⁴⁸ See 86 FR 74465.

⁴⁴⁹ See 40 CFR 86.1869–12(b). See also "Joint Technical Support Document: Final Rulemaking for 2017–2025 Light-duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for the Final Rule," EPA-420-R-12-901, August 2012, for further information on the definitions and derivation of the credit values.

TABLE 35—EXISTING OFF-CYCLE TECHNOLOGIES AND CREDITS FOR SOLAR/THERMAL CONTROL TECHNOLOGIES FOR CARS AND LIGHT TRUCKS—Continued

Thermal control technology	Car credit (g/mile)	Truck credit (g/mile)
Active Seat Ventilation	1.0	1.3
Solar Reflective Paint	0.4	0.5
Passive Cabin Ventilation	1.7	2.3
Active Cabin Ventilation	2.1	2.8

A second pathway allows manufacturers of light-duty vehicles to use 5-cycle testing to demonstrate and justify off-cycle CO₂ credits.⁴⁵⁰ The additional emissions tests allow emission benefits to be demonstrated over some elements of real-world driving not captured by the GHG compliance tests, including high speeds, rapid accelerations, and cold temperatures. Under this pathway, manufacturers submit test data to EPA, and EPA determines whether there is sufficient technical basis to approve the off-cycle credits. The third pathway allows manufacturers to seek EPA approval, through a notice and comment process, to use an alternative methodology other than the menu or 5-cycle methodology for determining the off-cycle technology CO₂ credits.⁴⁵¹ This option is only available if the benefit of the technology cannot be adequately demonstrated using the 5-cycle methodology. For MDVs, the manufacturers may use the public process or 5-cycle pathways for generating credits.⁴⁵² There is no off-cycle credits menu for MDVs.

EPA designed the off-cycle program to provide an incentive for new and innovative technologies that reduce real world CO₂ emissions primarily outside of the 2-cycle test procedures (*i.e.*, off-cycle) such that most of the emissions reductions are not reflected or “captured” during certification testing. The program also provides flexibility to manufacturers since off-cycle credits may be used to meet their emissions reduction obligations. In past rules, EPA has not adjusted the standards levels to reflect the availability of off-cycle credits like we did in the case of AC credits. However, in the 2021 rule, we did include use of off-cycle credits by manufacturers in our cost analysis. Specifically, we assumed in our modeling for the 2021 rule that 10 g/mile of off-cycle credits would be used at an incremental cost of \$42/grams/

mile.⁴⁵³ The menu credit levels are based on estimated CO₂ reductions from ICE vehicles. However, the current program also allows BEVs to generate menu credits. Allowing vehicles with tailpipe values of 0 g/mile to generate off-cycle credits has resulted in emissions compliance values of less than 0 g/mile.

Since MY 2012, the program has successfully encouraged the introduction and use of a variety of off-cycle technologies, especially menu technologies under the light-duty program. The use of several menu technologies has steadily increased over time, including engine stop-start, active aerodynamics, high efficiency alternators, high efficiency lighting, and thermal controls that reduce AC energy demand. The program has allowed manufacturers to reduce emissions by applying off-cycle technologies, at lower overall costs, compared to the technologies that would have otherwise been used to provide reductions over the 2-cycle test, consistent with the intent of the program. Since 2012, the quantity of off-cycle credits generated by manufacturers steadily increased over time. In 2021, the industry averaged 8.7 g/mile of credits with more than 95 percent of those credits based on the menu. Seven manufacturers (BMW, Ford, GM, Honda, Jaguar Land Rover, Stellantis, and VW) claimed the maximum menu credit available of 10 g/mile, while Honda claimed the highest level of off-cycle credits overall at 10.6 g/mile.⁴⁵⁴ Several manufacturers used at least some off-cycle technologies on 80–100 percent of vehicles.

The program has had mixed results for 5-cycle and public process pathways. There have been few 5-cycle credit demonstrations, and the public process pathway has been challenging due to the complexity of demonstrating real-world emissions reductions for

technologies not listed on the menu. The public process pathway was used successfully by several manufacturers for high efficiency alternators, resulting in EPA adding them to the off-cycle menu beginning in MY 2021.⁴⁵⁵ The program has resulted in a number of concepts for potential off-cycle technologies over the years, but few have been implemented, at least partly due to the difficulty in demonstrating the quantifiable real-world emissions reductions associated with using the technology. Many credits sought by manufacturers have been relatively small (less than 1 g/mile).

Manufacturers have commented several times that the process takes too long, but the length of time is often associated with the need for additional data and information or issues regarding whether a technology is eligible for credits.

ii. Proposed Phase Out of Off-Cycle Credits

EPA is proposing to sunset the off-cycle program for both light and medium-duty vehicles as follows: (1) EPA proposes to phase out menu-based credits in the light-duty vehicle program by reducing the menu credit cap year-over-year until it is fully phased out in MY 2031. Specifically, EPA is proposing a declining menu cap starting with the 10 g/mile cap currently in place for MY 2027 and then phasing down to 8.0/6.0/3.0/0.0 g/mile over MYs 2028–2031 such that MY 2030 would be the last year manufacturers could generate credits; (2) EPA proposes to eliminate the 5-cycle and public process pathways starting in MY 2027; and (3) EPA proposes to limit eligibility for off-cycle credits to vehicles with tailpipe emissions greater than zero (*i.e.*, vehicles equipped with IC engines) starting in MY 2027. There are several factors that have led EPA to propose phasing out the off-cycle credits program in this manner, as discussed in this section.

EPA believes phasing out the off-cycle program is generally consistent with EPA’s proposed standards and the direction the industry is headed in

⁴⁵³ “Revised 2023 and Later Model Year Light-Duty Vehicle GHG Emissions Standards: Regulatory Impact Analysis,” EPA–420–R–21–028, December 2021.

⁴⁵⁴ “The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975,” EPA–420–R–22–029, December 2022.

⁴⁵⁵ 85 FR 25236.

⁴⁵⁰ See 40 CFR 86.1869–12(c).

⁴⁵¹ See 40 CFR 86.1869–12(d).

⁴⁵² See 40 CFR 86.1819–14(d)(13).

changing their vehicle mix away from ICE technologies toward vehicle electrification technologies. EPA originally created the off-cycle program both to provide flexibility to manufacturers and to encourage the development of new and innovative technologies that might not otherwise be used because their benefits were not captured on the 2-cycle test. EPA believes the off-cycle credits program has successfully served these purposes. However, the credits were based on estimated emissions improvements for ICE vehicle which at the time accounted for the vast majority of vehicles produced. Now with the industry focusing most R&D resources on vehicle electrification technology development and increasing production, as discussed in Section I.A.2,^{456 457 458} off-cycle credits are not likely to be a key area of focus for manufacturers. In addition, EPA believes that it is not likely that manufacturers would invest resources on off-cycle technology in the future for their ICE vehicle fleet that is likely to become a smaller part of their overall vehicle mix over the next several years. For example, in MY 2021, credits per technology generated under the public process pathway were all well below 1 g/mile⁴⁵⁹ and there is little reason to expect the program to drive significant new innovation in the future. The public process pathway has been in place since the 2010 rule and manufacturers have had ample opportunity to consider potential off-cycle technologies. Also, manufacturers would be recouping any investment in off-cycle technologies, with relatively small emission reductions, over a decreasing number of vehicles as ICE vehicle production declines.

In addition, the off-cycle credits were initially small relative to the average fleet emissions and standards. For example, in the 2012 rule, EPA established menu credits of up to 10 g/mile, a relatively small value compared to a projected fleet-wide average compliance value of about 243 g/mile in MY 2016 phasing down to 163 g/mile in MY 2025.⁴⁶⁰ Across the MY 2016–2025 program, therefore, EPA projected menu credits would be about 4 percent to 6 percent of the standard. Now, EPA is

proposing standards that would reduce fleet average emissions to about 82 g/mile and therefore off-cycle credits would become an outsized portion (*e.g.*, up to 12 percent) of the program if they were retained in their current form. One concern is that there is not currently a mechanism to check that off-cycle technologies provide emissions reductions in use commensurate with the level of the credits the menu provides. This is becoming more of a concern as vehicles become less polluting overall. The menu credits are based on MY 2008 vintage engine and vehicle baseline technologies (assessed during the 2012 rule) and therefore the credit levels are potentially becoming less representative of the emissions reductions provided by the off-cycle technologies as vehicle emissions are reduced. Some stakeholders have also become increasingly concerned that the emissions reductions reflected in the off-cycle credits may not be being achieved.⁴⁶¹ Also, details such as the synergistic effects and overlap among off-cycle technologies take on more importance as the credits represent a larger portion of the emissions reductions. During the rulemaking to revise the MY 2023–2026 standards, EPA received comments that due to the potential for loss of GHG emissions reductions, the off-cycle program should be further constrained, or discontinued, or that a significantly more robust mechanism be implemented for verifying purported emissions reductions of off-cycle technologies. The potential for a loss of GHG emissions reductions could become further exacerbated as the standards become more stringent.⁴⁶²

Initially, EPA addressed the uncertainty surrounding the precise emissions reductions from equipping vehicle models with off-cycle technologies by making the initial credit values conservative, but the values may no longer be conservative, and may even provide more credits than appropriate for later MY vehicles. Because off-cycle credits effectively displace two-cycle emissions reductions, EPA has long strived to ensure that off-cycle credits are based on real-world reductions and do not result in a loss of emissions

reductions overall. EPA received comments in past rules that it should revise the program to better ensure real-world emissions reductions.⁴⁶³ However, EPA has learned through its experience with the program to date that such demonstrations can be exceedingly challenging. At this time, EPA has not identified a single robust methodology that can provide sufficient assurance across potential off-cycle technologies due to the wide variety of off-cycle real world conditions over which a potential technology may reduce emissions. EPA does not have a proposed methodology that would provide such assurance across a range of technologies. Finally, while the off-cycle program provides an incentive for off-cycle emissions reduction technologies, it does not include full accounting of off-cycle emissions. Vehicle equipment such as remote start and even roof racks added at the dealership may well increase off-cycle emissions. For all of these reasons, EPA believes the role of off-cycle credits should be de-emphasized in the future and in the longer term the credits should be phased out.

EPA is proposing to phase out menu credits over the MY 2028–2031 timeframe as a reasonable way to bring the program to an end. The cap would be reduced as shown in Table 36. EPA is proposing to end the program through a phase-out rather than simply ending the program entirely in MY 2027 to provide a transition period to help manufacturers who have made substantial use of the program in their product planning. Currently, the cap is applied to individual manufacturers by dividing the credits generated by a manufacturer's entire vehicle production to determine an average credit level for the model year. EPA proposes that starting in MY 2027, the denominator would include only eligible vehicles (*i.e.*, vehicles equipped with an IC engine) rather than all vehicles produced by the manufacturer. EPA requests comment on its approach for phasing out the off-cycle program, including the number of years over which the menu phase out would occur as well as the proposed menu credit caps in those years.

⁴⁵⁶ Reuters, "A Reuters analysis of 37 global automakers found that they plan to invest nearly \$1.2 trillion in electric vehicles and batteries through 2030," October 21, 2022. Accessed on November 4, 2022 at <https://graphics.reuters.com/AUTOS-INVESTMENT/ELECTRIC/akpegzqypr/>.

⁴⁵⁷ Reuters, "Exclusive: Automakers to double spending on EVs, batteries to \$1.2 trillion by 2030," October 25, 2022. Accessed on November 4, 2022 at <https://www.reuters.com/technology/exclusive->

[automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/](https://www.reuters.com/technology/exclusive-automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/).

⁴⁵⁸ Center for Automotive Research, "Automakers Invest Billions in North American EV and Battery Manufacturing Facilities," July 21, 2022. Retrieved on November 10, 2022 at <https://www.cargroup.org/automakers-invest-billions-in-north-american-ev-and-battery-manufacturing-facilities/>.

⁴⁵⁹ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and

Technology since 1975," EPA-420-R-22-029, December 2022.

⁴⁶⁰ 77 FR 62641.

⁴⁶¹ "Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emission Standards: Response to Comments," Chapter 8, EPA-420-R-21-027, December 2021.

⁴⁶² *Ibid.*

⁴⁶³ *Ibid.* See also 85 FR 25232–25242.

TABLE 36—PROPOSED OFF-CYCLE MENU CREDIT CAP PHASE DOWN

Model year	Off-cycle menu credit cap (g/mile)
MY 2027 (current program)	10
MY 2028	8.0
MY 2029	6.0
MY 2030	3.0
MY 2031 and later	0.0

Also, as discussed in detail in Section III.B.8, EPA is proposing to revise the utility factor for PHEVs. While PHEVs would remain eligible for off-cycle credits under EPA's proposed eligibility criteria, EPA proposes, as a reasonable approach for addressing off-cycle credits for PHEVs, to scale the menu credit cap for PHEVs by the vehicle's assigned utility factor. For example, if a PHEV has a utility factor of 0.3, meaning the vehicle is estimated to operate as an ICE vehicle 70 percent of the vehicle's VMT, the PHEV would be eligible for 70 percent of the cap value. For example, if the cap is 10.0 g/mile in MY 2027, PHEVs would be eligible for off-cycle credits up to 7.0 g/mile. Therefore, manufacturers producing PHEVs would not be eligible for the full menu credit cap value shown in Table 36. EPA proposes that the menu credit cap for each manufacturer's eligible vehicles would be the production-weighted average of ICE vehicles counting at the full cap amount and PHEVs at their maximum credit allowance. EPA proposes that manufacturers would apply the utility factor to the total off-cycle credits generated by the PHEVs to properly account for the value of the off-cycle credit corresponding to expected engine operation. As is the case in the current program, individual vehicles could generate more credits than the fleetwide cap value but the fleet average credits per vehicle must remain at or below the applicable menu cap. EPA requests comments on this as well as other potential ways of addressing off-cycle credits for PHEVs.

There are two pathways for generating credits in addition to the menu. In cases where additional laboratory testing can demonstrate emission benefits, the "5-cycle" pathway allows manufacturers to use a broader array of emission tests (known as 5-cycle testing because the methodology uses five different testing procedures) to demonstrate and justify off-cycle CO₂ credits. The additional emission tests allow emission benefits to be demonstrated over elements of real-world driving not captured by the GHG compliance tests, including high speeds, rapid accelerations, interior air conditioning and heater usage and cold

temperature operation. The third pathway for off-cycle technology performance credits allows manufacturers to seek EPA approval to use an alternative methodology for determining off-cycle technology CO₂ credits. This option is only available if the benefit of the technology cannot be adequately demonstrated using the 5-cycle methodology. The regulations require that EPA seek public comment on and publish each manufacturer's application for credits sought using this pathway. After reviewing the petitions submitted by manufacturers and the comments, EPA drafts and publishes decision documents that explain the impacts and applicability of the unique alternative method technologies via the **Federal Register**. The public process pathway is also available for MD vehicles.

Regarding the 5-cycle pathway, these credits have a more rigorous basis compared to credits generated under the other pathways because they are based on vehicle testing. However, the 5-cycle pathway has been used infrequently. In MY 2021, there were no credits generated using the 5-cycle pathway and historically only one manufacturer has used the pathway since MY 2012.⁴⁶⁴ MDV manufacturers also are not using the 5-cycle pathway. Given that the 5-cycle pathway is not being actively used and we are not aware of any OEM plans to make significant use of the 5-cycle pathway in the future, EPA believes phasing it out for both light-duty and medium-duty vehicles in MY 2027 is reasonable. EPA requests comment on this approach for 5-cycle based credits.

Since MY 2012, manufacturers have used the public process pathway more extensively than the 5-cycle pathway. In fact, several manufacturers successfully applied for high efficiency alternator credits through the public process which led EPA to add the technology to the menu as part of the 2020 rule.⁴⁶⁵ However, as of MY 2021, the public process pathway is resulting in

relatively few credits. While there were nine manufacturers generating credits, the average per vehicle credit across all manufacturers was 0.2 g/mile. Manufacturers claiming credits averaged between 0.0–0.7 g/mile per vehicle.⁴⁶⁶ Thus, more than 95 percent of off-cycle credits in MY 2021 were based on the menu. For MDVs, manufacturers are not generating any credits under the public process pathway. In addition, there are significant resources involved both for the manufacturer in developing a methodology and submitting it to EPA and for EPA in evaluating the applications, including soliciting public comments. Given that the pathway is little used, is resulting in few credits, and can be resource-intensive for both manufacturers and EPA, EPA is proposing to eliminate this pathway in MY 2027 as well. EPA would eliminate the pathway for both LD and MDVs. EPA requests comment on its proposal to end the public process pathway in MY 2027.

Regarding EPA's proposal to limit off-cycle credit eligibility to vehicles equipped with ICE engine, the menu credits levels were based on potential emissions reductions from ICE vehicles and are not representative of emissions reductions for BEVs, especially in a program based solely on tailpipe emissions. Especially now that EPA is proposing to make the 0 g/mile treatment of BEV operation a permanent part of the program (see Section III.B.7), with no accounting for upstream emissions, EPA believes it is most appropriate to limit eligibility for off-cycle credits to vehicle with tailpipe emissions, discontinuing off-cycle credits for BEVs. While off-cycle technologies may provide some overall efficiency improvement for BEVs (with some potential upstream emissions benefit), off-cycle technologies do not impact BEV tailpipe emissions, since BEVs have no tailpipe emissions and therefore are not relevant for this program. This issue will only become more pronounced as the

⁴⁶⁴ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029, December 2022.

⁴⁶⁵ 85 FR 25236.

⁴⁶⁶ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029, December 2022.

implementation of BEV technologies in the fleet increases. Therefore, EPA is proposing to end off-cycle credits for vehicles with no IC engine beginning in MY 2027.⁴⁶⁷

EPA is proposing substantial revisions to the off-cycle credits program, including restricting eligibility and eliminating credit pathways starting in MY 2027 and phasing out the program entirely starting with MY 2031. EPA requests comment on these proposals. Commenters advocating for continuing the off-cycle program in some form are encouraged to consider EPA's concerns as described in this section and to provide data to the extent possible to support their comments. For example, to the extent commenters support keeping the off-cycle menu in some form, EPA would be especially interested in comments supported with data on how the level of the credits should be adjusted to better reflect emission reductions for future ICE vehicles.

7. Treatment of PEVs and FCEVs in the Fleet Average

In the 2012 rule, for MYs 2022–2025, EPA allowed manufacturers to use a 0 g/mi compliance value (*i.e.*, a value reflecting tailpipe emissions only) for the electric-only portion of operation of BEVs/PHEVs/FCEVs up to a per-company cumulative production cap.⁴⁶⁸ As originally envisioned in the 2012 rule, starting with MY 2022, the compliance value for BEVs, FCEVs, and the electric portion of PHEVs in excess of individual automaker cumulative production caps would be based on net upstream emissions accounting (*i.e.*, EPA would attribute a pro rata share of national CO₂ emissions from electricity generation to each mile driven under electric power minus a pro rata share of upstream emissions associated with from gasoline production). The 2012 rule would have required net upstream emissions accounting for all MY 2022 and later electrified vehicles. However, in the 2020 rule, prior to upstream accounting taking effect, EPA revised its

regulations to extend the use of 0 g/mile compliance value through MY 2026 with no production cap, effectively continuing the practice of basing compliance only on tailpipe emissions for all vehicle and fuel types.

EPA is proposing to make the current treatment of PEVs and FCEVs through MY 2026 permanent. EPA proposes to include only emissions measured directly from the vehicle in the vehicle GHG program for MYs 2027 and later (or until EPA changes the regulations through future rulemaking) consistent with the treatment of all other vehicles. Electric vehicle operation would therefore continue to be counted as 0 g/mile, based on tailpipe emissions only. Vehicles with no IC engine (*i.e.*, BEVs and FCEVs) would be counted as 0 g/mile in compliance calculations, while PHEVs would apply the 0 g/mile factor to electric-only vehicle operation (see also Section III.B.8 for EPA's proposed treatment of PHEVs). The program has now been in place for a decade, since MY 2012, with no upstream accounting and has functioned as intended, encouraging the continued development and introduction of electric vehicle technology. These emissions reduction technologies are now coming into the mainstream and can serve as the primary technologies upon which EPA can base more stringent standards. As a separate and independent reason for making the current treatment permanent, EPA originally proposed using upstream emissions in PEV compliance calculations at a time when there was little if any regulation of stationary sources for GHGs, and noted at the time this was a departure from its usual practice of relying on stationary source programs to address pollution risks from stationary sources.⁴⁶⁹ In the 2020 rule, EPA extended 0 g/mi in part because power sector emissions were declining and the trend was projected to continue and stated "EPA agrees that, at this time, manufacturers should not account for upstream utility emissions."⁴⁷⁰ As noted elsewhere, power sector emissions are expected to

decline further in the future. EPA continues to believe that it is appropriate for any vehicle which has zero tailpipe emissions to use 0 g/mi as its compliance value.⁴⁷¹ This approach of looking only at tailpipe emissions and letting stationary source GHG emissions be addressed by separate stationary source programs is consistent with how every other light duty vehicle calculates its compliance value. If EPA deviated from this tailpipe emissions approach by including upstream accounting, it would appear appropriate to do so for all vehicles, including gasoline-fueled vehicles. EPA notes that while upstream emissions are not included in vehicle compliance determinations, which are based on direct vehicle emissions, upstream emissions impacts from fuel production at refineries and electricity generating units are considered in EPA's analysis of overall estimated emissions impacts and projected benefits.

EPA requests comments on its proposed treatment of electrified vehicles in manufacturer compliance calculations.

8. Proposed Approach for the PHEV Utility Factor

EPA is proposing to revise the light-duty vehicle PHEV Fleet Utility Factor curve used in CO₂ compliance calculation for PHEVs, beginning in MY 2027. The agency believes the current light-duty vehicle PHEV compliance methodology significantly underestimates PHEV CO₂ emissions. The mechanism that is used to apportion the benefit of a PHEV's electric operation for purposes of determining the PHEV's contribution towards the fleet average GHG requirements is the fleet utility factor (FUF). We have analyzed available data and compiled literature^{472 473 474 475} showing that the current utility factors are overestimating the operation of PHEVs on electricity, and therefore would underestimate the CO₂ g/mi compliance result. The current and proposed FUFs are shown in Figure 12.

⁴⁶⁷ EPA is not proposing to reopen previously established standards for earlier MYs, for example MYs 2025–2026, to eliminate off-cycle credits for BEVs prior to MY 2027 because off-cycle credits were integral to EPA's cost analysis for the prior standards and such an action would need to be accompanied by a new analysis of the footprint standards for those model years to account for the elimination of off-cycle credits for BEVs.

⁴⁶⁸ See 77 FR 62816.

⁴⁶⁹ 75 FR 25434.

⁴⁷⁰ 85 FR 25208.

⁴⁷¹ See Section IV.C.3 for a full discussion of power sector emissions projections.

⁴⁷² Krajinska, Poliscanova, Mathieu, & Ambel, Transport & Environment. 2020. "A new Dieselgate in the making." November: <https://www.transportenvironment.org/discover/plug-hybrids-europe-heading-new-dieselgate/>.

⁴⁷³ Plötz, P., Moll, C., Bieker, G., Mock, P., Li, Y. 2020. Real-world usage of plug-in hybrid electric vehicles: fuel consumption, electric driving, and CO₂ emissions. ICCT, September 2020. Retrieved from <https://theicct.org/publication/real-world-usage-of-plug-in-hybrid-electric-vehicles-fuel-consumption-electric-driving-and-co2-emissions/>.

⁴⁷⁴ Plötz, P., Link, S., Ringelschwendner, H., Keller, M., Moll, C., Bieker, G., Dornoff, J., Mock, P. 2022. Real-world usage of plug-in hybrid electric vehicles in Europe: A 2022 update on fuel consumption, electric driving, and CO₂ emissions. ICCT, June 2022. Retrieved from <https://theicct.org/publication/real-world-phev-use-jun22/>.

⁴⁷⁵ Patrick Plötz et al 2021 *Environ. Res. Lett.* 16 054078. From lab-to-road: real-world fuel consumption and CO₂ emissions of plug-in hybrid electric vehicles. <https://iopscience.iop.org/article/10.1088/1748-9326/abef8c>.

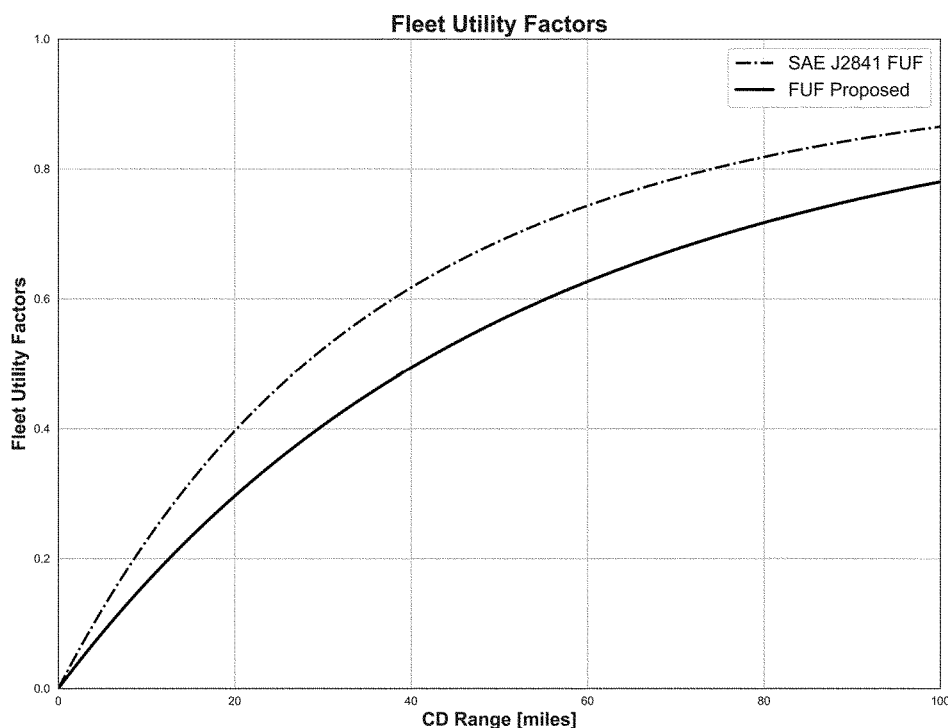


Figure 12. Current and proposed fleet utility factor for PHEV compliance.

The current FUFs were developed in SAE 2841⁴⁷⁶ and are used to estimate the percentage of operation that is expected to be in charge depleting mode (vehicle operation that occurs while the battery charge is being depleted, sometimes referred to as electric range). The measurement of the charge depleting (CD) range is performed over the EPA city and highway test cycles, also called the 2-cycle tests. The tested cycle-specific charge depleting range is used as an input to the FUF curves (or lookup tables, as shown in Tables 1 and 2 in 40 CFR 600.116–12) to determine the specific city and highway FUFs. The resulting FUFs are used to calculate a composite CO₂ value for the city and highway CO₂ results, by weighting the charge depleting CO₂ by the FUF and weighting the charge sustaining (CS) CO₂ by one minus the FUF.

The FUFs developed in SAE J2841 rely on a few important assumptions and underlying data: (1) Trip data from the 2001 National Household Travel Survey,⁴⁷⁷ used to establish daily

driving distance assumptions, and (2) the assumption that the vehicle is fully charged before each day's operation. These assumptions are important because they affect the shape of the utility factor curves, and therefore affect the weighting of CD (primarily electric operation)⁴⁷⁸ CO₂ and CS (primarily internal combustion engine operation)⁴⁷⁹ CO₂ in the compliance value calculation. SAE J2841 was developed more than ten years ago during the early introduction of light-duty PHEVs and at the time was a reasonable approach for weighting the CD and CS vehicle performance for a vehicle manufacturer's compliance calculation given the available information. The PHEV market has since grown and there is significantly more real-world data available to EPA on which to design an appropriate

2017 National Household Travel Survey. URL: <https://nhts.ornl.gov/>.

⁴⁷⁸ The complexity of PHEV designs is such that not all PHEVs operate solely on the electric portion of the propulsion system even when the battery has energy available. Engine operation during these scenarios may be required because of such design aspects as blended operation when both the electric power and the engine are being utilized, or during conditions such as when heat or air conditioning is needed for the cabin and can only be obtained with engine operation.

⁴⁷⁹ Because most CD operation occurs without engine operation, the CO₂ value for CD operation is often 0 or near 0 g/mi. This means that a high utility factor results in a CO₂ compliance value that is heavily-weighted with 0 or near 0 g/mi.

compliance program for PHEVs. The agency believes that the use of an FUF is still an appropriate and reasonable means of calculating the contribution of PHEVs to GHG emissions and compliance, but the real-world data available today clearly no longer supports the FUF established in SAE J2841 more than a decade ago.

Because the tailpipe CO₂ produced from PHEVs varies significantly between CD and CS operation, both the charge depleting range and the utility factor curves play an important role in determining the magnitude of CO₂ that is calculated for compliance. In charge depleting mode, EPA is proposing to maintain a zero gram per mile contribution when the internal combustion engine is not running. The significant difference is between, potentially, zero grams per mile in CD mode versus CO₂ grams per mile that are likely to be similar to a hybrid (non-plug-in) vehicle in CS mode. Charge depleting range for a PHEV is determined by performing single cycle city and highway charge depleting tests according to SAE Standard J1711,⁴⁸⁰ Recommended Practice for Measuring the Exhaust Emissions and Fuel Economy of Hybrid-Electric Vehicles,

⁴⁸⁰ SAE J1711. 2023. "Recommended Practice for Measuring the Exhaust Emissions and Fuel Economy of Hybrid-Electric Vehicles, Including Plug-in Hybrid Vehicles." Issued 1999–03, Revised 2010–06, Revised 2023–02, February.

⁴⁷⁶ SAE J2841. "Utility Factor Definitions for Plug-In Hybrid Electric Vehicles Using Travel Survey Data," Issued March 2009, Revised September 2010.

⁴⁷⁷ We used the latest NHTS data (2017) and executed the utility factor code that is in SAE J2841, Appendix C, and found that the latest NHTS data did not significantly change the utility factor curves. NHTS data can be found at U.S. Department of Transportation, Federal Highway Administration,

Including Plug-In Hybrid Vehicles. The charge depleting range is determined by arithmetically averaging the city and highway range values weighted 55 percent/45 percent, respectively as noted in 40 CFR 600.311–12(j)(4)(i).

i. FUF Comparisons With Real World Data

Recent literature and data have identified that the current utility factor curves may overestimate the fraction of driving that occurs in charge depleting operation.^{481 482} This literature also concludes that vehicles with lower charge depleting ranges have even greater discrepancy in CO₂ emissions.

EPA and ICCT⁴⁸³ have also evaluated recently available OBD data⁴⁸⁴ that has been collected through the California Bureau of Automotive Repair (BAR) and found that the data shows that, on average, there is more charge sustaining operation and more gasoline operation than is predicted by the current fleet utility factor curves. The BAR OBD data enable the evaluation of real-world PHEV distances travelled in various operational modes; these include charge-depleting engine-off distance,

charge-sustaining engine-on distance, total distance traveled, odometer readings, total fuel consumed, and total grid energy inputs and outputs of the battery pack. These fields of data allow us to use the BAR OBD data to filter the data and calculate 5-cycle comparable real-world driving ratios of charge depleting distance to total distance and to then compare to the existing FUFs, using the 5-cycle range from the fuel economy and environment label.⁴⁸⁵

In addition to the BAR OBD data, ICCT also evaluated a dataset from *Fuelly.com*. *Fuelly.com* is a website and smartphone application that allows users to self-report fuel consumption data. The curve that is fitted from the *Fuelly.com* data also yields lower utility factors than the SAE J2841 FUF curve, for the same charge depleting distance; however, the *Fuelly* curve is not as low as the BAR OBD curve.

A comparison of the results of EPA's data analysis as well as the ICCT analyses is shown in Figure 13. The FUF applied in the current regulations is labeled as "SAE J2841 FUF". EPA's data analysis of the BAR OBD data is labeled as "Linear Regression Fit" and the two ICCT curves are labeled as "ICCT–BAR" and "ICCT–FUELLY". ICCT created the ICCT–BAR and ICCT–Fueelly curves by adjusting the normalized distances in the UF equation for both the BAR OBD data and the *Fuelly* user-reported data, using sample-size weighted nonlinear least squares

regression.⁴⁸⁶ As shown in Figure 13, the EPA "Linear Regression Fit", where about 78 percent of the total data points are between 12- to 32-miles for the CD range, lies on top of the "ICCT–BAR" curve.

The BAR OBD data is a recent and relatively large dataset that includes the charge depleting distance (or electric operating distance) and total distance, which makes it a reasonable source for evaluating the real-world utility factors for recent PHEV usage. However, we recognize that the curve developed from this data is a departure from the SAE J2841 FUF curves, that the BAR OBD data has some limitations (see DRIA Chapter 3), and that the original SAE J2841 FUF methodology was also a reasonable approach at the time it was adopted. Therefore, we created the proposed curve by averaging the SAE J2841 FUF curve and the ICCT–BAR curve. The resulting proposed FUF curve lies almost on top of the ICCT–FUELLY curve. Some of the data suggest that a lower curve might more appropriately reflect current real-world usage, however, EPA recognizes that PHEV technology has the potential to provide significant GHG reductions and an overly low FUF curve could disincentivize manufacturers to apply this technology. In addition, anticipated longer all-electric range and greater all-electric performance, partially driven by CARB's ACC II program, as well as increased consumer technology familiarity and available infrastructure should result in performance more closely matching our proposed curve. EPA will continue to monitor real-world data as it becomes available.

⁴⁸¹ Plötz, P. and Jöhrens, J. (2021): Realistic Test Cycle Utility Factors for Plug-in Hybrid Electric Vehicles in Europe. Karlsruhe: Fraunhofer Institute for Systems and Innovation Research ISI. Retrieved from: https://www.isi.fraunhofer.de/content/dam/isi/dokumente/cce/2021/BMU_Kurzpapier_UF_final.pdf.

⁴⁸² https://www.transportenvironment.org/wp-content/uploads/2022/06/TE-Anlaysis_Update-of-PHEV-utility-factors-1.pdf.

⁴⁸³ "Real world usage of plug-in hybrid vehicles in the United States." Aaron Isenstadt, Zifei Yang, Stephanie Searle, John German, ICCT Report, December 2022.

⁴⁸⁴ California Air Resource Board [OBD data records dated October 2022], <https://www.bar.ca.gov/records-requests>.

⁴⁸⁵ Because the data collected is real-world data, we used the combined city and highway 5-cycle label range as an input to the FUF curve described in SAE J2841, to create an apples-to-apples comparison. The existing regulatory FUFs are separate city and highway curves, and the charge depleting ranges that are used with the city and highway FUF curves are 2-cycle range.

⁴⁸⁶ Supra footnote 483.

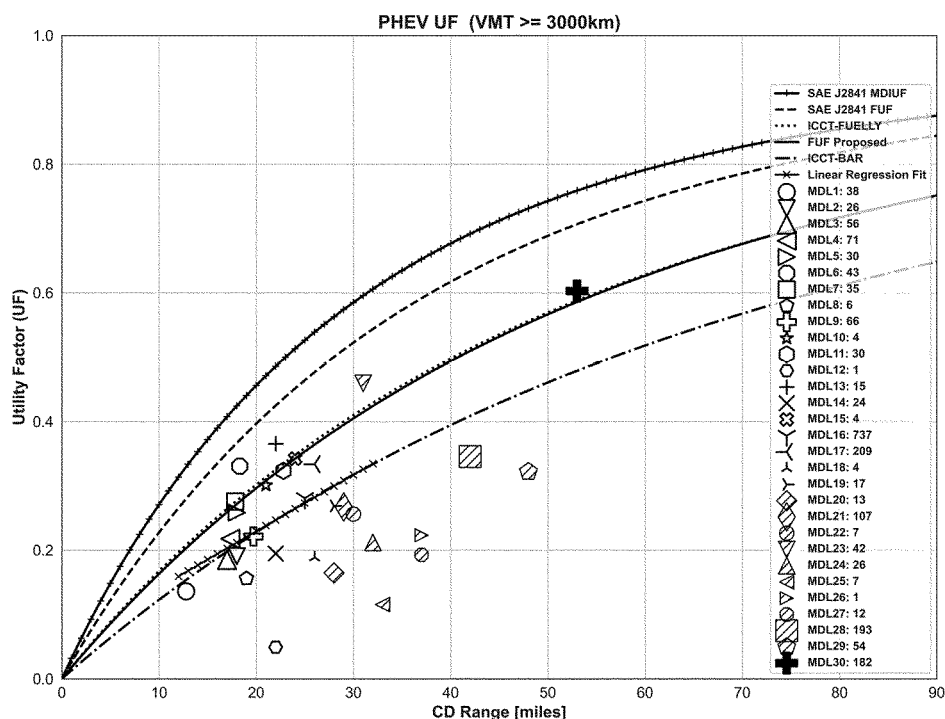


Figure 13. FUF proposed, SAE J2841 FUF and ICCT-BAR/FUELLY curves.

We believe that it is important for PHEV compliance utility factors to accurately reflect the apportionment of charge depleting operation, for weighting the 2-cycle CO₂ test results; therefore, we are proposing to update the city and highway fleet utility factor curves with a new, single curve that is shown in Figure 12. We are proposing a single curve to better reflect real world performance where the underlying real-world data is not parsed into city and highway data. Since the fleet average calculations are based on a combined city and highway CO₂ value, a single FUF curve can be used for these calculations. EPA is requesting comment on whether the ICCT-BAR curve shown in Figure 13 is a more appropriate fleet utility factor curve instead of the FUF proposed curve, as shown in the same figure.

EPA has chosen the proposed FUF curve based on the best data available. Commentors may have other data sets from PHEV vehicles; EPA would welcome additional data on real-world PHEV operation, which we would consider and may use to update the utility factor in a future rulemaking. The type of data that would be most useful would have measured mileage in charge depleting range and measured total mileage for a large number of PHEV vehicles that are nationally representative and cover a broad range of PHEV models.

ii. Impact on Compliance

The proposed revisions to the PHEV FUF curve will increase CO₂ compliance values for PHEVs because the charge depleting test values will be weighted less heavily than they are currently in compliance calculations. Based on EPA's review of real-world utility factor data it appears the assumptions in SAE J2841 tend to overestimate the charge depleting operation of PHEVs. As such, the Agency is proposing to use the FUF determined from real world data. This change will result in a reduction to the FUF used to determine PHEV CO₂ compliance values. PHEVs that are designed with a large charge depleting range would still have a significantly lower compliance value than their hybrid counterparts would have.

iii. Consideration of CARB ACC II PHEV Provisions

CARB recently set minimum performance requirements for PHEVs in their ACC II program. These requirements include performance over the US06 test cycle and a minimum range and are meant to set qualifications for PHEV's to be included in a manufacturer's ZEV compliance. EPA is not proposing to adopt the range and US06 performance requirements or fleet penetration limits that are included in the CARB ACC II ZEV provisions. EPA agrees that the performance provisions

required by CARB in ACC II are important real-world performance attributes and have the ability to provide greater environmental benefits as compared to PHEVs that are less capable. However, unlike the ACC II program, the GHG program in this proposal is performance-based and not a ZEV mandate. In that regard, EPA believes that it is appropriate to have a robust GHG compliance program for PHEVs that properly accounts for their GHG emissions independent of a PHEV's range or capability over the US06 test cycle.

9. Small Volume Manufacturer GHG Standards

i. Background

EPA's light-duty vehicle greenhouse gas (GHG) program for model years (MYs) 2012–2016 provided a conditional exemption for small volume manufacturers (SVMs) with annual U.S. sales of less than 5,000 vehicles due to unique feasibility issues faced by these SVMs.⁴⁸⁷ The exemption was conditioned on the manufacturer making a good faith effort to obtain credits from larger volume manufacturers. For the MY 2017–2025 light-duty vehicle GHG program (*i.e.*, the 2012 rule), EPA adopted specific

⁴⁸⁷ 75 FR 25419–25421, May 7, 2010. Note that SVMs are generally not small businesses that qualify for EPA's small business provisions discussed in Section III.B.10.

regulations allowing SVMs to petition EPA for alternative standards, again recognizing that the primary program standards may not be feasible for SVMs and could drive these manufacturers from the U.S. market.⁴⁸⁸

EPA acknowledged in the 2012 final rule that SVMs may face a greater challenge in meeting CO₂ standards compared to large manufacturers because they only produce a few vehicle models, mostly focused on high performance sports cars and luxury vehicles. SVMs have limited product lines across which to average emissions, and the few vehicles they produce often have very high vehicle CO₂ g/mile levels. EPA also noted that the total U.S. annual vehicle sales of SVMs are much less than 1 percent of total sales of all manufacturers and contribute minimally to total vehicular GHG emissions, and foregone GHG reductions from SVMs likewise are a small percentage of total

industry-wide reductions. EPA adopted a regulatory pathway for SVMs to apply for alternative GHG emissions standards for MYs 2017 and later, based on information provided by each SVM on factors such as technical feasibility, cost, and lead time.⁴⁸⁹

The regulations established in the 2012 rule outline eligibility criteria and a framework for establishing SVM alternative standards. Manufacturer average annual U.S. sales must remain below 5,000 vehicles to be eligible for SVM alternative standards.⁴⁹⁰ The regulations specify the requirements for supporting technical data and information that a manufacturer must submit to EPA as part of its application.⁴⁹¹ SVMs may apply for alternative standards for up to five model years at a time. SVMs may use the averaging, banking, and trading provisions to meet the alternative

standards, but may not trade credits to another manufacturer.⁴⁹²

EPA received applications for SVM alternative standards for MYs 2017–2021 from four manufacturers: Aston Martin, Ferrari, Lotus and McLaren.⁴⁹³ The regulations require SVMs to submit information, including cost information, to EPA as part of their applications. Each SVM provided its technical basis for the requested standards including a discussion of technologies that could and could not be feasibly applied to their vehicles in the time frame of the standards. In 2019, EPA issued proposed determinations of SVM alternative standards, including background information and EPA’s assessment of the proposed standards, and requested public comment.⁴⁹⁴ In 2020, EPA finalized the SVM alternative standard determinations as proposed, shown in Table 37.⁴⁹⁵

TABLE 37—SUMMARY OF CURRENT SVM ALTERNATIVE STANDARDS
[g/mile]

	Aston Martin	Ferrari	Lotus	McLaren
MY 2017	431	421	361	372
MY 2018	396	408	361	372
MY 2019	380	395	344	368
MY 2020	374	386	341	360
MY 2021	376	373	308	329

ii. Proposed SVM Standards for MY 2022 and Later

EPA established the SVM alternative standards option in the 2012 rule when ICE technologies were the primary CO₂ control technologies and vehicle electrification technologies were in their relative infancy. The landscape has fundamentally changed with electrification technologies maturing to become significant control technologies in this proposal. Vehicle electrification technologies are currently being implemented across many vehicle types including both luxury and high-performance vehicles by larger manufacturers and EPA expects this trend to continue. EPA believes that meeting the CO₂ standards is becoming less a feasibility issue and more a lead time issue for SVMs. Also, the credit trading market has become more robust since we initially established the SVM

unique standards provisions. Now that it has, we would expect SVMs to be able to seek credit purchases as a compliance strategy.⁴⁹⁶ As electrification technologies become more widespread and commonly used, EPA believes there is no reason SVMs cannot adopt similar technological approaches with enough lead time (or purchase credits from other OEMs).

Given this changed landscape for SVMs, EPA believes it is appropriate to transition away from unique SVM standards and bring SVMs into the primary program. As a reasonable way to transition SVMs into the primary program, EPA is proposing to phase in primary standards gradually over MYs 2025–2032 resulting in SVMs being “caught up” to the proposed primary program standards by MY 2032.⁴⁹⁷ Specifically, EPA proposes that SVM alternative standards established for MY

2021 would apply through MY 2024 to provide stability for SVMs so that SVMs have an opportunity to reduce their GHG emissions in future years. EPA proposes that starting in MY 2025, SVMs would meet primary program standards albeit with additional lead-time. As shown in Table 38, EPA proposes that SVMs would meet the primary program standards for MY 2023 in MY 2025, providing two years of additional lead time. EPA is also proposing a period of stability rather than year-over-year incremental reductions in the standards levels for SVMs. SVMs have fewer vehicle models over which to average, and EPA believes a staggered phase down in standards with a period of stability between the steps is reasonable. As shown in Table 38, EPA proposes that the two-year offset would then continue with a period of stability between step changes

⁴⁸⁸ 77 FR 62789–62795, October 15, 2012.
⁴⁸⁹ 40 CFR 86.1818–12(g).
⁴⁹⁰ 40 CFR 86.1818–12(g)(1).
⁴⁹¹ 40 CFR 86.1818–12(g)(4).
⁴⁹² 40 CFR 86.1818–12(g)(6).
⁴⁹³ Ferrari was previously owned by Fiat Chrysler Automobiles (FCA) and petitioned EPA for operationally independent status under 40 CFR

86.1838–01(d). In a separate decision EPA granted this status to Ferrari starting with the 2012 model year, allowing Ferrari to be treated as an SVM under EPA’s GHG program. Ferrari has since become an independent company and is no longer owned by FCA.
⁴⁹⁴ 84 FR 37277.
⁴⁹⁵ 85 FR 39561 (July 1, 2020). See also docket EPA–HQ–OAR–2019–0210 for additional

information on the SVM alternative standards setting proceedings.
⁴⁹⁶ “The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975,” EPA–420–R–22–029, December 2022.
⁴⁹⁷ See 40 CFR 86.1818–12(c) for the primary program standards through MY 2026.

in the standards until SVMs are required to meet the proposed MY 2032 standards in MY 2032. EPA is not

reopening the eligibility requirements for the proposed SVM standards currently in the regulations for SVM

alternative standards and SVMs would need to remain eligible to use these proposed provisions.⁴⁹⁸

TABLE 38—PROPOSED ADDITIONAL LEAD TIME FOR SVM STANDARDS UNDER THE PRIMARY PROGRAM

Model year	Primary program standards that apply	Years of additional lead time
2025	2023	2
2026	2023	3
2027	2025	2
2028	2025	3
2029	2027	2
2030	2028	2
2031	2030	1
2032 and later	2032	0

This additional lead time approach is similar to the approach EPA used in the 2012 rule to provide additional lead time to intermediate volume manufacturers.⁴⁹⁹ As with the intermediate volume manufacturer temporary lead time flexibility, EPA believes that the proposed additional lead time for SVMs will be sufficient to ease the transition to more stringent standards in the early years of the proposed program that could otherwise present a difficult hurdle for them to overcome. The proposed alternative phase-in would provide necessary lead time for SVMs to better plan and implement the incorporation of CO₂ reducing technologies and/or provide time needed to seek and secure credits from other manufacturers to bring them into compliance with the primary standards.

Importantly, SVMs would continue to remain eligible to use the ABT 5-year credit carry-forward provisions, allowing SVMs to bank credits in these intermediate years to further help smooth the transition from one step change in the standards to the next. EPA is, however, proposing to prohibit any SVM opting to use the additional lead time allowance from trading credits generated under the additional lead time standards to another manufacturer. These proposed credit provisions are also currently in place as part of the current SVM alternative standards. EPA believes that credit banking along with the staggered phase down of the standards would help SVMs meet the standards, recognizing that they have limited product lines. As with the SVM alternative standards, SVMs would have the option of following the additional lead time pathway with credit trading

restrictions or opt into the primary program with no such restrictions. Once opted into the primary program, however, manufacturers would no longer be eligible for the alternative standards.

EPA requests comment on the proposal to apply the primary program standards, including the proposed standards, to SVMs with the specified additional lead time through MY 2032. EPA requests comment on whether the phase-in appropriately provides additional lead time for SVMs, including whether SVMs should be brought into the primary program sooner than proposed.

C. Proposed Criteria and Toxic Pollutant Emissions Standards for Model Years 2027–2032

EPA is proposing changes to criteria pollutant emissions standards for both light-duty vehicles and medium duty vehicles (MDV). Light-duty vehicles include LDV, LDT, and MDPV. NMOG+NO_x changes for light-duty vehicles include a fleet average that declines from 2027–2032 in the early compliance program (or steps down in 2030 for GVWR >6,000 pounds in the default program), the elimination of higher certification bins, a requirement for the same fleet average emissions standard to be met across four test cycles (25 °C FTP, HFET, US06, SC03), a change from fleet average NMHC standards to one fleet average NMOG+NO_x standard in the –7 °C FTP test, and three NMOG+NO_x provisions similar to requirements defined by the CARB Advanced Clean Cars II program. NMOG+NO_x changes for MDV include a fleet average that declines from 2027–2032 in the early compliance program

(or steps down in 2030 in the default program), the elimination of higher certification bins, a requirement for the same fleet average emissions standard to be met across four test cycles (25 °C FTP, HFET, US06, SC03), and a new fleet average NMOG+NO_x standard in the –7 °C FTP. EPA is proposing a requirement for spark ignition and compression ignition MDV with GCWR above 22,000 pounds to comply with engine-dynamometer-based criteria pollutant emissions standards under the heavy-duty engine program⁵⁰⁰ instead of the chassis-dynamometer-based criteria pollutant emissions standards.

EPA is proposing to continue light-duty vehicle and MDV fleet average FTP NMOG+NO_x standards that include both ICE-based and zero emission vehicles in a manufacturer's compliance calculation. Performance-based standards that include both ICE and zero emission vehicles are consistent with the existing NMOG+NO_x program as well as the GHG program. EPA has considered the availability of battery electric vehicles as a compliance strategy in determining the appropriate fleet average standards. Given the cost-effectiveness of BEVs for compliance with both criteria pollutant and GHG standards, EPA anticipates that most (if not all) automakers will include BEVs in their compliance strategies. However, the standards continue to be a performance-based fleet average standard with multiple paths to compliance, depending on choices manufacturers make about deployment of a variety of emissions control technologies for ICE as well as electrification and credit trading.

EPA is proposing a PM standard of 0.5 mg/mi for light-duty vehicles and MDV

⁴⁹⁸ See 40 CFR 86.1818–12(g).

⁴⁹⁹ 77 FR 62623 (October 15, 2023) at 62795.

⁵⁰⁰ <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-and-related-materials-control-air-pollution>.

that must be met across three test cycles (-7°C FTP, 25°C FTP, US06), a requirement for PM certification tests at the test group level, and a requirement that every in-use vehicle program (IUVP) test vehicle is tested for PM. The 0.5 mg/mi standard is a per-vehicle cap, not a fleet average.

EPA is proposing CO and formaldehyde (HCHO) emissions requirement changes for light-duty vehicles and MDVs including transitioning to emissions caps (as opposed to bin-specific standards) for all emissions standards, a requirement that CO emissions caps be met across four test cycles (25°C FTP, HFET, US06, SC03), and a CO emissions cap for the -7°C FTP that is the same for all light-duty vehicles and MDVs.

EPA is proposing a refueling standards change to require incomplete MDVs to have the same on-board refueling vapor recovery standards as complete MDVs. EPA is also proposing eliminating commanded enrichment as an AECD for power and component protection.

The proposal allows light-duty vehicle 25°C FTP NMOG+NO_x credits and -7°C FTP NMHC credits (converting to NMOG+NO_x credits) to be carried into the new program. It only allows MDV 25°C FTP NMOG+NO_x credits to be carried into the new program if a manufacturer selects the early compliance pathway. New credits may be generated, banked and traded within the new program to provide manufacturers with flexibilities in developing compliance strategies.

1. Phase-in of Criteria Pollutant Standards

The proposed phase-in for criteria pollutant standards, including NMOG+NO_x, PM, CO, HCHO, CARB ACC II NMOG+NO_x provisions, and

elimination of enrichment, is described in this section. Proposed refueling standards for incomplete vehicles begin with model year 2030 and are not part of the early phase-in scenario for the other pollutant standards. Table 39 shows eight phase-in scenarios that manufacturers may choose from. Manufacturers may comply with phase-in scenarios based on model year (MY) sales or MY U.S. directed production volume.

Under the default compliance scenario shown in the bottom matrix in Table 39, 40 percent of vehicles with gross vehicle weight rating (GVWR) at or below 6,000 pounds must comply in MY 2027, 80 percent in MY 2028, and 100 percent in MY 2029 and after. For the heavier vehicle classes, 100 percent of vehicles must comply starting in MY 2030 in a single step under the default compliance pathway, which provides a full four years of lead time as required by CAA section 202(a)(3)(C). Under this default compliance scenario, chassis cert vehicles between 8501 and 14,000 pounds GVWR may not carry forward Tier 3 NMOG+NO_x credits (as allowed by the early phase-in schedule), and engine cert vehicles between 8501 and 14,000 pounds GVWR may not use HD phase 2 work factor based GHG standards after 2027 (as allowed by the early phase-in schedule). Details are provided in Sections III.B.3, III.C.5, and III.C.9.

The top matrix in Table 39 describes the phase-in scenario where a manufacturer chooses an early phase-in schedule for all vehicle classes. In this scenario 40 percent of the vehicles of each class (each column) comply in MY 2027, 80 percent comply in MY 2028, and 100 percent comply starting in MY 2029 and after. If a manufacturer chooses this phase-in scenario, phase-in percentages for vehicles at or below

8500 pounds GVWR are calculated as one group. Chassis cert vehicles between 8501 and 14,000 pounds GVWR may carry forward Tier 3 NMOG+NO_x credits, and engine cert vehicles between 8501 and 14,000 pounds GVWR may use the HD phase 2 work factor based GHG standards from MY 2026 without a capped GCWR input from MY 2027 to MY 2029. Then in MY 2030 chassis cert vehicles between 8501 and 14,000 pounds GVWR must switch to new work factor based GHG standards with the capped work factor equation.

The six phase-in scenarios between default and early show other options that manufacturers may select from. Any scenario that follows an early phase-in schedule for vehicles at or below 8500 pounds GVWR, results in phase-in percentages being calculated as one group. Any scenario that follows an early phase-in schedule for chassis cert vehicles between 8501 and 14,000 pounds GVWR may carry forward Tier 3 NMOG+NO_x credits. And any scenario that follows an early phase-in schedule for engine cert vehicles between 8501 and 14,000 pounds GVWR may use the HD phase 2 work factor based GHG standards from MY 2026 without a capped GCWR input from MY 2027 to MY 2029.

Vehicles that are not part of the phase-in percentages are considered interim vehicles, which must continue to demonstrate compliance with all Tier 3 regulations with the exception that all vehicles (interim and those that are part of the phase-in percentages) contribute to the NMOG+NO_x fleet average standards shown in Table 40 and Table 41.

EPA requests comment on increasing or decreasing the proposed phase-in percentages shown in Table 39.

TABLE 39—PROPOSED CRITERIA POLLUTANT PHASE-IN SCENARIOS AVAILABLE TO MANUFACTURERS

Model year	≤8,500 lb. GVWR (%)	8,501–14,000 lb. GVWR Chassis cert (%)	8,501–14,000 lb. GVWR Engine cert (%)
Early phase-in schedule for all vehicle classes (Scenario A)			
2027	40	40	40
2028	80	80	80
2029	100	100	100
2030+	100	100	100
Intermediate scenario (Scenario B)			
2027	40	0	40
2028	80	0	80
2029	100	0	100
2030+	100	100	100

TABLE 39—PROPOSED CRITERIA POLLUTANT PHASE-IN SCENARIOS AVAILABLE TO MANUFACTURERS—Continued

Model year		≤8,500 lb. GVWR (%)	8,501–14,000 lb. GVWR Chassis cert (%)	8,501–14,000 lb. GVWR Engine cert (%)	
Intermediate scenario (Scenario C)					
2027		40	40	0	
2028		80	80	0	
2029		100	100	0	
2030+		100	100	100	
Intermediate scenario (Scenario D)					
2027		40	0	0	
2028		80	0	0	
2029		100	0	0	
2030+		100	100	100	
Model year		≤6,000 lb. GVWR	6,001–8500 lb. GVWR (%)	8,501–14,000 lb. GVWR Chassis cert (%)	8,501–14,000 lb. GVWR Engine cert (%)
Intermediate scenario (Scenario E)					
2027		40	0	40	40
2028		80	0	80	80
2029		100	0	100	100
2030+		100	100	100	100
Intermediate scenario (Scenario F)					
2027		40	0	0	40
2028		80	0	0	80
2029		100	0	0	100
2030+		100	100	100	100
Intermediate scenario (Scenario G)					
2027		40	0	40	0
2028		80	0	80	0
2029		100	0	100	0
2030+		100	100	100	100
Default compliance scenario (Scenario H)					
2027		40	0	0	0
2028		80	0	0	0
2029		100	0	0	0
2030+		100	100	100	100

2. Proposed NMOG+NO_x Standards

EPA is proposing new NMOG+NO_x standards for MY 2027 and later. The standards are structured to take into account the increased electrification of new light-duty vehicles and MDVs that is projected to occur over the next decade.

The current Tier 3 fleet average NMOG+NO_x emissions standards were fully phased-in for Class 2b and Class 3 (MDV within this proposal) in MY 2022 at 178 and 247 mg/mi, respectively. Tier 3 standards for light-duty vehicles, including LDT3 and LDT4 above 6,000 pounds GVWR and medium-duty passenger vehicles (MDPVs), will be fully phased into the Tier 3 30 mg/mi

fleet average NMOG+NO_x standard in MY 2025. Tier 3 standards include a Bin 0 which allows PEV's to be averaged with conventional ICE-based vehicles. In the absence of our proposed NMOG+NO_x standards, as sales of PEVs continue to increase, there would be an opportunity for the ICE portion of light-duty vehicles and MDVs to reduce emission control system content (*i.e.*, system costs) and comply with less stringent NMOG+NO_x standard bins under Tier 3. If this were to occur, it would have the effect of increasing NMOG+NO_x emissions from the ICE portion of the light-duty vehicle and MDV fleet and delay the overall fleet emission reductions of NMOG+NO_x

that would have occurred from increased penetration of PEVs into the light-duty vehicle and MDV fleets.

The structure of the proposed NMOG+NO_x standards has been designed to cap the NMOG+NO_x contribution of ICE vehicles at approximately Tier 3 levels for light-duty vehicles and at approximately 100 mg/mi NMOG+NO_x for MDV. The feasibility of ICE MDV meeting 100 mg/mi NMOG+NO_x by 2027 is discussed in further detail within Chapter 3.2.1.3 of the DRIA. EPA projects the year-over-year reductions in MY 2027 and later light-duty vehicle and MDV NMOG+NO_x standards from an average of 30 mg/mi and 100 mg/mi,

respectively, thus would occur primarily from increased year-over-year electrification of new vehicle sales and the resulting averaging of zero emission vehicles with ICE vehicles within the fleet average light-duty vehicle and MDV NMOG+NO_x standards.

The CAA requires 4 years of lead time and 3 years of standards stability for heavy-duty vehicles. There are three categories of vehicles that are currently regulated as light-duty vehicles but are defined within the CAA as heavy-duty vehicles for purposes of lead time and standards stability: The heavy-light-duty truck categories (LDT3 and LDT4) and MDPV.⁵⁰¹ Furthermore, MDVs are also defined as heavy-duty vehicles under the CAA. EPA is proposing several alternative pathways for these three categories of vehicles for compliance with the proposed NMOG+NO_x standards. The Agency's early compliance NMOG+NO_x program would apply to all LDV, LDT, MDPV, and MDV vehicles beginning in 2027 in order to coincide with the timing of increased electrification of these vehicles. However, mandatory regulations beginning in 2027 would not provide 4 years of lead time as required for vehicles defined as heavy-duty under the CAA. To address this issue, we are proposing two schedules for compliance with NMOG+NO_x standards for LDT3, LDT4, MDPV, and MDV. The eight alternatives describe the breadth of compliance scenarios. The two schedules referenced here include one

for early compliance and one for later compliance for each reg class.

The early compliance pathway shown in Table 40 has LDT3, LDT4 and MDPV meeting identical and gradually declining fleet average NMOG+NO_x emissions standards to those for LDV, LDT1 and LDT2 as described in Section III.C.2.iii; and includes separate gradually declining fleet average NMOG+NO_x emissions standards for MDV at or below 22,000 pounds GCWR as described in Section III.C.2.iv. This pathway for earlier compliance with NMOG+NO_x emissions standards for LDT3, LDT4, MDPV, and MDV includes additional flexibilities. We request comment on the addition of a temporary "bin 200" (200 mg/mi NMOG+NO_x) that would apply solely to MY 2027 and MY 2028 Class 3 MDV for manufacturers opting into early compliance for MDV.

The second, and default, schedule to NMOG+NO_x compliance shown in Table 41 has LDV, LDT1, and LDT2 meeting a gradually declining fleet average NMOG+NO_x standards from 2027 through 2032. Vehicles in the LDT3, LDT4, and MDPV categories would continue to meet Tier 3 standards through the end of MY 2029 and then would proceed to meeting a 12 mg/mi NMOG+NO_x standard in a single step in MY 2030 in order to comply with CAA provisions for 4 years of lead time and 3 years of standards stability. Similarly, MDVs would continue to meet Tier 3 standards through the end of MY 2029

and then MDVs at or below 22,000 pounds GCWR would proceed to meeting a 60 mg/mi NMOG+NO_x standard in a single step in 2030 in order to comply with CAA provisions for 4 years of lead time and 3 years of standards stability.

We are also proposing a similar choice between early compliance and default compliance pathways for MDVs with high GCWR, which are defined as being above 22,000 pounds. Under the early compliance pathway, high GCWR MDVs would comply with MY 2027 and later heavy-duty engine criteria pollutant emissions standards beginning with MY 2027 (Section III.C.5). Manufacturers with high GCWR MDVs choosing the early compliance pathway would have additional flexibilities with respect to GHG compliance. They could delay entry into the MDV GHG work factor-based fleet average standards until the beginning of MY 2030 (see Section III.B.3).

Under the default compliance path, high GCWR MDVs would continue to comply with Tier 3 standards until the end of MY 2029 and then would comply with MY 2027 and later heavy-duty engine criteria pollutant emissions standards beginning with MY 2030 in order to comply with CAA provisions for 4 years of lead time. Under this default compliance path, high GCWR MDVs would comply with fleet average MDV GHG emissions beginning with MY 2027 (see Section III.B.3).

TABLE 40—LDV, LDT, MDPV, AND MDV FLEET AVERAGE NMOG+NO_x STANDARDS UNDER THE EARLY COMPLIANCE PATHWAY

Model year	LDV, LDT1, LDT2, LDT3†, LDT4† & MDPV† NMOG+NO _x (mg/mi)	MDV† NMOG+NO _x (mg/mi)	
		Class 2b	Class 3
2026	*30	*178	*247
2027	22	160	
2028	20	140	
2029	18	120	
2030	16	100	
2031	14	80	
2032 and later	12	60	

*Tier 3 standards provided for reference.

† NMOG+NO_x credit generated under Tier 3 can be carried forward for 5 years after it is generated. MDV standards only apply for vehicles at or below 22,000 lb. GCWR.

⁵⁰¹ Light-duty truck 3 (LDT3) is defined as any truck with more than 6,000 pounds GVWR and with an ALVW of 5,750 pounds or less. Light-duty truck

4 (LDT4) is defined as any truck is defined as any truck with more than 6,000 pounds GVWR and with an ALVW of more than 5,750 pounds. See 40 CFR

86.1803-01—Definitions. For current and proposed MDPV definitions, see Section III.D.

TABLE 41—LDV, LDT, MDPV AND MDV FLEET AVERAGE NMOG+NO_x STANDARDS UNDER THE DEFAULT COMPLIANCE PATHWAY

Model year	LDV, LDT1 & LDT2 NMOG+NO _x (mg/mi)	LDT3, LDT4 & MDPV NMOG+NO _x (mg/mi)	MDV [†] NMOG+NO _x (mg/mi)	
			Class 2b	Class 3
2026	*30	*30	*178	*247
2027	22	*30	*178	*247
2028	20	*30	*178	*247
2029	18	*30	*178	*247
2030	16	12	60	
2031	14	12	60	
2032 and later	12	12	60	

* Tier 3 standards provided for reference.

† MDV standards only apply for vehicles at or below 22,000 lb GCWR.

i. NMOG+NO_x Bin Structure for Light-Duty Vehicles and MDVs

The bin structure being proposed for light-duty vehicles and MDVs is shown in Table 42. The upper two bins (Bin 160 and Bin 125) are only available to MDV at or below 22,000 pounds GCWR.⁵⁰²

For light-duty vehicles, the proposed bin structure removes the two highest Tier 3 bins (Bin 160 and Bin 125) and adds several new bins (Bin 60, Bin 40, Bin 10). For MDV, the proposed bin structure moves away from separate bins for Class 2b and Class 3 vehicles, adopting light-duty vehicle bins with higher bins only available to MDV.

TABLE 42—LIGHT-DUTY VEHICLE AND MDV NMOG+NO_x BIN STRUCTURE

LDV bin	NMOG+NO _x (mg/mi)
Bin 160 *	160
Bin 125 *	125
Bin 70	70
Bin 60	60
Bin 50	50
Bin 40	40
Bin 30	30
Bin 20	20
Bin 10	10
Bin 0	0

* MDV only.

ii. Smog Scores for the Fuel Economy and Environment Label

This proposed rule includes new Tier 4 bins that do not directly align with the existing smog scores used on the Fuel Economy and Environment Label (see 40 CFR 600.311–12(g)). We are therefore seeking comment on fitting the new Tier 4 bins into the existing MY 2025 Tier 3 smog score structure for the Tier 4 phase-in period (MY 2027–2029), and we are also seeking comment on a new

Tier 4 smog score structure for MY 2030 and later. For both ratings structures, it is important to avoid having any bin assigned to a higher score in a newer model year than it was assigned in an older model year (no “backsliding” for smog score ratings).

For MY 2027–2029, EPA is seeking comment on how the new Tier 4 bins and California LEV IV categories should fit into the existing Tier 3 bin structure for smog scores. For example, EPA seeks comment on what smog score should apply to the new Tier 4, bin 10 and new California LEV IV category of SULEV 15. The current MY 2025 Tier 3 rating system in Table 1 of 40 CFR 600.311–12(g) has a smog score of 10 for bin 0 and a score of 7 for bin 20, suggesting that a smog score of 8 might be appropriate for SULEV 15 and a smog score of 9 might be appropriate for bin 10; however we may also consider assigning bin 10 and SULEV 15 to the same rating, either 8 or 9. In addition, EPA is seeking comment on the smog scores that should apply to Tier 4 bin 60/LEV IV ULEV 60, Tier 4 bin 40/LEV 40, and SULEV 25. We seek comment on assigning bin 60/ULEV 60 a score of 4, sharing a rating with bin 70 ULEV 70; assigning bin 40/ULEV 40 a rating of 5, sharing a rating with bin 50; and assigning SULEV 25 a rating of 6, sharing a rating with bin 30. These assignments would allow the MY 2025 Tier 3 ratings to remain in place, while placing the new Tier 4 bins and LEV IV categories in logical locations.

For MY 2030 and later, we seek comment on maintaining the smog rating bin assignments from MY 2027–2029 for bin 40/ULEV 40 and lower bins. Since there is no longer a need for Tier 3 bin 160 or bin 125 after MY 2029, we seek comment on assigning a smog score of 2 to bin 70/ULEV 70, a score of 3 to bin 60/ULEV 60, and a score of 4 to bin 50/ULEV 50. This approach allows bin 40 through bin 70 to each correspond to a single smog score.

We welcome comment on this approach and after consideration of comment may adopt final smog scores that are higher or lower.

iii. NMOG+NO_x Standards and Test Cycles for Light-Duty Vehicles

EPA is proposing increasingly stringent light-duty vehicle NMOG+NO_x standards (Table 43) for the sales weighted average inclusive of all LDV, LDT and MDPV (e.g. ICE vehicles, BEVs, PHEVs, fuel cell, vehicles, etc.). The proposed phase-in of the standards by vehicle category is described in Section III.C.1.

EPA recognizes that vehicles will differ with respect to their levels of NMOG+NO_x emissions control depending on degree of electrification, choice of fuel, ICE technology, and other differences. The proposed fleet average standards are feasible in light of anticipated technology penetration rates commensurate with the GHG technology implementation during this same time period and increasing electrification of light-duty vehicles.

TABLE 43—NMOG+NO_x FLEET AVERAGE STANDARDS OVER THE FTP[†] FOR LIGHT-DUTY VEHICLES *

Model year	NMOG+NO _x (mg/mi)
2027	22
2028	20
2029	18
2030	16
2031	14
2032 and later	12

† As defined in 40 CFR 1066.801(c)(1)(i) and 1066.815.

* For a complete description of fleet average NMOG+NO_x standards for LDT3, LDT4, and MDPV under both the early compliance and default programs, see Section III.C.1.

The declining fleet average standards over the FTP cycle ensure that NMOG+NO_x continues to decrease over time for the light-duty fleet. The

⁵⁰² MDV at or above 22,000 pounds GCWR must comply with 2027 and later heavy-duty engine emissions standards.

elimination of the two highest bins (Table 42) caps the maximum NMOG+NO_x emissions from an individual new vehicle model. EPA anticipates that electrified technology, including BEVs, will play a significant role within the compliance strategies for meeting the fleet average NMOG+NO_x standards for each manufacturer. However, EPA anticipates that manufacturers may use multiple technology solutions to comply with fleet average NMOG+NO_x standards. For example, a manufacturer may choose to offset any ICE increases with increased BEV sales, or could alternatively improve engine and exhaust aftertreatment designs to reduce emissions for ICE vehicles while planning for a more conservative percentage of BEV sales as part of their compliance with the declining fleet average NMOG+NO_x standards reflected in Table 43.

Since technologies are available to further reduce NMOG+NO_x emissions relative to the current fleet, and since more than 20 percent of MY 2021 Bin 30 vehicle certifications already show an FTP certification value under 15 mg/mi NMOG+NO_x, achieving reduced NMOG+NO_x emissions through improved ICE technologies is feasible and reasonable. Regardless of the compliance strategy chosen, overall, the fleet will become significantly cleaner.

EPA is proposing that the same bin-specific numerical standards be applied across four test cycles: 25 °C FTP,⁵⁰³ HFET,⁵⁰⁴ US06⁵⁰⁵ and SC03.⁵⁰⁶ This means that a manufacturer certifying a vehicle to comply with Bin 30 NMOG+NO_x standards would be required to meet the Bin 30 emissions standards for all four test cycles. Meeting the same NMOG+NO_x standards across four cycles is an increase in stringency from Tier 3, which had one standard for the higher of FTP and HFET, and a less stringent composite based standard for the SFTP (weighted average of 0.35*FTP + 0.28*US06 + 0.37*SC03).

Present-day engine, transmission, and exhaust aftertreatment control technologies allow closed-loop air-to-fuel (A/F) ratio control and good

exhaust catalyst performance throughout the US06 and SC03 cycles. As a result, higher emissions standards over these cycles are no longer necessary. Approximately 60 percent of the test group/vehicle model certifications from MY 2021 have higher NMOG+NO_x emissions over the FTP cycle as compared to the US06 cycle, supporting the conclusion that a single standard is feasible and appropriate.

EPA is proposing to replace the existing -7 °C FTP NMHC fleet average standard of 300 mg/mi for passenger cars and LDT1, and 500 mg/mi fleet average standard for LDT2 through LDT4 and MDPV, with a single NMOG+NO_x fleet average standard of 300 mg/mi for LDV, LDT1 through 4 and MDPVs to harmonize with the combined NMOG+NO_x approach adopted in Tier 3 for all other cycles (*i.e.*, 25 °C FTP, HFET, US06, and SC03 cycles). EPA emissions testing at -7 °C FTP showed that a 300 mg/mi standard is feasible with a large compliance margin for NMOG+NO_x. See DRIA for additional certification data to support the proposed fleet average NMOG+NO_x standard of 300 mg/mi. EPA did not include EVs in the assessment of the proposed fleet average standard and therefore EVs and other zero emission vehicles are not included and not averaged into the fleet average -7 °C FTP NMOG+NO_x standards.

Since -7 °C FTP and 25 °C FTP are both cold soak tests that include TWC operation during light-off and at operating temperature, it is appropriate to apply the same Tier 3 useful life to both standards.

EPA requests comment on whether a 400 mg/mi cap should replace the proposed 300 mg/mi fleet average for the -7 °C FTP NMOG+NO_x standard. Additional discussion on the feasibility of the proposed standards can be found in DRIA Chapter 3.2.

The proposed standards apply equally at high altitude, rather than including compliance relief provisions from Tier 3 for certification at high altitude. Modern engine management systems can use idle speed, engine spark timing, valve timing, and other controls to offset the effect of lower air density on exhaust catalyst performance at high altitudes.

iv. NMOG+NO_x Standards and Test Cycles for MDV at or Below 22,000 lb GCWR

The proposed MDV (medium duty vehicles, 8,501 to 14,000 pounds GVWR) NMOG+NO_x standards for vehicles at or below 22,000 pounds GCWR are shown in Table 44. Certification data show that for MY 2022–2023, 75 percent of sales-weighted Class 2b/3 gasoline vehicle certifications were below 120 mg/mi in FTP and US06 tests. Diesel-powered MDVs designed for high towing capability (*i.e.*, GCWR above 22,000 pounds) were higher (75 percent were below 180 mg/mi) but they are not being used to inform the proposed MDV standard because the Agency is proposing the requirement that MDVs (diesel and gasoline) with GCWR (gross combined weight rating) above 22,000 pounds comply with criteria pollutant emissions standards under the HD engine program, as described in Section I.A.1, MDVs at or below 22,000 pounds GCWR have comparable emissions performance to LDVs and LDTs. The year-over-year fleet average FTP standards for MDV at or below 22,000 pounds GCWR and the rationale for the manufacturer's choice of early compliance and default compliance pathways is described in Section III.C.1. For further discussion of MDV NMOG+NO_x feasibility, please refer to Chapter 3.2 of the DRIA.

The proposed MDV NMOG+NO_x standards are based on applying existing light-duty vehicle technologies, including electrification, to MDV. As with the light-duty vehicle categories, EPA anticipates that there will be multiple compliance pathways, such as increased electrification of vans together with achieving 100 mg/mile NMOG+NO_x for ICE-power MDV. Present-day MDV engine and aftertreatment technology allows fast catalyst light-off after cold-start followed by closed-loop A/F control and excellent exhaust catalyst emission control on MDV, even at the adjusted loaded vehicle weight, ALVW [(curb + GVWR)/2] test weight, which is higher than loaded vehicle weight, LVW (curb + 300 pounds) used for testing light-duty vehicles. The proposed MDV standards begin to take effect in 2030, consistent with the CAA section 202(a)(3)(C) lead time requirement for these vehicles.

⁵⁰³ 40 CFR 1066.801(c)(1)(i) and 1066.815.

⁵⁰⁴ 40 CFR 1066.840.

⁵⁰⁵ 40 CFR 1066.831.

⁵⁰⁶ 40 CFR 1066.835.

TABLE 44—MDV FLEET AVERAGE NMOG+NO_x STANDARDS UNDER THE EARLY COMPLIANCE PATHWAY[†]

Model year	NMOG+NO _x (mg/mi)	
	Class 2b	Class 3
2026	* 178	* 247
2027	160	
2028	140	
2029	120	
2030	100	
2031	80	
2032 and later	60	

[†] Please refer to Section III.C.1 for further discussion of the early compliance and default compliance pathways.

* Tier 3 standards provided for reference.

TABLE 45—MDV FLEET AVERAGE CHASSIS DYNAMOMETER FTP NMOG+NO_x STANDARDS UNDER THE DEFAULT COMPLIANCE PATHWAY

Model year	MDV [†] NMOG+NO _x (mg/mi)	
	Class 2b	Class 3
2026	* 178	* 247
2027	* 178	* 247;
2028	* 178	* 247
2029	* 178	* 247
2030	60	
2031	60	
2032 and later	60	

* Tier 3 standards provided for reference.

[†] MDV chassis dynamometer NMOG+NO_x standards only apply for vehicles at or below 22,000 lb GCWR.

If a manufacturer has a fleet mix with relatively high sales of MDV BEV, that would ease compliance with MDV NMOG+NO_x fleet average standards for MDV ICE-powered vehicles. If the manufacturer has a fleet mix with relatively low BEV sales, then improvements in NMOG+NO_x emissions control for ICE-powered vehicles would be required to meet the fleet average standards. Improvements to NMOG+NO_x emissions from ICE-powered vehicles are feasible with available engine, aftertreatment, and sensor technology, and has been shown within an analysis of MY 2022–2023 MDV certification data (see DRIA Chapter 3.2). Fleet average NMOG+NO_x will continue to decline to well below the final Tier 3 NMOG+NO_x standards of 178 mg/mi and 247 mg/mi for Class 2b and 3 vehicles, respectively.

The proposed standards require the same MDV numerical standards be met across all four test cycles, the 25 °C FTP, HFET, US06 and SC03, consistent with the proposed approach for light-duty vehicles described in Section III.C.1.ii. This would mean that a manufacturer certifying a vehicle to bin 60 would be required to meet the bin 60 emissions standards for all four cycles.

Meeting the same NMOG+NO_x standard across four cycles is an increase in stringency from Tier 3,

which had one standard over the FTP and less stringent bin standards for the HD-SFTP (weighted average of $0.35 \times \text{FTP} + 0.28 \times \text{HDSIM} + 0.37 \times \text{SC03}$, where HDSIM is the driving schedule specified in 40 CFR 86.1816–18(b)(1)(ii)). Current MDV control technologies allow closed-loop A/F control and high exhaust catalyst emissions conversion throughout the US06 and SC03 cycles, so compliance with higher numerical emissions standards over these cycles is no longer needed. Manufacturer submitted certification data and EPA testing show that Tier 3 MDV typically have similar NMOG+NO_x emissions in US06 and 25 °C FTP cycles, and NMOG+NO_x from the SC03 is typically much lower. Testing of a 2022 F250 7.3L at EPA showed average NMOG+NO_x emissions of 56 mg/mi in the 25 °C FTP and 48 mg/mi in the US06. Manufacturer-submitted certifications show that MY 2021+2022 gasoline 2b/3 trucks achieved, on average, 69/87 mg/mi in the FTP, and 75/NA⁵⁰⁷ mg/mi in the US06, and 18/25 mg/mi in the SC03.

Several Tier 3 provisions would end with the elimination of the HD-SFTP and the combining of bins for Class 2b

and class 3 vehicles. First, Class 2b vehicles with power-to-weight ratios at or below 0.024 hp/pound could no longer replace the full US06 component of the SFTP with the second of three sampling bags from the US06. Second, class 3 vehicles would no longer use the LA-92 cycle in the HD-SFTP calculation but would rather have to meet the NMOG+NO_x standard in each of four test cycles (25 °C FTP, HFET, US06 and SC03). Third, the SC03 could no longer be replaced with the FTP in the SFTP calculation.

The proposed standards do not include relief provisions for MDV certification at high altitude. Modern engine systems can use idle speed, engine spark timing, valve timing, and other controls to offset the effect of lower air density on catalyst light-off at high altitudes.

EPA is also proposing a new – 7 °C FTP NMOG+NO_x fleet average standard of 300 mg/mi for gasoline and diesel MDV. EPA testing has demonstrated the feasibility of a single fleet average – 7 °C FTP NMOG+NO_x standard of 300 mg/mi across light-duty vehicles and MDV. EPA did not include EV's in the assessment of the proposed fleet average standard and therefore EVs and other zero emission vehicles are not included and not averaged into the fleet average – 7 °C FTP NMOG+NO_x standards.

⁵⁰⁷ Tier 3 US06 certification data are not available for class 3 trucks because Tier 3 requires them to certify using the LA92 instead of the US06.

Since -7°C FTP and 25°C FTP are both cold soak tests that include TWC operation during light-off and at operating temperature, it is appropriate to apply the same Tier 3 useful life to both standards.

EPA requests comment on whether a 400 mg/mi cap should replace the proposed 300 mg/mi fleet average for the -7°C FTP NMOG+NO_x standard. Additional discussion on the feasibility of the proposed standards can be found in DRIA 3.2.

3. Revised PM Standard

i. PM Standard and Test Cycles for Light-Duty Vehicles and MDV

EPA is proposing several changes to the current Tier 3 p.m. requirements. These changes include a more stringent standard for the 25°C FTP and US06 test cycles, and addition of a cold PM standard for the existing Cold Test (-7°C FTP). The same numerical standard of 0.5 mg/mi and the same certification test cycles are being

proposed for both light-duty vehicles (LDV, LDT, and MDPV) and MDV (Class 2b and 3 vehicles) at or below 22,000 pounds GCWR, as shown in Table 46 for light-duty vehicles and Table 47 for MDV. Comparisons to current Tier 3 p.m. standards are provided for reference. The same Tier 3 defined useful life standard applies to all three test cycles.

TABLE 46—PROPOSED LIGHT-DUTY VEHICLE PM STANDARDS

Test cycle	Tier 3 standards (mg/mi)	Proposed PM standard (mg/mi)
25°C FTP	3	0.5
US06	6	0.5
-7°C FTP	Not applicable	0.5

TABLE 47—PROPOSED MDV (CLASS 2B AND 3) AT OR BELOW 22,000 LB GCWR PM STANDARDS

Test cycle	Tier 3 standards (mg/mi)	Proposed PM standard (mg/mi)
25°C FTP	8/10 for 2b/3 vehicles	0.5
US06	10/7 for 2b/3 vehicle on SFTP ..	0.5
-7°C FTP	Not applicable	0.5

EPA believes that these standards are appropriate and feasible to reduce PM emissions over the broadest range of vehicle operating and environmental conditions. The current Tier 3 p.m. standards capture only a portion of vehicle operation. EPA has observed that PM emissions increase dramatically during cold cold-starts and during high engine power driving not captured by on-cycle tests. While several vehicles in the current fleet demonstrate emissions performance that could comply with the proposed standards at 25°C , the -7°C PM standard will most likely lead to the adoption of Gasoline Particulate Filters (GPF) as the most practical and cost-effective means to control PM emissions. GPF is a mature and cost-effective technology that operates under all vehicle operating conditions. Current GPF technology (e.g., MY 2022 GPFs) has high filtration efficiency, even during and immediately after GPF regenerations, when the GPF cannot rely on soot loading to improve filtration. GPFs are being widely used in Europe and China and vehicle manufacturers are already building GPF-equipped vehicles in the United States for sale in other countries.

In support of the proposed PM standards, EPA has conducted robust and detailed GPF testing to characterize GPF performance. During this testing

EPA not only measured the change in PM and polyaromatic hydrocarbon (PAH) emissions, with and without the GPF installed, but also assessed impacts on GHG emissions and vehicle performance. In summary, EPA noted that with a properly sized GPF, no measurable impact on GHG emissions and only slight impact on vehicle performance should occur, while PM emissions are typically reduced by over 95 percent and filter-collected PAH emissions are typically reduced by over 99 percent. A review of GPF technology, analyses of its benefits, challenges and costs, and demonstration of the feasibility of the proposed PM standard are discussed in Chapter 3.2 of the DRIA.

ii. Phase-In for Light-Duty Vehicles and MDV at or Below 22,000 lb GCWR

The proposed phase-in for the PM standard is the same as for other criteria emissions, as described in Section III.C.1. EPA requests comment on accelerating the phase-in for PM relative to other criteria emissions requirements of this rule (NMOG+NO_x, CO, HCHO, NMOG+NO_x provisions aligned with the CARB ACC II program, certifying high GCWR MDV under the HD engine program for criteria pollutants, evaporative emissions, and elimination of enrichment) because GPFs are a

mature technology that has been in mass production since 2017 in Europe, since 2020 in China, and since 2023 in India, and because several manufacturers assemble vehicles equipped with GPF in the U.S. for export to other markets. An accelerated phase-in could also be supported by increased availability of BEVs. EPA requests comment on accelerating PM phase-in to 50% or 80% in MY 2027 and 100% in MY 2028 for vehicles with GVWR≤14,000 pounds under the early compliance pathway, and for vehicles with GVWR≤6000 pounds under the default compliance pathway.

iii. Feasibility of the PM Standard and Selection of Test Cycles

The PM standards that EPA is proposing would require vehicle manufacturers to produce vehicles that emit PM at GPF-equipped levels (GPF-level PM). The proposed rule does not require that GPF hardware be used on vehicles, but rather reflects EPA's judgement that it is feasible and appropriate to achieve the proposed PM standards considering the availability of this technology. It is expected that GPF technology will be the most practical and cost-effective pathway for meeting the standard, especially in -7°C FTP and US06 test cycles.

To establish what level of PM standards are appropriate for this proposal, EPA conducted a test program that considered multiple vehicle types and powertrain technologies as well as GPF technology. Much like many other aspects of aftertreatment technology and emissions controls, GPFs have gone through considerable development since their initial introduction and as a result have provided significantly improved effectiveness with each successive iteration. EPA evaluated available technology with respect to the emissions benefits observed over the regulated cycles, including two generations of GPF technology.

The PM test program included five chassis dynamometer test cells at EPA, Environment and Climate Change Canada (ECCC), and FEV North America Inc., and five test vehicles (2011 F150, 2019 F150, 2021 F150 HEV, 2021 Corolla, 2022 F250) tested in stock and GPF configurations. These test vehicles include a passenger car, three Class 2a trucks, and one Class 2b truck. The two generations of GPFs include series production MY 2019 and series production MY 2022 models, catalyzed and bare substrates, and close-coupled and underfloor GPF installations. Results from the test program are summarized in Figure 14. The study demonstrates that Tier 3 light-duty vehicles and MDV equipped with GPFs that are currently in series production in Europe and China (*i.e.*, MY 2022 GPF) can easily meet the proposed standard of 0.5 mg/mi in all three test cycles with a large compliance margin.

In Figure 14, tests without GPFs are shown in black, tests with MY 2019 GPFs are shown in gray, and tests performed with MY 2022 GPFs are shown in stripes. The top of each bar represents the highest measurement set

mean of one vehicle in one laboratory and the bottom of each bar represents the lowest measurement set mean. The tops of the black bars are off scale in this figure, but their values are indicated with numbers above the bars.

The striped bars include PM measurements from two vehicles: A 2021 F150 HEV (Class 2a vehicle) retrofit with a MY 2022 bare GPF in the underfloor location, and a 2022 F250 7.3L (Class 2b vehicle) retrofit with two MY 2022 bare GPFs, one for each engine bank, in the underfloor location.

Results show that only the GPF-equipped vehicles could meet the 0.5 mg/mi proposed standard in the -7°C FTP test. The MY 2019 GPFs failed to meet the proposed standard in the US06 because passive GPF regeneration occurred as a result of high exhaust gas temperatures (GPF inlet gas temperature greater than 600°C). GPF regeneration oxidizes stored soot and reduces GPF filtration efficiency during and immediately after the regeneration. Vehicles equipped with MY 2022 GPFs met the 0.5 mg/mi standard in all three test cycles with a compliance margin of 100 percent or more. The MY 2022 GPFs showed high filtration efficiencies generally over 95 percent, even in the US06 cycle because they did not rely on stored soot for high filtration efficiency. The mean of test sets with MY 2022 GPF are over 95 percent lower than the mean of non-GPF test sets in each of the three test cycles.

The data show that MY 2022 GPFs are capable of emissions performance commensurate with EPA's goal of requiring GPF-level emissions over the broadest range of vehicle operating and environmental conditions. The results support the conclusion that a 0.5 mg/mi PM standard over the -7°C FTP, 25°C

FTP, and US06 test cycles is feasible and appropriate.

The -7°C FTP test cycle is crucial to the proposed PM standard because it differentiates vehicles with GPF-level PM from vehicles with Tier 3 levels of PM, and because -7°C is an important real-world temperature that addresses uncontrolled cold PM emissions in Tier 3.

The US06 cycle is similarly crucial to the proposed PM standard because it induces passive GPF regeneration across vehicle-GPF combinations (*i.e.*, light-duty vehicles and MDV, naturally aspirated and turbocharged engines, close-coupled and underfloor GPF installations, bare and catalyzed GPFs), and GPF regeneration is an important mode of operation with respect to emissions. GPF regeneration does not occur in the -7°C FTP, 25°C FTP, and LA-92 across vehicle and exhaust system combinations. Including a certification test in which passive GPF regeneration occurs is important because it ensures low tailpipe PM during and immediately after GPF regenerations, which occur during high load operation, including road grades, towing, and driving at higher speeds.

Older GPF technology does not exhibit high PM filtration during and immediately after GPF regeneration. Older GPF technology can have filtration efficiency as low as 50 percent, as opposed to generally more than 95 percent demonstrated by the MY 2022 GPFs shown in Figure 14. Without the US06 test cycle, manufacturers could employ old GPF technology that has poor PM control during high load operation. Average US06 p.m. from the MY 2019 GPFs is 15 times higher than average US06 p.m. from the MY 2022 GPFs from the data shown in Figure 14.

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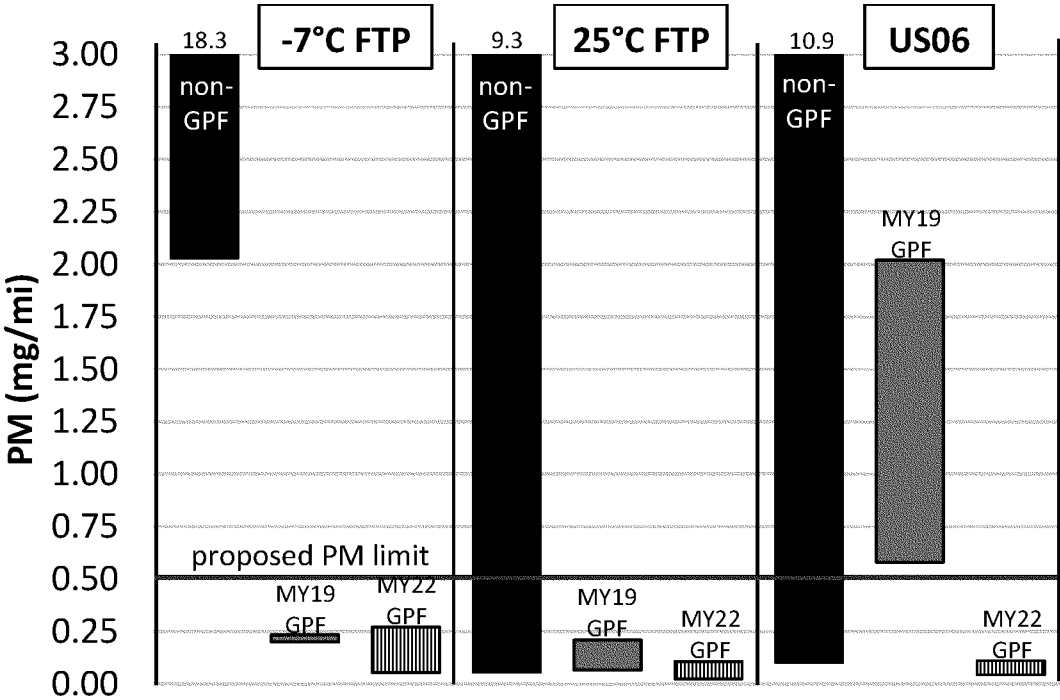


Figure 14. Results from a five-lab five-vehicle test program illustrating the effectiveness of series production MY 2019 GPFs and series production MY 2022 GPFs in meeting the proposed 0.5 mg/mi PM standard in -7°C FTP, 25°C FTP, and US06 test cycles.

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MDVs are certified at higher test weights and road load coefficients than light-duty vehicles, but measurements show that series production MY 2022 GPF technology enables meeting the

proposed 0.5 mg/mi standard equally well on MDV as light-duty vehicles, with compliance margins of over 100 percent. Measurements comparing PM from a Class 2b vehicle with a current technology GPF (MDV MY 2022 F250

with a MY 2022 GPF), to a Class 2a vehicle with a current technology GPF (LDV MY 2021 F150 HEV with a MY 2022 GPF) are shown in Figure 15. Additional testing supports the same conclusion for Class 3 vehicles.

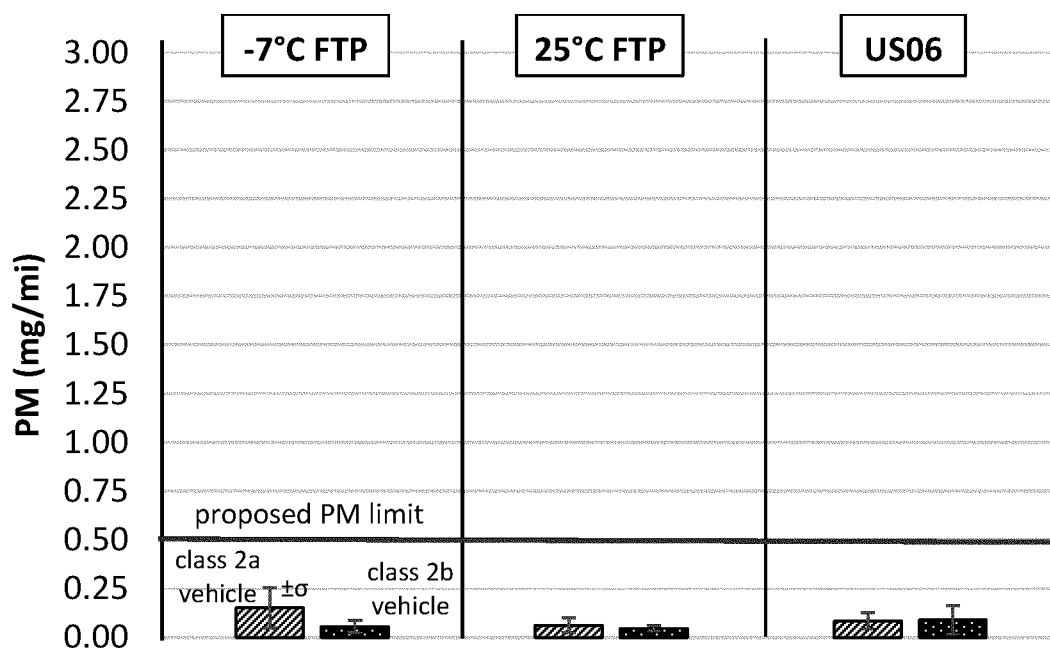


Figure 15. PM measurements comparing PM from a Class 2a vehicle to a Class 2b vehicle, both with MY 2022

GPFs, in -7°C FTP, 25°C FTP, and US06 test cycles.

As was the case for light-duty vehicles, the -7°C FTP cycle is crucial because it differentiates Tier 3 levels of PM from GPF-level PM and because -7°C is an important real-world temperature that addresses uncontrolled cold PM emissions in Tier 3. Furthermore, as was the case for light-duty vehicles, the US06 cycle is crucial to the proposed PM standard for MDV because the US06 induces passive GPF regeneration across different vehicle-GPF combinations and GPF regeneration is an important mode of operation with respect to emissions. The LA-92, which was used instead of the US06 cycle on Class 3 vehicles in Tier 3, does not induce GPF regeneration, and for this reason the US06 cycle is required for all light-duty vehicles and MDV in the proposed standard.

GPF inlet gas temperatures measured on the MY 2022 F250 7.3L during sampled US06, sampled hot LA-92, and -7°C FTP operation, are shown in Figure 16. Fast soot oxidation begins in a GPF around 600°C.⁵⁰⁸ The US06 is the only cycle where GPF inlet gas temperature of the MY 2022 F250 exceeded 600°C and it exceeded it for a significant amount of time (265 seconds), resulting in passive GPF regeneration. Peak inlet gas temperature was 674°C in the US06. In contrast, GPF inlet gas temperature never exceeded 600°C in the LA-92 and only exceeded 500°C for a limited period of time. Peak GPF inlet gas temperature in the LA-92 (566°C) was closer to the -7°C FTP (493°C) than the US06 (674°C).

In this vehicle configuration, GPF regeneration does not occur in LA-92,

25°C FTP, or -7°C FTP cycles to a significant degree, which makes those cycles unable to force PM emissions control commensurate with MY 2022 GPF technology. Additional tests performed with the MY 2022 F250 with MY 2022 GPFs using test weight and road load coefficients from a MY 2022 F350 Class 3 vehicle show that even with the higher test weight and road load, the GPFs did not undergo substantial regeneration in the LA-92 cycle. Without requiring the US06 as a certification cycle for MDV, the GPF may not undergo GPF regeneration and high PM filtration, which new GPF technology offers, would not be ensured during high load operation, including trailer towing, road grades, or high speeds, for which these vehicles are designed.

⁵⁰⁸ Achleitner, E., Frenzel, H., Grimm, J., Maiwald, O., Rösel, G., Senft, P., Zhang, H.,

"System approach for a vehicle with gasoline direct injection and particulate filter for RDE," 39th

International Vienna Motor Symposium, Vienna, April 26–27, 2018.

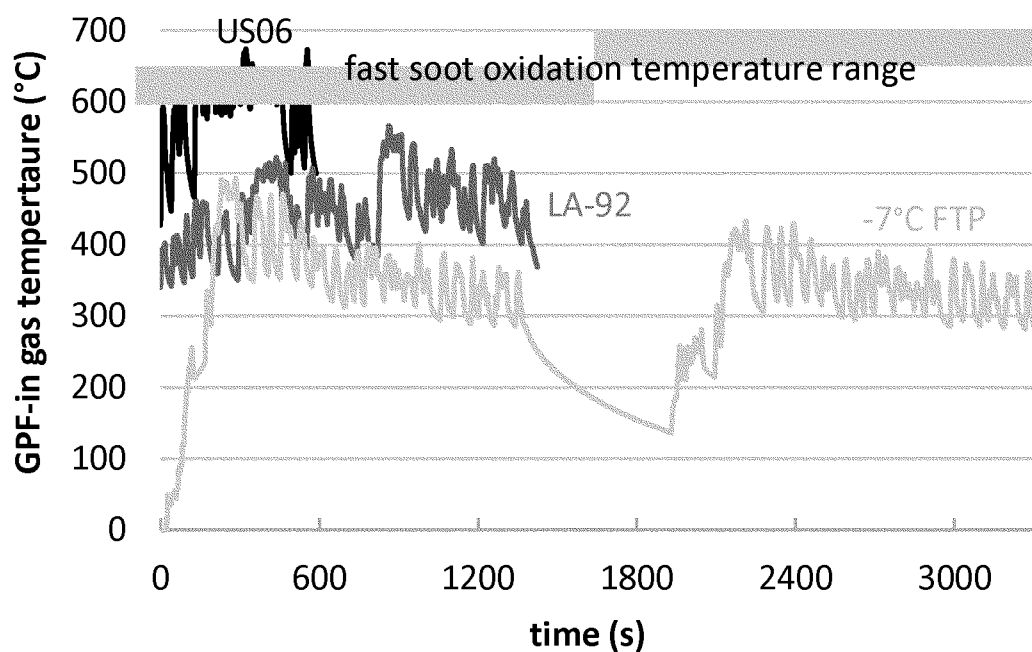


Figure 16. GPF inlet gas temperatures measured on MY 2022 F250 7.3L left engine bank GPF during sampled

US06, sampled hot LA-92, and -7°C FTP test cycles.

Under the proposed standards, Class 2b vehicles with power-to-weight ratios at or below 0.024 hp/pound could no longer replace the full US06 component of the SFTP with the second of three phases of the US06 for their PM certification. If a test vehicle is unable to follow the trace, it must perform maximum effort to follow the trace, and that would not result in a voided test. This procedure mimics how vehicles with low power-to-weight tend to be driven in the real world.

Also, Class 3 vehicles would not use the LA-92 for PM certification, as they did in Tier 3. Instead, Class 3 vehicles would have to meet the 0.5 mg/mi PM standard across the same three test cycles as light-duty vehicles and other MDV: -7°C FTP, 25°C FTP, and US06.

GPF technology is both mature and cost effective. It has been used in series production on all new pure gasoline direct injection (GDI) vehicle models in Europe since 2017 (WLTC and RDE test

cycles) and on all pure GDI vehicles in Europe since first registration of 2019 (WLTC and RDE test cycles) to meet Europe's emissions standards. All gasoline vehicles in China have had to meet similar standards in the WLTC since 2020, and in the WLTC and RDE starting in 2023. All pure GDI vehicles in India also have to meet similar GPF-forcing standards starting in 2023. GPFs like the MY 2022 GPFs described by Figure 14 and Figure 15 are being used in series production by U.S., European, and Asian manufacturers, and several manufacturers currently assemble vehicles equipped with GPF in the U.S. for export to other markets.

Further details and discussion of test vehicles, GPFs, test procedures, and results are provided in the DRIA 3.2.

iv. PM Measurement Considerations

Current test procedures, as outlined in 40 CFR part 1066, allow robust gravimetric PM measurements well below the proposed PM standard of 0.5

mg/mi. Repeat measurements in EPA laboratories, at different levels of PM below 0.5 mg/mi, are shown in Figure 17. The size of the error bars relative to the measurement averages at and below 0.5 mg/mi demonstrates that the measurement methodology is sufficiently precise to support a 0.5 mg/mi standard. Other than selecting test settings appropriate for quantifying low PM, no test procedure changes are needed. Good engineering judgment should be used with respect to dilution factor, filter media selection, filter flow rate, using a single filter for all phases of a test cycle, filter static charge removal, robotic weighing, and minimizing contamination during filter handling. EPA is not reopening the test procedures, nor does the agency believe that test procedure changes are required, to measure PM for the proposed PM standards. Further discussion of selecting test settings is discussed in the DRIA.

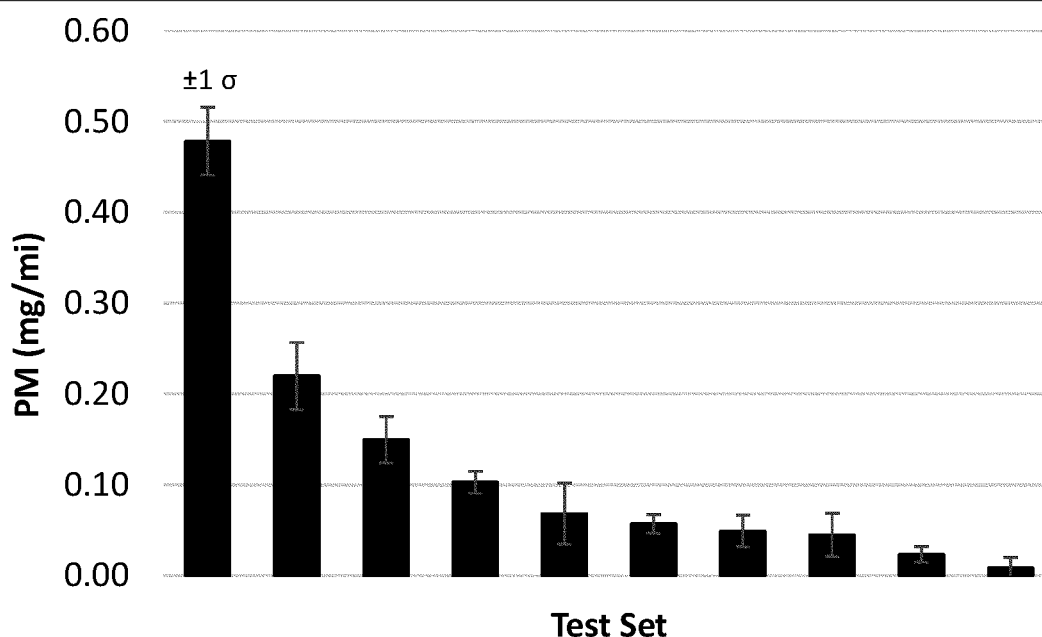


Figure 17. Example of test-to-test repeatability of PM measurements from vehicles without and with GPF, an aerosol generator, and tunnel blanks from three EPA test cells.

v. Pre-Production Certification

EPA is proposing that PM emissions be certified over -7°C FTP, 25°C FTP, and US06 cycles with at least one Emissions Data Vehicle (EDV) per test group in model years 2027, 2028, and 2029+ for light-duty vehicles and MDV compliant with the new 0.5 mg/mi standard in the early compliance program. In the default program, PM emissions would be certified with at least one EDV per test group in model years 2027, 2028, and 2029+ for light-duty vehicles compliant with the new standard, and with at least one EDV per test group in 2030+ for MDV compliant with the new standard. See 40 CFR 86.1829–15. This level of certification testing matches the requirement to certify gaseous criteria emissions at the test group level and ensures that the significantly lower PM emissions standard of 0.5 mg/mi is being met across a wide range of ICE technologies. The requirement to certify PM emissions at the test group level is an increase in testing requirements relative to Tier 3, where PM emissions could be certified at the durability group level. The increase in testing requirement is tempered by the phase-in of the PM standard described in Table 39, and since BEVs do not require testing.

EPA solicits comment on whether pre-production PM certification should go back to testing at the durability group level in 2030 for light-duty vehicles and

in 2031 for MDV after PM control technologies have been demonstrated across a range of ICE technologies. If PM certification were to go back to testing at the durability level in 2030/2031, manufacturers would still have to attest that the 0.5 mg/mi standard is being met by all test groups.

EPA is proposing to update the instructions to select a worst-case test vehicle from each test group by considering -7°C FTP testing with all the other criteria standards. This contrasts with the current approach, in which manufacturers select worst-case test vehicles separate from -7°C FTP testing and then select a test vehicle for -7°C FTP testing from those test vehicles included in the same durability group. The current approach is appropriate for measuring CO and NMHC for -7°C FTP testing. However, the concern for PM emissions with -7°C FTP testing are on par with concern for the other standards already considered for selecting a worst-case test vehicle to represent the test group. EPA requests comments on different approaches for selecting test vehicles to most effectively apply test resources to ensure compliance with the range of emission standards.

vi. In-Use Compliance Testing

In addition to pre-production certification, the proposed PM standard requires in-use compliance testing as

part of the in-use vehicle program (IUV). The proposed PM standard requires that PM from each in-use test vehicle be tested using 25°C FTP and US06 cycles and meet the 0.5 mg/mi PM standard. In-use vehicles are also required to comply with the -7°C FTP standard, but manufacturers are not required to test using this cycle to reduce testing burden. EPA may test in-use vehicles using -7°C FTP, 25°C FTP, and US06 cycles to ensure compliance. Given the certification test demonstration for meeting the -7°C FTP PM standard, along with expected IUV testing over 25°C FTP and US06 cycles and the potential for EPA testing, we find that there is not enough justification to require the additional test burden associated with IUV testing for PM emissions over the -7°C FTP cycle.

vii. OBD Monitoring

Since GPF technology is expected to be an important enabler for meeting the proposed PM standard, OBD monitoring of the GPF system is necessary. If a vehicle uses a GPF, the OBD system must detect GPF-related malfunctions, store trouble codes related to detected malfunctions, and alert operators appropriately.

It is expected that the OBD system detect system tampering and major malfunctions using, for example, using a pressure sensor. The same pressure

sensor that senses GPF soot overloading may be used to detect system tampering and major malfunctions. It is expected that if a pressure sensor is used for OBD functions, it should detect a GPF pressure drop greater than zero and less than an expected maximum as a function of engine operating point. Further OBD discussion is provided in Section III.G.

viii. GPF Cost

A GPF cost model is described in DRIA Chapter 3.2 and GPF cost is included in the OMEGA model. The model anticipates the direct manufacturing cost (DMC) for a bare downstream GPF ranges from \$51 dollars for a 1.0-liter engine using a relatively low GPF volume to engine displacement ratio, up to \$166 dollars for a 7.0 liter engine using a relatively high GPF volume to engine displacement ratio.

4. Revised CO and Formaldehyde (HCHO) Standards

i. CO and HCHO Standards for Light-Duty Vehicles

EPA is proposing CO and formaldehyde (HCHO) emissions caps for light-duty vehicles shown in Table 48. The proposed value of the CO emissions cap for the 25 °C FTP, HFET, US06, SC03 test cycles, 1.7 g/mi, is the same as the Tier 3 bin-specific standards for Bin 50 and Bin 70, but it must be met across four cycles instead of the Tier 3 cycles of 25 °C FTP and a separate standard for the SFTP.

The proposed value of the HCHO emissions cap, 4 mg/mi, is the same as the Tier 3 bin-specific standards for Bin 20 through Bin 160. The HCHO cap only applies to the 25 °C FTP, as in Tier 3.

The proposed CO emissions cap for the –7 °C FTP is 10.0 g/mi. This differs from the current standards in that the same cap applies to all light-duty vehicles. The current CO cap is 10.0 g/mi for LDV and LDT1, and 12.5 g/mi for LDT2, LDT3, LDT4, and MDPV.

TABLE 48—LIGHT-DUTY VEHICLE CO AND HCHO EMISSIONS CAPS

CO cap for 25 °C FTP, HFET, US06, SC03 (g/mi)	1.7
HCHO cap for 25 °C FTP (mg/mi)	4
CO cap for –7 °C FTP (g/mi)	10.0

ii. CO and HCHO Standards for MDV at or Below 22,000 lb GCWR

EPA is proposing CO and formaldehyde (HCHO) emissions caps for MDV at or below 22,000 pounds

GCWR shown in Table 49. The proposed value of the CO emissions cap for the 25 °C FTP, HFET, US06, SC03 test cycles, 3.2 g/mi, is the same as the Tier 3 bin-specific standard for Bin 20 through Bin 160, but it must be met across four cycles instead of the Tier 3 cycles of 25 °C FTP and a separate standard for the SFTP.

The proposed value of the HCHO emissions cap, 6 mg/mi, is the same as the Tier 3 bin-specific standards for Bin 20 through Bin 160. The HCHO cap only applies to the 25 °C FTP, as in Tier 3.

The proposed CO emissions cap for the –7 °C FTP is 10.0 g/mi.

TABLE 49—MDV AT OR BELOW 22,000 LB GCWR CO AND HCHO EMISSIONS CAPS

CO cap for 25 °C FTP, HFET, US06, SC03 (g/mi)	3.2
HCHO cap for 25 °C FTP (mg/mi)	6
CO cap for –7 °C FTP (g/mi)	10.0

Present-day MDV gasoline engine aftertreatment technology allows fast catalyst light-off followed by closed-loop A/F control and excellent emissions conversion on Class 2b and 3 vehicles, even at the ALVW [(curb + GVW)/2] test weight, which is higher than light-duty vehicle test weight of LVW (curb + 300 pounds). Testing of a 2022 F250 7.3L in the –7 °C FTP at EPA showed average CO emissions of 2.7 g/mi CO, demonstrating that a 10.0 g/mi standard is feasible for MDV.

5. Requirements To Certify MDV With High GCWR Under the HD Engine Program for Criteria Emissions

The Agency is proposing mandatory engine certification for compliance with criteria pollutant emissions standards for MDVs above 22,000 pounds GCWR. The proposed standards would include both spark ignition and compression ignition (diesel) engines, complete and incomplete vehicles, and require compliance with all of the same engine certification criteria pollutant requirements and standards as for 2027 and later engines installed in Class 4 and higher HD vehicles, including NMHC, CO, NO_x and PM standards, useful life, warranty and in-use requirements that were finalized in December 2022.⁵⁰⁹ Complete MDVs would still require chassis dynamometer testing for demonstrating compliance with GHG standards as described in Section III.B.3 and would be included within the fleet average

MDV GHG emissions standards along with the other MDVs at or below 22,000 GCWR. Manufacturers could certify incomplete MDVs to GHG standards under 40 CFR 86.1819 or 40 CFR part 1037. Note that existing regulations (40 CFR 1037.150(l)) allow a comparable dual testing methodology, which utilizes engine dynamometer certification for demonstration of compliance with criteria pollutant emissions standards while maintaining chassis dynamometer certification for demonstration of compliance with GHG emissions standards under 40 CFR 86.1819. One manufacturer has been using this provision to certify all gasoline vehicles over 14,000-pound GVWR and the corresponding engines since MY 2016. Proposed requirements are summarized in Table 50.

The purpose of this proposed change is to ensure that criteria pollutant emissions are controlled under the sustained high load conditions that many of these vehicles encounter, particularly during heavy towing operation. Some Class 2b and Class 3 trucks have towing capability exceeding that of Class 4 and Class 5 trucks. Some diesel Class 3 emissions families have GCWR in excess of 40,000 pounds. The agency considers trucks above 22,000 pounds GCWR to be predominantly work vehicles that will reasonably encounter significant towing and/or other highly loaded use during normal operation. Many of these vehicles currently do not have exhaust aftertreatment sized for effective emissions control under sustained high loads. Current chassis dynamometer test cycles used for demonstrating compliance do not include such sustained high load operation. Manufacturers have also indicated to the agency that there is a trade-off between sustained high load exhaust aftertreatment performance and cold-start light off performance over the FTP cycle. It is more appropriate that trucks above 22,000 pounds GCWR be tested as heavy-duty engines due capabilities and predominant use that are much more closely aligned with Class 4 and above heavy-duty applications than with light-duty vehicles and light-duty trucks.

Based on an analysis of the MY 2022 and MY 2023 emissions certification data, most MDV complete and incomplete diesel pickup trucks would be required to switch to engine dynamometer certification; MY 2022 vans would not be required to use engine dynamometer certification; and only a small number of gasoline pickup trucks would be required to switch to engine certification.

⁵⁰⁹ See <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-and-related-materials-control-air-pollution>.

As described in Section III.C.1, under the CAA trucks over 6,000 pounds GVWR are allowed 4 years of lead time before they are required to begin implementation of new criteria pollutant emission standards. The agency is providing an earlier implementation pathway beginning in 2027 in order for manufacturers to better plan for program changes over a larger time window and to encourage earlier emissions reductions. Because of this earlier opportunity for manufacturers and the potential for the agency to realize earlier emission reductions, we are providing additional flexibilities.

Manufacturers who choose to optionally implement this engine certification requirement for all their trucks above 22,000 pounds GCWR beginning in 2027 model year will be allowed an additional GHG compliance flexibility. If manufacturers choose to certify their vehicles to these proposed standards in 2027 MY, they will be allowed to continue to use the HD GHG Phase 2 based final 2026 work factor-based target GHG standards, without a

capped GCWR input for the work factor-based target standard. This allowance would continue through 2029 MY, after which vehicle manufacturers would be required to switch to the new work factor standards and the capped GCWR work factor equation input proposed in Section III.B.3 in 2030. This will provide an opportunity for manufacturers to balance the implementation of new GHG program plans for these much higher GCWR vehicles while also achieving important criteria pollutant emission reductions earlier in the program. The agency seeks comments on additional flexibilities that achieve the same or similar emission reductions.

The default compliance pathway for MDV would be compliance with 2027 and later HD engine emissions standards beginning in 2030. Under the default compliance pathway, GHG compliance flexibilities to extend compliance with the heavy-duty Phase 2 GHG standards beyond the 2026 model year do not apply and manufacturers would need to meet the

proposed MDV GHG standards described in Section III.B.3 beginning with the 2027 model year.

The Agency seeks comment on several alternatives for high GCWR MDV criteria pollutant emissions standards: (1) MDV above 22,000 pounds GCWR would comply with the MDV chassis dynamometer standards proposed in Section III.C with the introduction of additional engine-dynamometer-based standards over the Supplemental Emissions Test as finalized within the Heavy-duty 2027 and later standards; (2) MDV above 22,000 pounds GCWR would comply with the MDV chassis dynamometer standards proposed in Section III.C with additional in-use testing and standards comparable to those used within the California ACC II; (3) Introduction of other test procedures for demonstration of effective criteria pollutant emissions control under the sustained high-load conditions encountered during operation above 22,000 pounds GCWR.

TABLE 50—CERTIFICATION REQUIREMENTS OF HIGH GCWR VEHICLES

Vehicle	GVWR (lb)	GCWR (lb)	Criteria pollutant standards	GHG standards	Compared to tier 3
Complete	8500–14,000	≤22,000	Part 86	Part 86	Same.
Incomplete	8500–14,000	≤22,000	Part 86 -OR- Part 1036 Part 1036 & 1037		Same.
Complete	8500–14,000	>22,000	Part 1036	Part 86	New for criteria.
Incomplete	8500–14,000	>22,000	Part 1036	Part 86 or 1037	New for criteria.

6. Refueling Standards for Incomplete Spark-Ignition Vehicles

The agency is proposing to require that incomplete medium duty vehicles meet the same on-board refueling vapor recovery (ORVR) standards as complete vehicles. Incomplete vehicles have not been required to comply with the ORVR requirements to date because of the potential complexity of their fuel systems, primarily the filler neck and fuel tank. Unlike complete vehicles, which have permanent fuel system designs that are fully integrated into the vehicle structure at time of original construction by manufacturers, it was previously believed that incomplete vehicles may need to change or modify some of fuel system components during their finishing assembly. For this reason, it was previously determined that ORVR might introduce complexity for the upfitters that is unnecessarily burdensome.

Since then, the agency has newly assessed both current ORVR equipped vehicles and their incomplete versions. Based on our updated assessment, the agency believes that the fuel system designs are almost identical with only the ORVR components removed for the incomplete version. The complete and incomplete vehicles appear to share the same fuel tanks, lines, and filler tubes. The original thought that extensive differences between the original manufacturer's designs and the upfitter modifications to the fuel system would be required have not been observed. Therefore, the agency believes that all incomplete vehicles can comply with the same ORVR standards as complete vehicles with the addition of the same ORVR components on the incomplete vehicles as the complete version of the vehicle possesses.

The current practice of manufacturers of the original incomplete vehicles is to specify to the upfitter that modifications of the fuel system are not allowed by the

upfitter. This is because the incomplete vehicle manufacturers are responsible for all current evaporative requirements (2-day, 3-day, running loss, spitback, etc.) and almost any modification could compromise compliance with those program standards. There is also an aspect of compliance with crash and safety requirements that prevent upfitters from making changes to the fuel system components. For these reasons, with rare exception, the fuel system design and installation is completed by the original vehicle manufacturer. The exception that the agency observed is that some incomplete vehicles do not have the filler tube permanently mounted to a body structure until the upfitter adds the finishing body hardware (*i.e.*, flatbed, box). In these cases, the upfitter is limited to only attaching the filler tube to their added structure but must maintain the original manufacturer designs that are certified to meet

existing EPA evaporative emission standards.

Net emission impacts are expected to be small in the context of the entire inventory and were not estimated for the NPRM, but the VOC and air toxics reductions will be important in locations where these vehicles are commonly refueled.

i. Summary of Medium Duty Vehicle Refueling Emission Standards and Test Procedures

Compliance with evaporative and refueling emission standards is demonstrated at the vehicle level. The vehicle manufacturers produce MD spark-ignition (SI) complete vehicles and, in some instances, sell incomplete vehicles to secondary manufacturers. As noted in the following sections, we are proposing refueling emission standards for incomplete vehicles 8501 to 14,000 pounds GVWR. These proposed standards would apply over a useful life of 15 years or 150,000 miles, whichever occurs first, consistent with existing evaporative emission standards for these vehicles and for complete versions. No changes to evaporative and refueling emission standards for complete vehicles are being proposed by this rulemaking.

ii. Current Refueling Emission Standard and Test Procedures

Spark-ignition medium duty vehicles generally operate with volatile liquid fuel (such as gasoline or ethanol) or gaseous fuel (such as natural gas or LPG) that have the potential to release high levels of evaporative and refueling HC emissions. As a result, EPA has issued evaporative emission standards that apply to vehicles operated on these fuels.⁵¹⁰ Refueling emissions are evaporative emissions that result when the pumped liquid fuel displaces the vapor in the vehicle tank. Without refueling emission controls, most of those vapors are released into the ambient air. The HC emissions emitted are a function of temperature and the Reid Vapor Pressure (RVP).⁵¹¹ The emissions control technology which collects and stores the vapor generated during refueling events is the Onboard Refueling Vapor Recovery (ORVR) system.

Light-duty vehicles and chassis-certified complete medium-duty vehicles that are 14,000 pounds GVWR

and under have been meeting evaporative and refueling requirements for many years. ORVR requirements for light-duty vehicles started phasing in as part of EPA's National Low Emission Vehicle (NLEV) and Clean Fuel Vehicle (CFV) programs in 1998.⁵¹² In EPA's Tier 2 vehicle program, all complete vehicles with a GVWR of 8,501 to 14,000 pounds were required to phase-in ORVR requirements between 2004 and 2006 model years.⁵¹³ In the Tier 3 rulemaking, all complete vehicles were required to meet a more-stringent standard of 0.20 grams of HC per gallon of gasoline dispensed by MY 2022 (see 40 CFR 86.1813–17(b)).⁵¹⁴ The recent 2027 heavy duty final rule added refueling standards for incomplete heavy-duty vehicles over 14,000 pounds GVWR. This left incomplete medium duty SI engine powered vehicles 8,501 to 14,000 pounds GVWR as the only SI vehicles not required to meet refueling standards.

While the agency does not believe manufacturers of the very limited volumes of incomplete LD vehicles (*i.e.*, mainly some LD pick-ups for commercial customers who upfit application specific boxes and flatbeds) are currently "removing" any ORVR related hardware already required for the complete vehicle version like what has been observed in the MDV applications, and this proposal focuses on the known incomplete vehicles without ORVR in MDVs, the agency seeks comment on whether to extend this ORVR requirement to all incomplete LDVs and MDVs to prevent any future removal of ORVR from LDVs.

iii. Proposed ORVR HC Standard

We are proposing a refueling emission standard of 0.20 grams HC per gallon of dispensed fuel for incomplete vehicles 8,501 to 14,000 pounds GVWR (0.15 grams for gaseous-fueled vehicles), which is the same as the existing refueling standards for complete vehicles.⁵¹⁵ We note that these proposed refueling emission standards would apply to all liquid-fueled and gaseous-fueled spark-ignition medium-duty vehicles, including gasoline and ethanol blends.⁵¹⁶ We believe it is feasible for manufacturers to achieve these

standards by adopting the technology in use on complete vehicles.

We are proposing to apply the refueling standards for new incomplete vehicles starting with model year 2030. This meets the statutory obligation to allow four years of lead time for new emissions standards for criteria pollutants for heavy-duty vehicles. This schedule also complements the alternative phase-in provisions adopted in our final rule setting these same standards for vehicles above 14,000 pounds GVWR (88 FR 4296, January 24, 2023). Those alternative phase-in provisions allowed for manufacturers to phase in certification of all their incomplete medium-duty and heavy-duty vehicles to the new standards from 2027 through 2030. This proposed rule provides a complete set of options for manufacturers. Specifically, manufacturers may certify incomplete heavy-duty vehicles above 14,000 pounds GVWR to the refueling standards in 2027 and incomplete medium-duty vehicles to the refueling standards in 2030. The second option is to meet the phase-in for the combined set of vehicles for 2027 through 2030.

We request comment on our proposed standards.

iv. Impact on Secondary Manufacturers

For incomplete vehicles 8,501 to 14,000 pounds GVWR, the chassis manufacturer performs the evaporative emissions testing and obtains the vehicle certificate from EPA. When the chassis manufacturer sells the incomplete vehicle to a secondary vehicle manufacturer, the chassis manufacturer provides specific instructions to the secondary manufacturer indicating what they must do to maintain the certified configuration, how to properly install components, and what, if any, modifications may be performed. For the evaporative emission system, a chassis manufacturer may require specific tube lengths and locations of certain hardware, and modifications to the fuel tank, fuel lines, evaporative canister, filler tube, gas cap and any other certified hardware would likely be limited.

We anticipate that the addition of any ORVR hardware and all ORVR-related aspects of the certified configuration would continue to be managed and controlled by the chassis manufacturer that holds the vehicle certificate. The engineering associated with all aspects of the fuel system design, which would include the ORVR system, is closely tied to the engine design, and the chassis manufacturer is the most qualified party to ensure its performance and

⁵¹² 62 FR 31192 (June 6, 1997) and 63 FR 926 (January 7, 1998).

⁵¹³ 65 FR 6698 (February 10, 2000).

⁵¹⁴ 79 FR 23414 (April 28, 2014) and 80 FR 0978 (February 19, 2015).

⁵¹⁵ 40 CFR 86.1813–17.

⁵¹⁶ Refueling requirements for incomplete medium duty vehicles that are fueled by CNG or LNG would be the same as the current complete gaseous-fueled spark-ignition medium-duty vehicle requirements.

⁵¹⁰ 40 CFR 86.1813–17.

⁵¹¹ E.M. Liston, American Petroleum Institute, and Stanford Research Institute. A Study of Variables that Effect the Amount of Vapor Emitted During the Refueling of Automobiles. Available online: <http://books.google.com/books?id=KW2IGwAACAAJ>, 1975.

compliance with applicable standards. Example fuel system changes the OEM may implement include larger canisters bracketed to the chassis frame close to the fuel tanks. Additional valves may be necessary to route the vapors to the canister(s) during refueling. Most other evaporative and fuel lines would remain in the same locations to meet existing evaporative requirements. There may be slightly different filler neck tube designs (smaller fuel transfer tube) as well as some additional tubes and valves to allow proper fuel nozzle turn-off (click off) at the pump, but this is not expected to include relocating the filler neck. Based on the comments received during the 2027 HD rule making that established refueling requirements for incomplete vehicles over 14,000 GVWR, we believe these changes would not adversely impact the secondary manufacturers finishing the vehicles.⁵¹⁷

The instructions provided by the chassis manufacturer to the secondary manufacturer to meet our proposed refueling standards should include new guidelines to maintain the certified ORVR configuration. We do not expect the new ORVR system to require significant changes to the vehicle build process, since chassis manufacturers would have a business incentive to ensure that the ORVR system integrates smoothly in a wide range of commercial vehicle bodies. Accordingly, we do not expect that addition of the ORVR hardware would result in any appreciable change in the secondary manufacturer's obligations or require secondary builders to perform significant modifications to their products.

v. Feasibility Analysis for the Proposed Refueling Emission Standards

This section describes the effectiveness and projected costs of the emissions technologies that we analyzed for our proposed refueling standards. Feasibility of the proposed refueling standard of 0.20 grams of HC per gallon is based on the widespread adoption of ORVR systems used in the light-duty and complete medium-duty vehicle sectors. As described in this section, we believe manufacturers can effectively use the same technologies already implemented in the complete medium-duty versions of the same vehicles to meet the proposed standard.

⁵¹⁷ See comments from the Manufacturers of Emission Controls Association (EPA-HQ-OAR-2019-0055-0365) and Ingevity Corporation (EPA-HQ-OAR-2019-0055-0271).

vi. Summary of Refueling Emission Technologies Considered

This section summarizes the specific technologies we considered as the basis for our analysis of the proposed refueling emission standards. The technologies presented in this section are described in greater detail in the DRIA.

Instead of releasing HC vapors into the ambient air, ORVR systems capture HC emissions during refueling events when liquid fuel displaces HC vapors present in the vehicle fuel tank as the tank is filled. These systems recover the HC vapors and store them for later purging from the system and use as fuel to operate the engine. An ORVR system consists of four main components that are incorporated into the existing fuel system: Filler pipe and seal, flow control valve, carbon canister, and purge system.

The filler pipe is the section of line from the fuel tank to where fuel enters the fuel system from the fuel nozzle. The filler pipe is typically sized to handle the maximum fill rate of liquid fuel allowed by law and integrates either a mechanical or liquid seal to prevent fuel vapors from exiting through the filler pipe to the atmosphere. The flow control valve senses that the fuel tank is getting filled and triggers a unique low-restriction flow path to the canister. The carbon canister is a container of activated charcoal designed to effectively capture and store fuel vapors. Carbon canisters are already a part of MD SI fuel systems to control evaporative emissions. Fuel systems with ORVR would require additional capacity, by increasing either the canister volume or the effectiveness of the carbon material. The purge system is an electro-mechanical valve used to redirect fuel vapors from the fuel tank and canister to the running engine where they are burned in the combustion chamber.⁵¹⁸

The fuel systems on 8,501 to 14,000 pounds GVWR incomplete heavy-duty vehicles are similar, if not identical to those on complete medium-duty vehicles that are currently subject to refueling standards. These incomplete vehicles may have slightly larger fuel tanks than most certified (complete) medium-duty vehicles and in some applications may have dual fuel tanks. These differences may necessitate greater ORVR system storage capacity and possibly some unique accommodations for dual tanks (e.g., separate fuel filler locations), as

⁵¹⁸ This process displaces some amount of the liquid fuel that would otherwise be used from the fuel tank and results in a small fuel savings.

commented by ORVR suppliers in response to the similar program in the HD 2027 ANPR.⁵¹⁹

vii. Projected Refueling Emission Technology Packages

The ORVR emission controls we projected in our feasibility analysis build upon four components currently installed on complete medium-duty vehicles 8,501 to 14,000 pounds GVWR to meet the Tier 3 evaporative emission standards: The carbon canister, flow control valves, filler pipe and seal, and the purge system. For our feasibility analysis, we assumed a 35-gallon fuel tank to represent an average tank size⁵²⁰ of medium-duty gasoline fueled vehicles 8,501 to 14,000 pounds GVWR. A summary of the projected technology updates and costs are presented in this section. See the DRIA for additional details.

In order to capture the vapor volume of fuel tanks during refueling, we project manufacturers would increase canister vapor or "working" capacity of their liquid-sealed canisters by 15 to 40 percent depending on the individual vehicle systems. If a manufacturer chooses to increase the canister volume using conventional carbon, we project a canister meeting Tier 3 evaporative emission requirements with approximately 2.5 liters of conventional carbon would need up to an additional 1 liters of carbon to capture refueling emissions from a 35-gallon fuel tank. A change in canister volume to accommodate additional carbon would result in increased costs for retooling and additional canister plastic, as well as design considerations to fit the larger canister on the vehicle. Alternatively, a manufacturer could choose to use the same size fuel tank and canister currently used to meet refueling requirements for complete medium duty vehicles to avoid the re-tooling costs. Another approach, based on discussions with canister and carbon manufacturers, could be for manufacturers to use a higher adsorption carbon and modify compartmentalization within the existing shell to increase the canister working capacity. We do not have data to estimate the performance or cost of higher adsorption carbon and so did not include this additional approach in our analysis.

The projected increase in canister volumes assumes manufacturers would use a liquid seal in the filler pipe, which

⁵¹⁹ See comments from the Manufacturers of Emission Controls Association (EPA-HQ-OAR-2019-0055-0365) and Ingevity Corporation (EPA-HQ-OAR-2019-0055-0271).

⁵²⁰ Advertised MY 2022 fuel tank sizes ranged from 31 to 43 gallons.

is less effective than a mechanical seal. For a manufacturer that replaces their liquid seal with a mechanical seal, we assumed an approximate 20 percent reduction in the necessary canister volume. Despite the greater effectiveness of a mechanical seal, manufacturers in the past have not preferred this approach because it introduces another wearable part that can deteriorate, introduces safety concerns, and may require replacement during the useful life of the vehicle. To meet the proposed ORVR standards, manufacturers may choose the mechanical seal design to avoid retooling charges. We included this potential compliance approach in our cost analysis. We assumed a cost of \$10.00 per seal for a manufacturer to convert from a liquid seal to a mechanical seal. We also analyzed costs based on the use of liquid seals, and we assumed zero cost in our analysis for manufacturers to maintain their current liquid seal approach for filler pipes

already used in the complete medium-duty applications.

In order to manage the large volume of vapors during refueling, manufacturers' ORVR updates would include flow control valves integrated into the roll-over/vapor lines. We assumed manufacturers would, on average, install one flow control valve per vehicle that would cost \$6.50 per valve. And lastly, we project manufacturers may need to update their purge strategy to account for the additional fuel vapors from refueling. Manufacturers may add hardware and optimize calibrations to ensure adequate purge in the time allotted over the preconditioning drive cycle of the demonstration test.

Table 51 presents the ORVR system specifications and assumptions used in our cost analysis, including key characteristics of the baseline incomplete vehicle's evaporative emission control system. Currently manufacturers may size the canisters of their Tier 3 evaporative emission

control systems based on the diurnal 3-day test and the Bleed Emission Test Procedure (BETP).⁵²¹ During the diurnal test, the canister is loaded with hydrocarbons over two or three days, allowing the hydrocarbons to load a conventional carbon canister (1,500 GWC, gasoline working capacity) at a 70 g/L effectiveness. In contrast, a refueling event takes place over a few minutes, and the ORVR directs the vapor from the gas tank onto the carbon in the canister at a canister loading effectiveness of 50 g/L. For our analysis, we added a design safety margin of 10 percent extra carbon to our ORVR systems. While less overall vapor mass may be vented into the canister from the fuel tank during a refueling event compared to the three-day diurnal test period, a higher amount of carbon is needed to contain the faster rate of vapor loaded at a lower efficiency during a refueling event. These factors were used to calculate the canister volumes for the two filler neck options in our cost analysis.

TABLE 51—ORVR SPECIFICATIONS AND ASSUMPTIONS USED IN THE COST ANALYSIS FOR HD SI INCOMPLETE VEHICLES ABOVE 14,000 LBS GVWR

	Tier 3 baseline	ORVR filler neck options	
		Mechanical seal	Liquid seal
	Diurnal	ORVR	
Diurnal Heat Build	72–96 °F	80 °F	
RVP	9 psi		
Nominal Tank Volume	35 gallons		
Fill Volume	40%	10% to 100%	
Air Ingestion Rate .....	.....	0%	13.50%
Mass Vented per heat build, g/d	60 .....	.....	.....
Mass Vented per refueling event .....	.....	128	158
Hot Soak Vapor Load	2.5 .....	.....	.....
Mass vented over 48-hour test	114 .....	.....	.....
Mass vented over 72-hour test	162 .....	.....	.....
1,500 GWC, g/L ^a	70	50	50
Excess Capacity	10%	10%	10%
Estimated Canister Volume Requirement, liters ^b			
48-hour Evaporative only	1.8 .....	.....	.....
72-hour Evaporative only	2.5 .....	.....	.....
Total of 72-hour + ORVR ^c .....	.....	2.8	3.5

^aEfficiency of conventional carbon.

^bCanister Volume = 1.1 (mass vented)/1,500 GWC (Efficiency).

^cORVR adds .3 liters and 1 liter for Mechanical Seal and Liquid Seal, respectively.

The ORVR components described in this section represent technologies that we think most manufacturers would choose to adopt to meet our proposed refueling requirements. It is possible that manufacturers may choose a

different approach, or that unique fuel system characteristics may require additional hardware modifications not described here, but we do not have reason to believe costs would be significantly higher than presented in

the following section. We request comment, including data, on our assumptions related to the increased canister working capacity demands, the appropriateness of our average fuel tank size, the technology costs for the

⁵²¹ 40 CFR 86.1813–17(a).

specific ORVR components considered and any additional information that can improve our cost projections in the final rule analysis.

viii. Summary of Costs To Meet Proposed Refueling Emission Standards

Table 52 shows cost estimations for the different approaches evaluated. In calculating the overall cost of our proposed program, we used \$19, the average of both approaches, to represent the cost for manufacturers to adopt the

additional canister capacity and hardware to meet our proposed refueling emission standards for incomplete medium duty vehicles. See Section V of this preamble for a summary of our overall program cost and Chapter 3 of the DRIA for more details.

TABLE 52—ESTIMATED DIRECT MANUFACTURING COSTS FOR ORVR OVER TIER 3 AS BASELINE

	Liquid seal	Mechanical seal
	New canister	New canister
Additional Canister Costs	\$10	\$4
Additional Tooling ^a	0.50	0.50
Flow Control Valves	6.50	6.50
Seal	0	10
Total ^b	17	21

^a Assumes the retooling costs will be spread over a five-year period.

^b Possible additional hardware for spitback requirements.

Incomplete vehicles may include dual fuel tanks, which may require some unique accommodations to adopt ORVR systems. A dual fuel tank chassis configuration would need separate canisters and separate filler pipes and seals for each fuel tank. Depending on the design, a dual fuel tank chassis configuration may require a separate purge valve for each fuel tank. We assume manufacturers would install one additional purge valve for dual fuel tank applications that also incorporate independent canisters for the second fuel tank/canister configuration and manufacturers adopting a mechanical seal in their filler pipe would install an anti-spitback valve for each filler pipe. See the DRIA for a summary of the design considerations for these fuel tank configurations. We did not include an estimate of the population or impact of dual fuel tank vehicles in our cost analysis of our proposed refueling emission standards because we believe that is a very rare option found on only one manufacturer's MY 2022 incomplete pickup model.

ix. Summary of Additional Program Considerations

We are requesting comment regarding the cost, feasibility, and appropriateness of our proposed refueling emission standard for incomplete light-duty trucks. While we do not believe that any significant volume of incomplete LD vehicles is produced, we request comment on extending this proposal to all incomplete vehicles. The proposed standard is based on the current refueling standard that applies to complete light-duty and medium-duty gasoline-fueled vehicles. We are proposing that compliance with these

standards may be demonstrated under an existing regulatory provision allowing them to group incomplete vehicles with completes if they share identical evaporative emission hardware and meet other engineering and temperature profile requirements impacting evaporative emissions and durability.

EPA has identified a potential issue with Non-Integrated Refueling Canister Only Systems (NIRCOS) designed fuel vapor handling designs. During refueling events, because the sealed system may be under pressure and the pressure must be released before the fuel cap is removed, these NIRCOS systems initially release any tank vapors into the canister prior to the cap removal and the refueling event. These initial pressurized fuel vapors are not allowed to be simply vented through the gas cap and are therefore appropriately released into and absorbed by the carbon canister. However, the identified issue relates to the ORVR test procedure which does not account for this extra fuel vapor loading prior to the refueling event. The testing procedure for ORVR certification starts with a fully purged canister with no vapor loading from the release of the pressurized vapors prior to the cap removal that would likely occur in actual operation in the real world.

To address this limited issue, instead of a challenging change to the established ORVR test procedure, the agency is seeking comment for the need for an engineering requirement related to the canister working capacity that would provide an increase in the capacity in order to properly capture this initial pressurized vapor load and

still have the needed capacity to handle the vapors generated during the refueling event. The agency requests comment on the need to address this limited issue.

EPA requests comment on the proposed evaporative emissions standards.

7. NMOG+NO_x Provisions Aligned With CARB ACC II Program

EPA proposes the adoption of three NMOG+NO_x provisions for light-duty vehicles (LDV, LDT, MDPV) aligned with the CARB ACC II program. Each provision addresses frequently encountered vehicle operating conditions that are not currently captured in EPA test procedures and produce significant criteria pollutant emissions. The operating conditions include high power cold starts in plug-in hybrid vehicles, early drive-away (*i.e.*, drive-away times shorter than in the FTP), and mid-temperature engine starts. EPA believes that the rationale and technical assessment performed by CARB applies not only for vehicles sold in California but for products sold across the country. EPA would require vehicle manufacturers to attest to meeting the three specific CARB ACC II program standards using CARB-defined test procedures.⁵²² The proposed phase-in for the three CARB ACC II program provisions is the same as for other criteria emissions standards and is described in Section III.C.1.

⁵²² CARB Title 16, Section 1961.4. Final Regulation Order. Exhaust Emission Standards and Test Procedures—2026 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

i. PHEV High Power Cold Starts

The first provision addresses NMOG+NO_x emissions from PHEV high power cold starts (HPCS), which is when a driver demands more torque than the battery and electric motor can supply, and the ICE is started and immediately produces high torque while also working to light off the catalyst. NMOG+NO_x exhaust emissions

for this provision are measured over the Cold Start US06 Charge-Depleting Emission Test, as described in, “California Test Procedures for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-in Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes.”⁵²³

EPA’s proposed bin-specific standards are shown in Table 53. The bins are

slightly different than the ACC II bins. Specifically, EPA is not proposing Bin 125, Bin 25 or Bin 15, as found in CARB ACC II, and is instead proposing Bin 10. EPA is proposing Step 1 of this provision to start with MY 2027, one year later than CARB, and for Step 2 of the provision to start in MY 2029, which is the same as CARB.

TABLE 53—HIGH POWER COLD START STANDARDS

Vehicle emission category	Cold start US06 PHEV standards (150,000-mile durability vehicle basis)	
	NMOG+NO _x (g/mi)	
	Step 1: 2027 to 2028 MY	Step 2: 2029+ MY
Bin 70	0.320	0.200
Bin 60	0.280	0.175
Bin 50	0.240	0.150
Bin 40	0.200	0.125
Bin 30	0.150	0.100
Bin 20	0.100	0.067
Bin 10	0.050	0.034

For Step 1, PHEVs with Cold Start US06 all-electric range of at least 10 miles are exempt from the standard. For Step 2, PHEVs with Cold Start US06 all-electric range of at least 40 miles are exempt from the standard. CARB testing identified several existing PHEVs that started on the US06 and met the standard by a small margin.

EPA requests comment on Step 2 of the PHEV HPCS standard, specifically whether the Step 2 standard should (1) be finalized as proposed, (2) have a start date later than MY 2029, (3) have an alternative stringency, either for all light-duty vehicles or just for LDT3 and LDT4, or (4) should be removed, leaving Step 1 to apply indefinitely. EPA encourages commenters to provide underlying data to support their comments, particularly addressing any technical challenges regarding the lead time or feasibility of the Step 2 standard. EPA will consider the comments along with any additional available data in assessing the Step 2 standards for the final rule.

ii. Early Driveaway

EPA is proposing NMOG+NO_x emissions standards that address emissions from earlier gear engagement and drive-away described by the CARB ACC II program.⁵²⁴ In a regular 25 °C FTP, gear engagement happens at 15

seconds and driveaway happens at 20 seconds, but studies have shown many drivers begin driving earlier than this. Vehicle manufacturers have historically designed their aftertreatment systems and controls to meet emissions standards based on the timing of the FTP drive away. However, given the existing field data regarding the propensity of drivers to drive off sooner than the delay represented in the FTP and that vehicle manufacturers have demonstrated that they are able to address and reduce the emissions associated with this event, EPA feels it is appropriate to require vehicle manufacturers to meet this ACC II requirement.

EPA believes that CARB has properly captured early driveaway vehicle operation in the test procedures developed for ACC II. The bin-specific standards are shown in Table 54, which are congruent with those of the ACC II program. The bins are slightly different than the ACC II bins. Specifically, EPA is not proposing Bin 125, Bin 25 or Bin 15, as found in ACC II, and is instead proposing Bin 10.

TABLE 54—EARLY DRIVEAWAY STANDARDS

Vehicle emissions category	NMOG+NO _x (g/mi)
Bin 70	0.082
Bin 60	0.072
Bin 50	0.062
Bin 40	0.052
Bin 30	0.042
Bin 20	0.032
Bin 10	0.022

Vehicles are exempt from the ACC II early driveaway bin standards if the vehicle prevents engine starting during the first 20 seconds of a cold-start FTP test interval and the vehicle does not use technology (e.g., electrically heated catalyst) that would cause the engine or emission controls to be preconditioned such that NMOG+NO_x emissions would be higher during the first 505 seconds of the early driveaway emission test compared to the NMOG+NO_x emissions during the first 505 seconds of the standard FTP emission test.

iii. Intermediate Soak Mid-Temperature Starts

EPA also proposes to adopt a third provision defined by the CARB ACC II program that addresses NMOG+NO_x emissions from intermediate soak mid-temperature starts.⁵²⁵ Current EPA test

⁵²³ CARB Title 16, Section 1961.4. Final Regulation Order. Exhaust Emission Standards and Test Procedures—2026 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

⁵²⁴ CARB Title 16, Section 1961.4. Final Regulation Order. Exhaust Emission Standards and Test Procedures—2026 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

⁵²⁵ CARB Title 16, Section 1961.4. Final Regulation Order. Exhaust Emission Standards and

procedures capture emissions from vehicle cold start and vehicle hot start. However, many vehicles in actual operation experience starts after an intermediate time (*i.e.*, soak times between 10 minutes and 12 hours). Vehicle manufacturers are not currently required to control the emissions associated with these mid-temperature starts to the same degree that they manage cold and hot starts.

Tier 3 vehicles achieve low start emissions when soak times are short because the engine and aftertreatment are still hot from prior operation. Start emissions after long soak periods are addressed by the 12+ hour soak of the 25 °C FTP, which requires vehicle calibrations to quickly heat the catalyst

and sensors from an engine at ambient temperature. The mid-temperature intermediate soak provision addresses emissions from intermediate soak times where the engine and aftertreatment have cooled but may still be warmer than ambient temperature.

Vehicle manufacturers have demonstrated that they are able to address and reduce the emissions associated with this type of event, and EPA feels it is appropriate to require vehicle manufacturers to meet this requirement. EPA believes that CARB has properly captured the vehicle operation in the test procedures they developed for ACC II.

The bin-specific proposed standards shown in Table 55, are congruent with

those of the ACC II program. The bins are slightly different than the ACC II bins. Specifically, EPA is not proposing Bin 125, Bin 25, or Bin 15, as found in ACC II, and is instead proposing Bin 10.

Manufacturers would need to submit data at each of the three standards: 9–11 minutes for the 10-minute requirement, 39–41 minutes for the 40-minute requirement, and 5–7 hours for the 3–12 hour requirement, and attest to meeting the standards at other soak times by linearly interpolating between 10 minutes and 40 minutes, and between 40 minutes and 12 hours. The proposed intermediate soak mid-temperature standards are shown in Table 55.

TABLE 55—INTERMEDIATE SOAK MID-TEMPERATURE START STANDARDS

Vehicle emissions category	10-Minute soak NMOG+NO _x (g/mi)	40-Minute soak NMOG+NO _x (g/mi)	3–12 hour soak NMOG+NO _x (g/mi)
Bin 70	0.035	0.054	0.070
Bin 60	0.030	0.046	0.060
Bin 50	0.025	0.038	0.050
Bin 40	0.020	0.031	0.040
Bin 30	0.015	0.023	0.030
Bin 20	0.010	0.015	0.020
Bin 10	0.005	0.008	0.010

EPA recognized that requiring compliance to an emissions standard represented by a curve requires more testing effort than requiring compliance to a point standard and thus requests comment on whether to simplify the compliance requirements of this provision, in light of benefits and costs.

8. Elimination of Commanded Enrichment for Power or Component Protection

EPA is proposing to eliminate the allowance of the use of commanded enrichment as an AECD on SI engines used in light-duty vehicles and MDV for either power or component protection during normal operation and use. Normal operation is defined at 40 CFR 86.1803–01 to include vehicle speeds and grades of public roads, and vehicle loading and towing within manufacturer recommendations, even if the operation occurs infrequently. Commanded enrichment includes lean best torque enrichment.

Brief rich excursions are allowed during (1) engine start, (2) lambda dithering⁵²⁶ or slight lambda biasing to achieve optimal three-way catalyst

(TWC) conversion efficiency of criteria emissions, (3) catalyst re-wetting after deceleration fuel cut off (DFCO), (4) brief lambda excursions during engine transients, (5) intrusive OBD monitoring of aftertreatment, evaporative canister purge valve, etc., and (6) in vehicle “limp-home” operation where the malfunction indicator light (MIL, commonly known as the “check engine light”) or other warning systems are triggered.

Most current vehicles incorporate AECDs that utilize enrichment (*i.e.*, commanding air/fuel ratio less than the stoichiometric air/fuel ratio) for the purpose of protecting components in the exhaust system from thermal damage during normal operation and use. Some vehicles incorporate similar strategies for the purpose of increasing the power output of the engine. Such strategies significantly reduce the effectiveness of the aftertreatment system.

Technologies exist that can prevent thermal damage of engine and/or exhaust system components without the use of enrichment during normal operation and use (see DRIA Chapter 3 for technology discussion). Modern

vehicles have sufficient power without the use of enrichment. The use of enrichment only has the potential to incrementally increase power but significantly reduces the effectiveness of the catalytic aftertreatment system, resulting in a ten-fold or greater increase of CO and HC emissions.

EPA requests comment on the proposed prohibition of commanded enrichment as an AECD, including analyses of benefits and costs, and additional exceptions where brief rich operation should be allowed.

9. Averaging, Banking, and Trading Provisions

Section III.B.4 describes averaging, banking, and trading (ABT) credit provisions included in the proposed GHG program and the basis for providing them. ABT provisions are also included in the proposed criteria pollutant program for NMOG+NO_x standards. ABT has a long history for both light duty and heavy duty vehicles and EPA is not reopening or soliciting comment on the basic structure of the ABT program for criteria pollutants or GHG.

Test Procedures—2026 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles.

⁵²⁶ Lambda dithering is an engine-TWC control strategy that commands or allows small fluctuations in exhaust lambda that can expand the lambda range over which a TWC exhibits good conversion

of hydrocarbons, carbon monoxide and oxides of nitrogen. Lambda is actual air fuel ratio divided by stoichiometric air fuel ratio.

As introduced in Sections III.C.1 and III.C.2, EPA is proposing to allow light-duty vehicle (LDV, LDT, MDPV) 25 °C FTP NMOG+NO_x credits to be transferred into the proposed program up to the end of the Tier 3 five-year credit life. Light-duty vehicle – 7 °C FTP NMHC credits may also be transferred into the proposed program on a 1:1 basis for – 7 °C FTP NMOG+NO_x credits up to the end of the five-year credit life. EPA is proposing to consider – 7 °C FTP NMHC credits to be equal in value and freely exchangeable with the credits corresponding to the proposed – 7 °C FTP NMOG+NO_x standards.

EPA proposes that MDV (Class 2b and 3 vehicles) 25 °C FTP NMOG+NO_x credits may only be transferred into the proposed program if a manufacturer selects the early compliance schedule for MDV. If so, these MDV credits may be transferred into the program up to the end of the Tier 3 five-year credit life. There were no – 7 °C FTP NMHC or NMOG+NO_x standards for MDV in Tier 3 so there are no MDV – 7 °C FTP credits to transfer.

New credits may be generated, banked, and traded within the new program to provide manufacturers with flexibilities in developing compliance strategies.

D. Proposed Modifications to the Medium-Duty Passenger Vehicle Definition

In EPA's 2000 Tier 2 criteria pollutant rule, EPA established a new medium-duty passenger vehicle (MDPV) regulatory classification⁵²⁷ to bring passenger vehicles over 8,500 pounds GVWR into the Tier 2 program.⁵²⁸ EPA created the MDPV classification under the Tier 2 program because the agency determined that a portion of the MDV fleet was predominantly being utilized as passenger vehicles instead of being used for "work," for example, to transport goods or pull trailers. These larger vehicles were driven in the same way as passenger vehicles, despite the fact their weight threshold put them in the HD category, and from an emissions control standpoint we found it was feasible for these vehicles to meet the same set of emissions standards as other passenger vehicles. The MDPV definition was focused primarily on the largest SUVs and passenger vans above

8,500 pounds GVWR. These vehicles would have otherwise remained subject to less stringent heavy-duty vehicle standards. When EPA established its GHG standards in 2010, EPA included MDPVs in the light-duty vehicle GHG program as well. Essentially, MDPVs are heavy-duty vehicles that are included in light-duty vehicle programs.

As we did in the Tier 2 rule, we are once again cognizant of potential market changes that could move passenger vehicles out of the LD regulatory class, and we have examined changes to the MDPV definition to avoid this situation. For example, the new GM Hummer pickup and SUVs are over 10,000 pounds GVWR due to battery weight but do not have significant work capabilities (e.g., towing and hauling), as measured by the work factor, relative to other vehicles in the MDV category. EPA is proposing two modifications to the MDPV definition starting in MY 2027 to address passenger vehicles that could potentially fall outside the current definition. First, EPA is proposing to include in the MDPV definition any passenger vehicles at or below 14,000 pounds GVWR with a work factor at or below 5,000 pounds except for pickups with an open bed interior length of eight feet or larger which would continue to be excluded from the MDPV category.⁵²⁹ This modification would address new BEVs that are primarily passenger vehicles but fall above the current 10,000 pound MDPV threshold primarily due to battery pack weight increasing the vehicle's GVWR. EPA believes these vehicles should be in the light-duty vehicle program because they are passenger vehicles and would likely displace the purchase of other passenger vehicles rather than a heavy-duty vehicle due to their relatively low utility. In selecting the proposed 5,000-pound work factor cut point, EPA reviewed current vehicle offerings and does not believe this threshold would pull into the MDPV category a significant number of work vans or trucks. EPA requests comment on this approach for addressing heavy passenger vehicles as well as other approaches that might more effectively capture these types of new vehicles.

Currently, the MDPV category generally includes pickups below 10,000 pounds GVWR with an open

cargo bed length of less than six feet (72.0 inches). The second proposed MDPV definition modification is to include in the MDPV category any pickups with a GVWR below 9,900 pounds and an interior bed length less than eight feet regardless of whether the vehicle work factor is above 5,000 pounds. Pickups at or above 9,900 pounds up to 14,000 pounds GVWR with a work factor above 5,000 pounds would be included as MDPVs only if their interior bed length is less than six feet.

Currently, there is a clear distinction between pickups in the light-duty vehicle category and those in the medium-duty category. Light-duty pickups are those pickups with a GVWR at or below 8,500 pounds and they currently generally have a GVWR below 8,000 pounds. MD pickups are those pickups that are at or above 8,501 pounds and all such vehicles currently have a GVWR above 9,900 pounds.⁵³⁰ The proposed changes to the MDPV definition are intended to account for any new pickup offerings that would fall into the GVWR "space" at or above 8,501 pounds but below 9,900 pounds. EPA is not aware of any current or planned products that would be covered by this proposed modification. However, EPA is concerned that differences between the light-duty and medium-duty pickups could become blurred if manufacturers were to offer somewhat more capable pickups with GVWR just above 8,500 pounds. Manufacturers could in essence move their light-duty pickups up into the medium-duty category through relatively minor vehicle modifications. EPA believes it is appropriate to address this possibility given that the light-duty vehicle footprint standards, as proposed, would be more stringent compared to the proposed work factor-based standards for MDVs and could provide an unintended incentive for manufacturers to take such an approach. EPA requests comment on this proposed change in the MDPV category.

Table 56 summarizes the MDPV proposal in terms of what vehicles would not be covered as MDPVs under EPA's proposed changes to the qualifying criteria.

⁵²⁷ 65 FR 6697 (February 10, 2000) at 6749.

⁵²⁸ EPA defined medium-duty passenger vehicles as any complete heavy-duty vehicle less than 10,000 pounds GVWR designed primarily for the transportation of persons including conversion vans (i.e., vans which are intended to be converted to vans primarily intended for the transportation of persons). The definition does not include any

vehicle that (1) has a capacity of more than 12 persons total or, (2) that is designed to accommodate more than 9 persons in seating rearward of the driver's seat or, (3) has a cargo box (e.g., a pickup box or bed) of six feet or more in interior length.

⁵²⁹ In the proposed regulatory text, EPA is proposing that pickups with an interior bed length

of 94 inches or greater would be excluded, which would exclude pickups with eight-foot beds (96 inches) with a 2-inch allowance for vehicle design variability. This also applies for the second change to the MDPV definition.

⁵³⁰ Currently, these pickups are covered by HDV standards in 40 CFR 86.1816–18.

TABLE 56—SUMMARY OF EXCLUSIONS FOR THE PROPOSED REVISED MDPV DEFINITION

A vehicle would not be an MDPV if:		
	Work factor (WF)	
	WF <5,000 lbs.	WF >5,000 lbs.
GVWR <9,900 lbs	bed length >94.0 inches	bed length >94.0 inches.
9,900 lb ≤GVWR ≤14,000 lbs	bed length >94.0 inches	bed length >72.0 inches.

Finally, EPA is also clarifying that MDPVs will include only vehicles with seating behind the driver's seat such that vehicles like cargo vans and regular cab pickups with no rear seating would remain in the MDV category and subject to work factor-based standards regardless of the proposed changes to the MDPV definition. Also, pickups with 8-foot beds would continue to be excluded from the MDPV category under all circumstances. Prior to MY 2027, EPA proposes that a manufacturer may optionally place vehicles that are brought into the MDPV category by the proposed MDPV definition revisions into the light-duty vehicles program rather than the MDV program. Due to lead time concerns, EPA is proposing that the changes would be mandatory starting in MY 2027. In addition, for the proposed Tier 4 criteria pollutant standards discussed in Section III.C, manufacturers opting for the Tier 4 full lead time optional standards would not be required to include vehicles meeting the revised MDPV definition in their Tier 4 fleet calculations until their fleet is fully covered by the Tier 4 standards to ensure the program would be compliant with applicable CAA lead time requirements. In the meantime, manufacturers would continue to certify those vehicles to the Tier 3 standards for heavy-duty vehicles in 40 CFR 86.1816–

18. EPA requests comment on its proposed revisions to the MDPV category including timing of implementation.

Historically, consumers without the need for the additional utility offered by medium-duty pickups have sound reasons for buying the light-duty versions. Medium-duty versions compared to their light-duty counterparts tend to be higher priced, less fuel efficient, less maneuverable, and may also have a harsher ride when unloaded due to heavier suspensions. However, EPA recognizes that there is the possibility that the pickup market could shift from light-duty versions to medium-duty versions of pickups due to consumer preference changes, but also due to manufacturer changes to vehicle designs and pricing and marketing strategies. At this time, EPA is not proposing to fundamentally change its program to pull a large portion of medium-duty pickups into the light-duty program to address this possibility due to the potential disruption such an approach would have both for the vehicle industry and for consumers needing highly capable work vehicles. EPA plans to monitor vehicle market trends over the next several years to identify any new trends that could potentially lead to the loss of emissions reductions, and if so, to explore

appropriate ways to address such a situation. EPA is requesting comment on the potential likelihood of this type of market shift from the light- to the medium-duty sector, and potential ways to address the issue if needed in a future rulemaking.

EPA performed a study to assess the GHG increases of a medium duty pickup compared to a similar sized light-duty pickup when they are operated similarly as primarily unloaded vehicles transporting just the operator and also if they are lightly loaded with ½ the payload capacity. This comparison reflects the issue that medium-duty pickups have certain heavier duty design aspects (frames, axles, brakes, transmissions, etc.) intended for trailer towing work that negatively impact GHG emissions when they are only operated with lighter loads similar to the expected operation from a light-duty pickup.

Figure 18 summarizes the chassis test data for the F150 and the F250, each tested in its original configuration and alternative configuration (as a 2b for the F150, and as a 2a for the F250). The F250 with the 7.3L engine, tested at curb+300 pounds. ETW, emitted 172 g/mi more than the F150. Similarly, the F250 emitted 170 g/mi more than the F150 with both tested at ALVW.

Test vehicle #	Model	Test config	Targets				ETW	Dyno cfg	FTP	HWFE	US06	55/45	Notes
			A	B	C	RLHP50							
KFA20095	2019 F150	2a @ curb+300	46.347	0.2527	0.03984	21.1	5142	4WD	476	322	515	407	native config / 3 test avg.
		tested as 2b @ ALVW	60.03	0.2527	0.03984	23.0	6698	4WD	529	359	591	452	3-test avg
					Delta	9%	30%		11%	11%	15%	11%	
MDF250_RLD1	2022 F250	2a @ curb+300	48.87	0.12	0.05067	24.2	6896	4WD	682	454	707	579	3-test avg
		2b @ ALVW	59.33	0.12	0.05067	25.6	8373	4WD	736	483	808	622	native config / 3 test avg.
					Delta	6%	21%		8%	6%	14%	7%	

Figure 18. Test data summary for F150 and F250.

The GHG emission difference observed in the data indicates that light to medium load operation results in much higher CO₂ emissions in the medium-duty pickup under similar passenger or payload conditions. The

medium-duty pickup is designed primarily for regular towing and therefore may have higher emissions under other operating conditions compared to light-duty pickups

designed more for transportation of passengers or cargo in the bed.

E. What alternatives did EPA consider?

EPA is seeking comment on three alternatives to its proposed light-duty

GHG standards. Alternative 1 is more stringent than the proposal across the MY 2027–2032 time period, and Alternative 2 is less stringent. The proposal as well as Alternatives 1 and 2 all have a similar proportional ramp rates of year over year stringency, which includes a higher rate of stringency increase in the earlier years (MYs 2027–2029) than in the later years. Alternative 3 achieves the same stringency as the proposed standards in MY 2032 but provides for a more consistent rate of stringency increase for MY 2027–2031.

In selecting the stringencies for the alternatives, EPA assessed a range available technologies (including the costs and pace of deployment) along with the resulting emissions reductions associated with each alternative. Each of the stringency alternatives are supported by a set of feasible technologies. The Alternative 1 projected fleet-wide CO₂ targets are 10 g/mi lower on average than the proposed targets; Alternative 2 projected fleet-wide CO₂ targets averaged 10 g/mi higher than the proposed targets.⁵³¹ While the 20 g/mi range of stringency options may appear fairly narrow, for the MY 2032 standards the alternatives

capture a range of 12 percent higher and lower than the proposed standards in the final year. Our goal in selecting the alternatives was to identify a range of stringencies that we believe are appropriate to consider for the final standards because they represent a range of standards that are anticipated to be feasible and are highly protective of human health and the environment.

While the proposed standards, Alternative 1 and Alternative 2 are all characterized by larger increases in stringency between in the earlier years than in the later years, Alternative 3 was constructed with the goal of evaluating roughly equal reductions in absolute g/mi targets over the duration of the program while achieving the same overall targets as the proposed standards by MY 2032. This has the effect of less stringent year-over-year increases in the early years of the program.

As noted elsewhere in this preamble, EPA may choose to update its modeling for the final rulemaking, *e.g.*, by updating inputs for costs to reflect newly available information or to incorporate PHEV technology as outlined in the DRIA while considering information and views provided by stakeholders in public comments. Thus,

we recognize that our cost estimates and assessments of feasibility may change, and EPA is soliciting comment on all of the model year standards of Alternatives 1, 2, and 3, and standards generally represented by the range across those alternatives. EPA anticipates that the appropriate choice of final standards within this range will reflect the Administrator's judgments about the uncertainties in EPA's analyses as well as consideration of public comment and updated information where available. However, EPA proposes to find that standards substantially more stringent than Alternative 1 would not be appropriate because of uncertainties concerning the cost and feasibility of such standards. EPA proposes to find that standards substantially less stringent than Alternative 2 would not be appropriate because they would forgo feasible emissions reductions that would improve the protection of public health and welfare.

Table 57 and Table 58 give the details for the car and truck curves for Alternative 1, and Table 59 and Table 60 give details for Alternative 2. Table 61 and Table 62 provide details for Alternative 3 for cars and trucks.

TABLE 57—FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR CARS—ALTERNATIVE 1

	2027	2028	2028	2030	2031	2032
MIN CO ₂ (g/mi)	121.3	104.4	87.2	79.7	71.5	62.0
MAX CO ₂ (g/mi)	129.6	111.0	92.3	83.9	75.3	65.3
Slope (g/mi/ft ²)	0.59	0.51	0.42	0.38	0.34	0.30
Intercept (g/mi)	96.4	82.6	68.6	62.4	56.0	48.6
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	56	56	56	56	56	56

TABLE 58—FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR TRUCKS—ALTERNATIVE 1

	2027	2028	2028	2030	2031	2032
MIN CO ₂ (g/mi)	124.3	108.6	92.0	85.3	76.5	66.5
MAX CO ₂ (g/mi)	198.4	168.1	138.0	124.0	111.2	96.7
Slope (g/mi/ft ²)	2.39	2.05	1.70	1.55	1.39	1.21
Intercept (g/mi)	23.9	20.5	17.0	15.5	13.9	12.1
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	73	72	71	70	70	70

TABLE 59—FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR CARS—ALTERNATIVE 2

	2027	2028	2028	2030	2031	2032
MIN CO ₂ (g/mi)	140.5	123.8	106.6	99.2	91.0	81.5
MAX CO ₂ (g/mi)	150.1	131.6	112.8	104.5	95.8	85.9
Slope (g/mi/ft ²)	0.69	0.60	0.52	0.48	0.44	0.39
Intercept (g/mi)	111.6	97.9	83.9	77.7	71.3	63.9
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	56	56	56	56	56	56

⁵³¹ For reference, the targets at a footprint of 50 square feet were exactly 10 g/mi lower and greater for the alternatives.

TABLE 60—FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR TRUCKS—ALTERNATIVE 2

	2027	2028	2028	2030	2031	2032
MIN CO ₂ (g/mi)	141.7	126.3	110.0	103.6	94.8	84.8
MAX CO ₂ (g/mi)	226.1	195.4	165.0	150.7	137.9	123.4
Slope (g/mi/ft ²)	2.72	2.38	2.04	1.88	1.72	1.54
Intercept (g/mi)	27.2	23.8	20.4	18.8	17.2	15.4
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	73	72	71	70	70	70

TABLE 61—FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR CARS—ALTERNATIVE 3

	2027	2028	2028	2030	2031	2032
MIN CO ₂ (g/mi)	135.9	123.8	110.6	98.2	85.3	71.8
MAX CO ₂ (g/mi)	145.2	131.6	117.0	103.4	89.8	75.6
Slope (g/mi/ft ²)	0.66	0.60	0.54	0.47	0.41	0.35
Intercept (g/mi)	108.0	97.9	87.0	76.9	66.8	56.2
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	56	56	56	56	56	56

TABLE 62—FOOTPRINT-BASED STANDARD CURVE COEFFICIENTS FOR TRUCKS—ALTERNATIVE 3

	2027	2028	2028	2030	2031	2032
MIN CO ₂ (g/mi)	150.3	136.8	122.7	108.8	91.8	75.7
MAX CO ₂ (g/mi)	239.9	211.7	184.0	158.3	133.5	110.1
Slope (g/mi/ft ²)	2.89	2.58	2.27	1.98	1.67	1.38
Intercept (g/mi)	28.9	25.8	22.7	19.8	16.7	13.8
MIN footprint (ft ²)	42	43	44	45	45	45
MAX footprint (ft ²)	73	72	71	70	70	70

The proposed standards will result in industry-wide average GHG emissions target of 82 g/mi of CO₂ in MY 2032, representing a 56 percent reduction in average emissions levels from the existing MY 2026 standards established in 2021. Alternative 1 is projected to result in an industry-wide average target for the light-duty fleet of 72 g/mi in MY 2032, representing a 61 percent

reduction in projected fleet average GHG emissions target levels from the existing MY 2026 standards. Alternative 2 is projected to result in an industry-wide average target of 92 g/mile of CO₂ in MY 2032, representing a 50 percent reduction in projected fleet average GHG emissions target levels from the existing MY 2026 standards. Alternative 3 would result in the same MY 2032

industry-wide target as the proposed standards (82 g/mi) albeit at a more gradual rate, as shown in the less stringent targets prior to MY 2031.

Figure 19 compares the projected targets for the proposed standards and the alternatives. Further analysis of the alternatives is provided in Section IV.D.4.

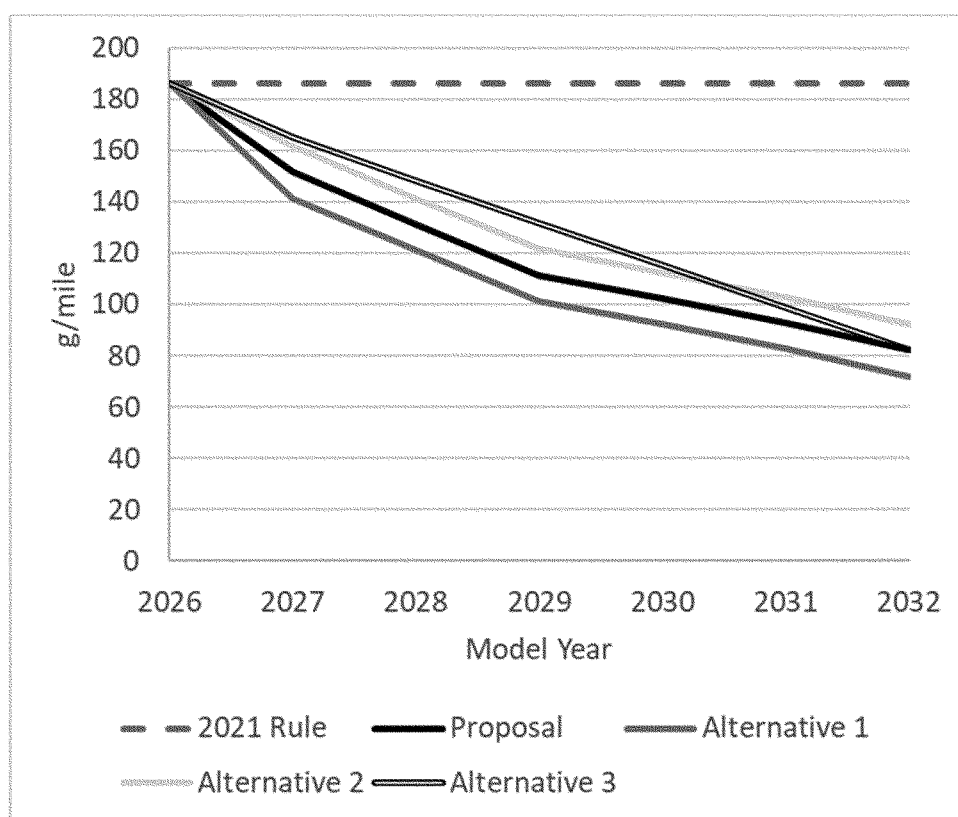


Figure 19. Comparison of alternatives to proposed standards and 2021 rule stringency.

F. Proposed Certification, Compliance, and Enforcement Provisions

1. Electric Vehicle Test Procedures

Under the current program, manufacturers and EPA test light-duty BEVs to determine the vehicle's miles per gallon equivalent (MPGe) and the vehicle range. PHEVs are also tested to determine the PHEV's charge depleting range. The results of these tests are used to generate range and fuel economy values published on the fuel economy label.

Currently, BEV testing consists of performing a full charge-depleting test using the multi-cycle test (MCT) outlined in the 2012 or 2017 version of SAE standard J1634, Battery Electric Vehicle Energy Consumption and Range Test Procedure. The multi-cycle test consists of 8 cycles: Four urban dynamometer driving schedule (UDDS) cycles, two highway fuel economy test (HFET) cycles, and two constant speed cycles (CSCs). The test is used to determine the vehicle's usable battery energy (UBE) in DC Watt-hours, cycle energy consumption in Watt-hours per mile (Wh/mi), and AC recharge energy in AC watt-hours. These results are used to determine the BEV's unadjusted range and MPGe.

The MCT generates unadjusted city (UDDS) and highway (HFET) two-cycle test results. These results are adjusted to 5-cycle values which are then published on the fuel economy label. EPA regulations allow manufacturers to multiply their two-cycles using a defined 0.7 adjustment factor or determine a BEV 5-cycle adjustment factor by running all of the EPA 5-cycle tests (FTP, HFET, US06, SC03, and 20 °F FTP). This adjustment is performed to account for the differences between vehicle operation observed on the two-cycle tests and vehicle operation occurring at higher speeds and loads along with hot and cold ambient temperatures not seen on the UDDS or HFET cycles.

PHEVs include both an internal combustion engine and an electric motor and can be powered by the battery or engine or a combination of both power devices. Charge depleting operation is when the electric motor is primarily propelling the vehicle with energy from the battery. Charge sustaining operation is when the internal combustion engine is contributing energy to power the vehicle and maintain a specific state of charge. PHEVs are tested in both charge depleting and charge sustaining

operation to determine the electrical range capability of the vehicle and the charge sustaining fuel economy.

PHEV charge depletion testing consists of performing a single cycle charge depleting UDDS test and a single cycle charge depleting HFET test. These tests are specified in the 2010 version of SAE Standard J1711, Recommended Practice for Measuring the Exhaust Emissions and Fuel Economy of Hybrid-Electric Vehicles, Including Plug-In Hybrid Vehicles. The result of these tests is the actual charge depleting distance the vehicle can drive. The actual charge depleting distance is multiplied by a 0.7 adjustment factor to determine the 5-cycle charge depleting range. The UDDS and HFET distances are averaged to determine an estimated all-electric range for the vehicle. SAE Standard J1711 does not specify a methodology for determining UBE when performing charge depleting tests on PHEVs.

As part of this rulemaking, EPA is proposing to adopt battery durability and warranty requirements for light-duty and medium-duty BEVs and PHEVs (see Sections III.F.2 and III.F.3). The adoption of battery durability requirements would create a requirement for additional testing of

BEVs and PHEVs by manufacturers to be performed several times during their useful life, and reporting requirements to demonstrate that the vehicles are meeting the proposed durability requirements.

As described in Section III.F.2, the proposed battery durability program would require manufacturers to develop and implement an on-board battery state-of-health monitor and demonstrate its accuracy through in-use vehicle testing. For this testing, the tests would be based on the currently-used charge depletion tests that are used for range and fuel economy labeling of light-duty BEVs and PHEVs, with the addition of the recording of the vehicle monitor value and comparison of the results from the charge depleting test to the monitor value reported by the vehicle. Specifically, light-duty and Class 2b and 3 BEVs would be tested according to the MCT to determine the vehicle's UBE and range. PHEVs would be tested according to the single cycle UDSS and HFET test to determine the vehicle's charge depleting UBE and range. Class 2b and 3 BEVs and PHEVs would be tested at adjusted loaded vehicle weight (ALVW),⁵³² consistent with the testing required for measuring criteria and GHG emissions. These testing requirements are described in more detail in Section III.F.2.

In addition to manufacturers performing these dynamometer tests, onboard state-of-health monitor values would be collected from a larger sample of in-use vehicles to demonstrate that the vehicles are meeting the durability requirements, as described further in Section III.F.2. This would not involve additional dynamometer testing but only acquisition of monitor data from in-use vehicles.

The calculations performed for the PHEV charge depleting tests would have an additional step to determine the total charge depletion energy during the single cycle tests. Currently, PHEV charge depletion testing consists of observing when the vehicle is no longer depleting the battery by measuring the net ampere-hours. Once this measurement determines that the vehicle has switched to a mode in which it is maintaining rather than depleting the battery charge, the conclusion of the charge depletion test is identified.

To determine UBE for a PHEV, EPA is proposing that manufacturers measure the DC discharge energy of the PHEV's rechargeable energy storage system (RESS, *i.e.* the high-voltage

battery) by measuring the change in state-of-charge in ampere-hours over each cycle and the average voltage of each cycle as required by SAE J1711. The average voltage can be either an average of continuous voltage measurements over the entire cycle, or the average voltage measured prior to the start of the cycle and at the conclusion of the cycle as defined in SAE J1711. The measured DC discharge energy in watt-hours for each cycle would be determined by multiplying the average cycle voltage by the cycle's change in ampere-hours. The DC discharge energy is added for all the charge depleting cycles including the transition cycles used to determine the charge depleting cycle range, R_{cdc} as defined in SAE J1711.

EPA is seeking comment regarding this proposed methodology for determining UBE for PHEVs using the data captured during full charge testing according to the 2010 version of SAE J1711.

EPA is also seeking comment regarding the proposed use of the method described for light-duty vehicle with SAE J1711 for determining UBE for Class 2b and 3 PHEVs. In addition, EPA is seeking comment on whether to perform the tests on Class 2b and 3 PHEVs at ALVW as proposed, or at loaded vehicle weight (LVW), which is curb weight plus 300 pounds.

EPA is also seeking comment regarding the proposed use of the 2017 version of SAE J1634 for determining UBE for class 2b and 3 BEVs. In addition, EPA is seeking comment on whether to perform charge depleting tests on Class 2b and 3 BEVs at ALVW as proposed, or at loaded vehicle weight (LVW), which is curb weight plus 300 pounds.

EPA is not reopening or proposing changes to the MCT test for testing BEVs.

2. Battery Durability

EPA emissions standards are currently and have historically been standards that apply for the full useful life of the vehicle, as is required under CAA section 202(a)(1) ("Such standards shall be applicable to such vehicles and engines for their useful life"). Accordingly, EPA has historically required manufacturers to demonstrate the durability of their engines and emission control systems on vehicles with ICE engines including under our CAA section 206 authority, and has also specified minimum warranty requirements for ICE emission control components. Without durability demonstration requirements, EPA would not be able to assess whether

vehicles originally manufactured in compliance with relevant emissions standards would remain compliant over the course of their useful life.

Recognizing that PEVs are playing an increasing role in automakers' compliance strategies, and that emissions credit calculations are based on mileage over a vehicle's full useful life, the same logic applies to PEV durability. Under 40 CFR 86.1865–12(k), credits are calculated by determining the grams/mile each vehicle achieves beyond the standard and multiplying that by the number of such vehicles and a lifetime mileage attributed to each vehicle (195,264 miles for passenger automobiles and 225,865 miles for light trucks). Having a lifetime mileage figure for each vehicle is integral to calculating the credits attributable to that vehicle, whether those credits are used for calculating compliance with fleet average standards, or for banking or trading. Compliance with fleet average standards in particular depends on all vehicles in the fleet achieving their certified level of emissions performance throughout their useful life. Without durability requirements applicable to PEVs guaranteeing certain performance over the entire useful life of the vehicles, EPA has no guarantee that a manufacturer's overall compliance with fleet emissions standards would continue throughout that useful life. Similarly, EPA would have no assurance that the proposed standards would achieve the emissions reductions projected by this proposed program. Therefore, EPA is proposing new battery durability monitoring and performance requirements for light-duty BEVs and PHEVs, and battery durability monitoring requirements for Class 2b and 3 BEVs and PHEVs, beginning with MY 2027.

As implemented by manufacturers in current BEVs and PHEVs, lithium-ion battery technology has been shown to be effective and durable for use in these vehicles. It is also well known that the energy capacity of a battery will naturally degrade to some degree with time and usage, resulting in a reduction in driving range as the vehicle ages. The degree of this energy capacity and range reduction effectively becomes an issue of durability if it negatively affects how the vehicle can be used, or how many miles it is likely to be driven during its useful life.

HEV and PHEV manufacturers are currently required to account for potential battery degradation that could result in an increase in CO₂ emissions. In addition, vehicle manufacturers are required to demonstrate compliance with criteria pollutant standards using

⁵³² ALVW is the numerical average of vehicle curb weight and gross vehicle weight rating.

fully aged emission control components that represent expected degradation during useful life. EPA is applying this well-established requirement to the durability of BEV and PHEV batteries.

The importance of battery durability in the context of zero- and near-zero emission vehicles, such as BEVs and PHEVs, has been cited by several authorities in recent years. In their 2021 Phase 3 report,⁵³³ the National Academies of Science (NAS) identified battery durability as an important issue with the rise of electrification.⁵³⁴ Several rulemaking bodies have also recognized the importance of battery durability in a world with rapidly increasing numbers of zero-emission vehicles. In 2015 the United Nations Economic Commission for Europe (UNECE) began studying the need for a Global Technical Regulation (GTR) governing battery durability in light-duty vehicles. In April 2022 it published United Nations Global Technical Regulation No. 22, “In-Vehicle Battery Durability for Electrified Vehicles,”⁵³⁵ or GTR No. 22, which provides a regulatory structure for contracting parties to set standards for battery durability in light-duty BEVs and PHEVs.⁵³⁶ The European Commission and other contracting parties have also recognized the importance of durability provisions and are working to adopt the GTR standards

in their local regulatory structures. In addition, the California Air Resources Board, as part of the Advanced Clean Cars II (ACC II) program, has also included battery durability⁵³⁷ and warranty⁵³⁸ requirements as part of a suite of customer assurance provisions designed to ensure that zero-emission vehicles maintain similar standards for usability, useful life, and maintenance as for ICE vehicles. Additional background on UN GTR No. 22 and the California Air Resources Board battery durability and warranty requirements may be found in DRIA Chapter 1.3.

EPA concurs with the emerging consensus that battery durability is an important issue. The ability of a zero-emission vehicle to achieve the expected emission reductions during its lifetime depends in part on the ability of the battery to maintain sufficient driving range, capacity, power, and general operability for a period of use comparable to that expected of a conventional vehicle. Durable and reliable electrified vehicles are therefore critical to ensuring that projected emissions reductions are achieved by this proposed program.

Vehicle manufacturers can use powertrain electrification as an emissions control technology to comply with EPA standards and to generate credits for use in averaging, banking, and trading. EPA believes that, as with other emission control technologies, it is appropriate to set requirements to ensure that electrified vehicles certifying to EPA standards are durable and capable of providing the emissions reductions for which they are credited under the structure of the rule. To expand on the previous discussion, under the EPA GHG program, vehicles of all types (including ICE vehicles as well as PEVs) are assessed on a fleet average basis in which credits that are generated by vehicles that over-comply with their footprint-based standard act to offset debits generated by vehicles that do not themselves meet the proposed standards, and these credits can also be traded among manufacturers. Credits and debits are based on a calculation of Megagrams of CO₂ emitted per vehicle over the assumed lifetime mileage of 195,264

miles for cars, and 225,865 miles for light-duty trucks. Generally, credits generated by PEVs will offset debits generated by ICE vehicles. In order for the environmental benefits that are credited to PEVs to be fully realized under this structure, it is important that their potential to achieve a similar mileage during their lifetime be comparable to that of ICE vehicles, and this depends in part on the life of the battery. In particular, and especially for BEVs and PHEVs with shorter driving ranges, loss of a large portion of the original driving range capability as the vehicle ages could reduce total lifetime mileage and the ability for electric miles to displace conventional miles traveled. PHEVs could also experience higher fuel consumption and increased criteria pollutant emissions if the battery undergoes excessive degradation.

EPA is thus including in this proposal a requirement for battery durability that is applicable to BEVs and PHEVs. The requirements and general framework of the proposed battery durability program are largely identical to those outlined in GTR No. 22 and broadly parallel the GTR in terms of the minimum performance requirements, as well as the hardware, monitoring and compliance requirements, the associated statistical methods and metrics that apply to determination of compliance, and criteria for establishing battery durability and monitor families. We are proposing to incorporate the April 14, 2022, version of GTR No. 22 by reference, with the exception of some naming conventions and procedural changes required to adapt the GTR to EPA-based testing and compliance demonstration, and modification of some specific provisions (for example, not requiring an SOCR monitor).

The battery durability requirements consist of two primary components as shown in Table 63. The first component is a requirement for manufacturers to provide a customer-readable battery state-of-health (SOH) monitor for both light-duty and Class 2b and 3 BEVs and PHEVs. The second component is the definition of a minimum performance requirement (MPR) for the SOH of the high voltage battery, applicable only to light-duty BEVs and PHEVs. HEVs and FCEVs are not included in the scope of GTR No. 22 or the proposed durability program.

⁵³³ National Academies of Sciences, Engineering, and Medicine 2021. “Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy 2025–2035”. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26092>.

⁵³⁴ Among the findings outlined in that report, NAS noted that: “battery capacity degradation is considered a barrier for market penetration of BEVs,” (p. 5–114), and that “[knowledge of] real-world battery lifetime could have implications on R&D priorities, warranty provision, consumer confidence and acceptance, and role of electrification in fuel economy policy.” (p. 5–115). NAS also noted that “life prediction guides battery sizing, warranty, and resale value [and repurposing and recycling]” (p. 5–115), and discussed at length the complexities of SOH estimation, life-cycle prediction, and testing for battery degradation (p. 5–113 to 5–115).

⁵³⁵ United Nations Economic Commission for Europe, Addendum 22: United Nations Global Technical Regulation No. 22, United Nations Global Technical Regulation on In-vehicle Battery Durability for Electrified Vehicles, April 14, 2022. Available at: https://unece.org/sites/default/files/2022-04/ECE_TRANS_180a22e.pdf.

⁵³⁶ EPA representatives chaired the informal working group that developed this GTR and worked closely with global regulatory agencies and industry partners to complete its development in a form that could be adopted in various regions of the world, including potentially the United States.

⁵³⁷ State of California, California Code of Regulations, title 13, section 1962.4.

⁵³⁸ State of California, California Code of Regulations, title 13, section 1962.8.

TABLE 63—APPLICABILITY OF BATTERY DURABILITY REQUIREMENTS TO LIGHT-DUTY AND CLASS 2b/3 VEHICLES

Proposed requirement	Light-duty BEVs and PHEVs	Class 2b and 3 BEVs and PHEVs
Battery State of Health (SOH) Monitor	Yes	Yes.
Monitor accuracy requirement	Yes	Yes.
Minimum Performance Requirement (MPR)	Yes	No.

Manufacturers would be required to install a battery SOH monitor which estimates, monitors, and communicates the vehicle's state of certified energy (SOCE) as defined in GTR No. 22, and which can be read by the vehicle owner. This would require manufacturers to implement onboard algorithms to estimate the current state of certified energy of the battery, in terms of its current usable battery energy (UBE)

expressed as a percentage of the original UBE when the vehicle was new. The state of certified range (SOCR) monitor defined in GTR No. 22 would not be required.

For light-duty BEVs and PHEVs, the information provided by this monitor would be used for demonstrating compliance with a minimum performance requirement (MPR) which specifies a minimum percentage

retention of the original UBE when the vehicle was new. As shown in Table 64, under the proposed rule, light-duty BEV and PHEV batteries would be subject to an MPR that requires them to retain no less than 80 percent of their original UBE at 5 years or 62,000 miles, and no less than 70 percent at 8 years or 100,000 miles.

TABLE 64—PROPOSED MINIMUM PERFORMANCE REQUIREMENTS

Years or mileage	Light-duty BEVs and PHEVs	Class 2b and 3 BEVs and PHEVs
5 years or 62,000 miles	80 percent SOCE	N/A.
8 years or 100,000 miles	70 percent SOCE	N/A.

In alignment with GTR No. 22, which does not currently subject UN ECE Category N vehicles of Category 2 (work vehicles that primarily carry goods) to the MPR requirement, Class 2b and 3 PEVs would not be subject to the MPR. In developing GTR No. 22, the EVE IWG chose not to set an MPR for Category 2 PEVs at this time, largely because the early stage of adoption of these vehicles meant that in-use data regarding battery performance of these vehicles was not readily available. MPR requirements for category 2 PEVs were therefore reserved for possible inclusion in a future amendment to the GTR, but monitoring requirements were retained in order to allow information on degradation to be collected from these vehicles to help inform a future amendment. For similar reasons, EPA is retaining the monitor requirement for Class 2b and 3 PEVs but is not requiring the MPR.

The proposed durability requirements would require manufacturers to perform testing beyond what is currently required. Currently, light-duty vehicle manufacturers are required to perform range testing on BEVs and PHEVs, the latter in Charge Depleting mode. These results are currently used to inform the fuel economy label and are not required for vehicle certification. Class 2b/3 vehicles do not currently have this requirement. Under the proposal, manufacturers would be required to determine and report the UBE of light-duty and Class 2b/3 BEVs and PHEVs

when new, and demonstrate through in-use vehicle testing that the SOCE monitor meets an accuracy standard.

Under the proposal, manufacturers would group the PEVs that they manufacture into monitor families and battery durability families as defined in GTR No. 22 (and described in more detail in Section III.F.4). Because a certified UBE value is needed for vehicles in each durability family in order to determine monitor accuracy and compliance of that family with the MPR, and the testing program that is currently performed for fuel economy labeling purposes does not necessarily determine such a value for all vehicle configurations that would need it for durability purposes, additional testing of vehicles that would not otherwise need to be tested for labeling purposes may need to be performed at time of certification.

For both light-duty and medium-duty vehicles, as described in the “Part A” monitor accuracy provisions outlined in GTR No. 22, manufacturers will be required to meet a standard for accuracy of their on-board SOCE monitors. To determine the accuracy of the monitors, between 3 and 16 vehicles from each monitor family would be recruited and procured in-use at each of 1 year, 3 years, and 5 years. The onboard monitor values for SOCE would be recorded, and each vehicle would then be tested to determine actual (measured) UBE capability of the battery. As described in

Section III.F.1, for this testing EPA is proposing to use SAE Standard J1634 for determining UBE for BEVs and is proposing a method for determining UBE for PHEVs based on SAE J1711. The UBE measured by the test would be used to calculate the measured SOCE of the battery, as the measured UBE divided by the certified UBE. The measured SOCE would be compared to the value reported by the SOCE monitor prior to the test. The accuracy of the SOCE monitor must be within 5 percent of the measured SOCE, as defined and determined via the Part A statistical method defined in GTR No. 22.

For light-duty vehicles, in a similar manner to the “Part B” compliance provisions of GTR No. 22, once having demonstrated Part A accuracy for the SOCE monitor of vehicles within a monitor family, manufacturers would demonstrate compliance with the MPR by collecting the values of the onboard SOCE monitors of a statistically adequate and representative sample of in-use vehicles, in general no less than 500 vehicles from each battery durability family that shares that monitor family, and reporting the data and results to EPA. The manufacturer would use good engineering judgment in determining that the sample is statistically adequate and representative of the in-use vehicles comprising each durability family, subject to specific provisions in the regulation and approval by EPA. Manufacturers may

obtain this sample by any appropriate method, for example by over-the-air data collection or by other means. A battery durability family (described further in a later section) would pass if 90 percent or more of the monitor values read from the sample are above the MPR.

In the case that a monitor family fails the Part A accuracy requirement, the manufacturer would be required to recall the vehicles in the failing monitor family to bring the SOCE monitor into compliance, as demonstrated by passing the Part A statistical test with vehicles using the repaired monitor. In the case that a durability family fails the Part B durability performance requirement, manufacturers would have to adjust their credit balance to remove compliance credits previously earned by those vehicles.

For Part B, GTR No. 22 does not specify a means of data collection, although for many manufacturers it might most easily be achieved via means such as telematics (remote, wireless queries) which is becoming increasingly present in new vehicles. EPA is proposing that manufacturers may use any sampling technique which accurately collects data from the number of vehicles outlined in the GTR. For example, vehicle manufacturers may choose to physically connect to the required number of vehicles and read the SOCE values directly in lieu of a remote, telematics-based data collection.

Many of the organizations and authorities that have examined the issue of battery durability, including the UN Economic Commission for Europe (UN ECE), the European Commission, and the California Air Resources Board, have recognized that monitoring the state of a vehicle's full-charge driving range capability (instead of or in addition to UBE capability) as an indicator of battery durability performance may be an attractive option because driving range is a metric that is more directly experienced and understood by the consumer. To this end, GTR No. 22 requires manufacturers to install a state of certified range (SOCR) monitor in addition to an SOCE monitor. In developing GTR No. 22, the UN ECE felt that developing an accurate SOCR monitor may be more difficult than developing an SOCE monitor. In GTR No. 22 the SOCR monitor is therefore not required to be customer facing, and its information is collected only for information gathering purposes to inform the possible development of an SOCR-based performance requirement in the future. EPA also notes that the California Air Resources Board has based its ACC II battery durability

requirement on a range metric instead of an SOCE metric. In this proposal, EPA is not proposing a requirement for an SOCR monitor and is not proposing that the durability performance requirement utilize a range-based metric. However, EPA recognizes the potential advantage that an accurate range-based metric may offer, as well as the value of collecting information to evaluate the performance of an SOCR monitor for possible future adoption. EPA requests comment on the inclusion of a requirement for an SOCR monitor and associated reporting requirements as specified in GTR No. 22.

EPA also recognizes that the California Air Resources Board durability program includes a specific provision that requires manufacturers to disclose and account for any battery reserve capacity that the manufacturer has chosen to initially withhold from use for release later in the life of the vehicle in order to maintain driving range or usable energy capacity after degradation has occurred. This provision of the California regulation is meant to allow consumers to know the state of chemical degradation of the battery independently of apparent range or energy capacity. Although EPA is not proposing a similar requirement, EPA requests comment on including a reserve capacity declaration requirement and use of reserve capacity information in calculating an SOCE or SOCR metric.

EPA also requests comment on all other aspects of the proposed battery durability standards, particularly with respect to: The minimum performance requirements, the testing and compliance requirements for Part A and Part B, and the possibility of adopting more stringent or less stringent battery durability standards.

Additional background on UN GTR No. 22 and the California Air Resources Board battery durability and warranty requirements may be found in DRIA Chapter 1.3.

3. Battery and Vehicle Component Warranty

EPA is also proposing new warranty requirements for BEV and PHEV batteries and associated electric powertrain components (e.g., electric machines, inverters, and similar key electric powertrain components). The proposed warranty requirements build on existing emissions control warranty provisions by establishing specific new requirements tailored to the emission control-related role of the high-voltage battery and associated electric powertrain components in the

durability and emissions performance of PEVs.

For light-duty BEVs and PHEVs, EPA is proposing to designate the high-voltage battery and associated electric powertrain components as specified major emission control components under CAA section 207(i)(2), subject to a warranty period of 8 years or 80,000 miles. For medium-duty (Class 2b and 3) BEVs and PHEVs, EPA is proposing to specify the warranty period of 8 years or 80,000 miles for the battery and associated electric powertrain components on such vehicles.

As described in the previous section, the National Academies of Science (NAS) in their 2021 Phase 3 report⁵³⁹ identified battery warranty along with battery durability as an important issue with the rise of electrification. The proposed warranty requirements would be equivalent to those that EPA has the authority to require and has historically applied to other specified major emission control-related components for ICE vehicles under EPA's light-duty vehicle regulations, and would similarly implement and be under the authority of CAA section 207. EPA believes that this practice of ensuring a minimum level of warranty protection should be extended to the high-voltage battery and other electric powertrain components of BEVs and PHEVs for multiple reasons. Recognizing that BEVs and PHEVs are playing an increasing role in manufacturers' compliance strategies, the high-voltage battery and the powertrain components that depend on it are emission control devices critical to the operation and emission performance of BEVs and PHEVs, as they play a critical role in reducing the emissions of PHEVs and in allowing BEVs to operate with zero tailpipe emissions. Further, EPA anticipates that compliance with the proposed program is likely to be achieved with larger penetrations of BEVs and PHEVs than under the current program. Although the projected emissions reductions are based on a spectrum of control technologies, in light of the cost-effective reductions achieved, especially by BEVs, EPA anticipates most if not all automakers will include credits generated by BEVs and PHEVs as part of their compliance strategies, even if those credits are obtained from other manufacturers; thus this is a particular concern given that the calculation of credits for averaging (as well as banking and trading) depend on the battery and emission

⁵³⁹ National Academies of Sciences, Engineering, and Medicine 2021. "Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy 2025–2035". Washington, DC: The National Academies Press. <https://doi.org/10.17226/26092>.

performance being maintained for the full useful life of the vehicle. Additionally, warranty provisions are a strong complement to the proposed battery durability requirements. We believe that a component under warranty is more likely to be properly maintained and repaired or replaced if it fails, which would help ensure that credits granted for BEV and PHEV sales represent real emission reductions achieved over the life of the vehicle.

It is our assessment that the high-voltage battery systems and associated electric powertrain components of both light-duty and medium-duty BEVs and PHEVs qualify for warranty designation by the Administrator as provided under CAA section 207(i). The high-voltage battery and the powertrain components that depend on it are emissions control devices critical to the emissions performance of the vehicle, as they play a critical role in reducing the emissions of PHEVs, and in allowing BEVs to operate with zero tailpipe emissions.

CAA section 207(i)(1) specifies that the warranty period for light-duty vehicles is 2 years or 24,000 miles of use (whichever first occurs), except for specified major emission control components (SMECC) described in 207(i)(2), for which the warranty period is 8 years or 80,000 miles of use (whichever first occurs). For other vehicles, CAA 207(i)(1) specifies that the warranty period shall be the period established by the Administrator.

For light-duty vehicles, 207(i)(2) specifically identifies catalytic converters, electronic emissions control units (ECUs), and onboard emissions diagnostic devices as SMECC. Currently, BEV and PHEV battery and electric powertrain components are not so specified, which limits their coverage requirement to the 2 years or 24,000 miles of CAA section 207(i)(1), a period which EPA believes is not sufficient, given the importance of these components to the operation and emissions performance of these vehicles. As discussed in connection with battery durability, this is of particular concern given that the calculation of fleet average performance and of credits for banking and trading depend on the battery and emissions performance being maintained for the full useful life of the vehicle. However, to allow for designation of other pollution control components as SMECC, CAA section 207(i)(2) provides that the Administrator may so designate any other pollution control device or component, subject to the conditions that the device or component was not in general use on vehicles and engines manufactured prior to the model year

1990 and that the retail cost (exclusive of installation costs) of such device or component exceeds \$200 (in 1989 dollars), adjusted for inflation or deflation as calculated by the Administrator at the time of such determination.⁵⁴⁰ Adjusted for inflation, the \$200 retail cost threshold would be about \$500 today. As BEVs and PHEVs were not in general use prior to 1990, and their high-voltage battery systems and associated powertrain components exceed this cost threshold, the Administrator proposes to determine that these emission control devices meet the criteria for designation as specified major emission control components. Accordingly, the Administrator proposes to designate these components as specified major emission control components according to his authority under CAA section 207(i)(2).

In addition, for medium-duty (Class 2b and 3) BEVs and PHEVs, the Administrator proposes to establish a warranty period of 8 years or 80,000 miles for the battery and associated electric powertrain components on these vehicles, according to his authority under CAA section 207(i)(1). The proposed program would provide warranty coverage for the emission control components on Class 2b and 3 BEVs and PHEVs equal to that proposed for the same components on light-duty BEVs and PHEVs.

EPA requests comment on all aspects of the proposed warranty provisions for light-duty and medium-duty BEVs, batteries, and associated electric powertrain components.

4. Definitions of Durability Group, Monitor Family, and Battery Durability Family

EPA is proposing revisions to the durability group definition for vehicles with an IC engine, and proposing to add two new grouping definitions, monitor family and battery durability family, for BEVs and PHEVs.

i. Proposed Durability Group Revisions

EPA anticipates the adoption and use of gasoline particulate filters (GPFs) to reduce PM emissions to the levels required with the proposed PM standard. Particulate filters are currently utilized on diesel-powered vehicles to meet the existing Tier 3 PM standard. EPA's durability group definition in 40 CFR 86.1820–01 includes a catalyst grouping statistic based on the engine displacement and catalyst volume and loading to define the acceptable range of designs that may be combined into a single durability group. Currently EPA

does not require manufacturers to consider PM filters in the determination of the durability group.

PM filters can also be coated with precious metals resulting in the particulate filter performing the functions of a three-way catalyst in addition to reducing particulates. The Agency expects that manufacturers may choose to adopt PM filters with three-way catalyst coatings on some applications to reduce aftertreatment system cost by not increasing the number of substrates. We are accordingly proposing to clarify that manufacturers need to include the volume and precious metal loading of the PM filter along with the corresponding values from catalyst when calculating the catalyst grouping statistic. The volume of the PM filter would not be included in the catalyst grouping statistic if the PM filter does not include precious metals.

The durability group is used to specify groups of vehicles which are expected to have similar emission deterioration and emission component durability characteristics throughout their useful life. The inclusion of a particulate filter on a gasoline-fueled vehicle aftertreatment system can have an impact on the durability characteristics of the aftertreatment system and as such the Agency proposes that this device, or the lack of a PM filter in the aftertreatment system, needs to be included in the durability group determination for internal combustion engine aftertreatment systems. Specifically, we are proposing that vehicles may be included in the same durability group only if all the vehicles have no particulate filter, or if all the vehicles have non-catalyzed particulate filters, or if all the vehicles have catalyzed particulate filters.

We are proposing to apply these updates to durability groups equally for both gasoline and diesel applications. However, diesel vehicles certified under 40 CFR part 86, subpart S, generally use a consistent configuration with particulate filters, so the proposed changes are not likely to lead to changes in certification practices for those vehicles.

We request comment on all aspects of the proposed changes for durability groups in 40 CFR 86.1820–01.

ii. BEV and PHEV Monitor Family

As described in Section III.F.2, EPA is proposing battery durability requirements for BEVs and PHEVs. As part of this durability proposal, the Agency is proposing two new groupings for BEVs and PHEVs, a monitor family and a battery durability family. For

⁵⁴⁰ See 42 U.S.C. 7541(i)(2).

BEVs, the new monitor family and new battery durability family would replace the current regulatory requirement to define BEV test and durability groups. Manufacturers would be required to define a durability group, test group, evaporative/refueling family, monitor family, and battery durability family for PHEVs.

To support the proposed monitor accuracy evaluation requirements described in Section III.F.2, manufacturers would install a battery SOH monitor which accurately estimates, monitors, and communicates the SOCE of the high-voltage battery (as defined in GTR No. 22 and described in Section III.F.2) at the current point in the vehicle's lifetime. To evaluate the accuracy of the monitor during the life of the vehicle, manufacturers would procure and test consumer vehicles in-use. The SOCE monitor would be subject to the accuracy standard.

It is expected that the accuracy of the monitors may be similar for vehicles with sufficiently similar design characteristics. To account for this and thus reduce test burden, EPA is proposing to create monitor families for BEVs and PHEVs. As described in GTR No. 22, vehicles that are sufficiently similar in their characteristics such that the monitor can be expected to perform with the same accuracy may be assigned to the same monitor family. The criteria for inclusion in the same monitor family includes characteristics such as the algorithm used for SOCE monitoring, electrified vehicle type (BEV or PHEV), sensor characteristics and sensor configuration, and battery cell characteristics that would not be expected to influence SOCE monitor accuracy.

More specifically, for vehicles to be in the same monitor family: The SOCE monitoring algorithm needs to utilize the same logic and have the same value for all calibration variables used in the algorithm; the algorithm used to determine UBE needs to utilize the same sampling and integration periods and the same integration technique; the locations of the sensor(s) (*i.e.* at the pack, module, or battery cell level) for monitoring DC discharge energy need to be the same; and the accuracy of the sensor(s) and the tolerance of the sensor(s) accuracy used for monitoring energy and range need to be the same. BEVs and PHEVs cannot be included in the same monitor family.

If a manufacturer determines that additional vehicle characteristics affect the accuracy of SOCE estimation, the manufacturer can request the Administrator to allow the creation of additional monitor families. To request

additional monitor families, the manufacturer will seek Agency approval and describe in their application the factors which produce SOCE estimation errors and how the monitor family will be divided to reduce the estimation errors.

Manufacturers can request the Administrator include in the same monitor family vehicles for which these characteristics would not otherwise allow them to be in the same monitor family (except for including BEVs and PHEVs in the same monitor family). The manufacturer will need to include data demonstrating that these differences do not cause errors in the estimation of SOCE when seeking Agency approval.

iii. BEV and PHEV Battery Durability Family

It is expected that the degradation of UBE (as indicated by SOCE) may be similar for vehicles with sufficiently similar design characteristics. To account for this and thus reduce test burden, EPA is proposing to create battery durability families for BEVs and PHEVs. As described in GTR No. 22, vehicles that are sufficiently similar in their characteristics such that the UBE may be expected to degrade in the same way may be assigned to the same battery durability family. The following powertrain characteristics and design features would be used to determine battery durability families: Maximum specified charging power, method of battery thermal management, battery capacity, battery (cathode) chemistry, and the net power of the electrical machines. In addition, BEVs and PHEVs cannot be placed in the same battery durability family.

Manufacturers can request the Administrator include in the same battery durability family vehicles for which these characteristics would not otherwise allow them to be in the same battery durability family (except for including BEVs and PHEVs in the same battery durability family). The manufacturer will need to include data with their request which demonstrates that these differences do not impact the durability of the vehicles with respect to maintaining UBE throughout the life of the BEV or PHEV.

If a manufacturer determines that additional vehicle characteristics result in durability differences which impact UBE, the Manufacturer can request the Administrator to allow the creation of additional battery durability families. To request additional battery durability families the manufacturer will seek Agency approval. In their request for approval, the Manufacturer will describe the factors which produce

differences in vehicle aging and how the durability grouping will be divided to better capture the differences in expected deterioration.

5. Light-Duty Program Improvements

i. GHG Compliance and Enforcement Requirements

EPA is proposing to clarify the certification compliance and enforcement requirements for GHG exhaust emission standards found in 40 CFR 86.1865–12 to more accurately reflect the intention of the 2010 light-duty vehicle GHG rule (75 FR 253243, May 7, 2010). In the 2010 rule, EPA set full useful life greenhouse gas emissions standards for which each vehicle is required to comply. The preamble to that rule clearly explained that the CAA requires a vehicle to comply with emission standards over its regulatory useful life and affords EPA broad authority for the implementation of this requirement and that EPA has authority to require a manufacturer to remedy any noncompliance issues. EPA also explained that there may be cases where a repairable defect could cause the non-compliance and in those cases a recall could be the appropriate remedy. Alternatively, there may be scenarios in which a GHG non-compliance exists with no repairable cause of the exceedance. Therefore, the remedy can range from adjusting a manufacturer's credit balance to the voluntary or mandatory recall of noncompliant vehicles.

In the 2010 rule EPA clearly intended to use its existing recall authority to remedy greenhouse gas non-compliances when appropriate and to use the authority to correct the greenhouse gas credit balance as a remedy when no practical repair for in-use vehicles could be identified (see 75 FR 25474). However, the regulations did not describe these in-use compliance provisions with as much clarity as the preambular statements. Therefore, EPA is proposing clarifications to 40 CFR 86.1865–12(j) to make clear that EPA may use its existing recall authority to remedy greenhouse gas non-compliances when appropriate and specifically may use such authority to correct a manufacturer's greenhouse gas credit balance as a remedy when no practical repair can be identified.

In the 2010 rule, EPA set vehicle in-use emissions standards for CREE to be 10 percent above the vehicle-level emission test results or model-type value if no subconfiguration test data are available. This 10 percent factor was intended to account for test-to test variability or production variability

within a subconfiguration or model type. EPA clearly did not intend for this factor to be used as an allowance for manufacturers to design and produce vehicles which generate CO₂ emissions up to 10 percent higher than the actual values they use to certify and to calculate the year end fleet average. In fact, EPA expressed concerns in the rule making that “this in-use compliance factor could be perceived as providing manufacturers with the ability to design their fleets to generate CO₂ emissions up to 10 percent higher than the actual values they use to certify” (see 75 FR 25476). Given the expectation that in-use vehicles should be designed to perform consistent with the values used to calculate the year end fleet average, EPA is taking comment on whether the Agency should eliminate the 10 percent compliance factor adjustment for the in-use standard. Instead, EPA would apply a 10 percent factor to the threshold used for determining when additional testing is required in the In-Use Confirmatory Program (IUCP).

For the reasons that EPA articulated in the 2010 rulemaking, EPA expects that some in-use vehicles may generate slightly more CO₂ than the certified values and some vehicles may emit slightly less, but the average CO₂ emissions of a manufacturer’s fleet and each model within it should be very close to the levels reported to EPA and used to calculate overall fleet average. The in-use data submitted over the last ten years largely supports this expectation. Nevertheless, EPA believes it is important that manufacturers understand their obligations under the in-use program and that EPA has the appropriate tools to hold manufacturers responsible should they fail to meet these obligations. Therefore, EPA is requesting comment on two different regulatory options, either of which would align with our original intent in the 2010 rule.

The first option is to clarify the regulatory language to make it clear that if a manufacturer’s in-use data demonstrates that a manufacturer’s CO₂ results are consistently higher than the values used for calculation of the fleet average for any class or category of vehicle, EPA may use its authority to correct a manufacturer’s greenhouse gas credit balance to ensure the manufacturer’s GHG fleet average is representative of the actual vehicles it produces. This means that the credit balance post-correction will reflect the actual in-use performance of the vehicles. In other words, if the manufacturer reports a value of X g/mi in calculating its fleet average, but its vehicles emit X+A g/mi in-use, we may

correct the manufacturer’s balance by the entire discrepancy (A).

The second option is to set the in-use standards at the vehicle-level emission test results or model-type average value if no subconfiguration test data are available in the GHG report. Under this approach, manufacturers will have the option to voluntarily raise the GHG values submitted in the GHG report if they wish to create an in-use compliance margin. The proposed change in this second option would make the GHG ABT program consistent with all other ABT programs used in the light duty program. In all other ABT programs (e.g., FTP NMOG+NO_x, MSAT, SFTP), manufacturers must choose a bin level or Family Emissions Limit (FEL) in which to certify. Manufacturers typically design their vehicle to emit well below the bin level or FEL to establish a compliance margin; however, the fleet average emissions are calculated based on the bin level or FEL, not the actual certification level. In those cases, the fleet average emissions calculated in the ABT report would be representative of the actual fleet as long as the vehicles comply with the certified bin level or FEL. Only the light duty GHG ABT program allowed manufacturers to calculate the fleet average emissions based on the certification level. EPA allowed this with the expectation that vehicles in actual use would not normally emit more CO₂ than they did at the time of certification (*i.e.*, CO₂ emissions are not expected to increase with time or mileage).

Under either option, EPA is seeking to further clarify our position on this issue: When EPA uses its recall authority or its authority to correct a manufacturer’s greenhouse gas credit balance to remedy greenhouse gas non-compliance, EPA may require a remedy that fully accounts for the difference in the actual in-use GHG emissions and the values the manufacturer used to certify and to calculate the year end fleet average. EPA is seeking comment on both proposed options, either of which may be adopted in the final rule.

The overarching principle of compliance to the fleet average standards is that the calculated fleet average in the GHG report must accurately represent the actual fleet of vehicles a manufacturer produced. If a manufacturer provides false, inaccurate, or unrepresentative data as part of their GHG report, the manufacturer may be subject to enforcement and EPA may void ab initio the certificates of conformity which relied on that data. Vehicles are covered by a certificate of conformity only if they are in all

material respects as described in the manufacturer’s application for certification (Part I and Part II) including the GHG report. If vehicles generate substantially more CO₂ emissions in actual use than what was reported, those vehicles are not covered by the certificate of conformity. EPA is proposing two changes to the regulatory language that are designed to clarify the Agency’s understanding of its authority to void certificates and/or find that vehicles were sold in violation of a condition of a certificate. Currently 40 CFR 86.1850 states that if a manufacturer submits false or incomplete information or renders inaccurate any test data which it submits, or fails to make a good engineering judgment, EPA may deny issuance of, suspend, or revoke a previously issued certificate of conformity. However, suspension or revocation of a certificate of conformity shall extend no further than to forbid the introduction into commerce of vehicles previously covered by the certificate which are still in the possession of the manufacturer. Since the GHG report is not required to be submitted until May 1 of the calendar year after the model year has ended, suspending or revoking a certificate is no longer a relevant remedy. Therefore, because of situations where certificate suspension or revocation is no longer relevant, EPA is proposing to allow the Agency to void ab initio a previously issued certificate of conformity in the list of possible actions the agency may take if a manufacturer commits any of the infractions listed in 40 CFR 86.1850(b). In addition, EPA is proposing edits to 40 CFR 86.1848 to make it clearer that any vehicles sold that fail to meet any condition upon which the certificate was issued are not covered by the certificate and thus were sold in violation of CAA 203(a)(1).

ii. In-Use Confirmatory Program (IUCP)

Currently, EPA regulations require manufacturers to conduct in-use testing as a condition of certification. Specifically, manufacturers must commit to later procure and test privately-owned vehicles that have been normally used and maintained. The vehicles are tested to determine the in-use levels of criteria pollutants when they are in their first and fourth years of service. This testing is referred to as the In-Use Verification Program (IUVP) testing, which was first implemented as part of EPA’s CAP 2000 certification program.⁵⁴¹

⁵⁴¹ 64 FR 23906, May 4, 1999.

Another component of the CAP 2000 certification program is the In-Use Confirmatory Program (IUCP). This is a manufacturer-conducted in-use test program that can be used as the basis for EPA to order an emission recall (although it is not the only potential basis for recall). For vehicles tested in the IUCP to qualify for IUCP, there is a threshold of 1.30 times the certification emission standard for criteria emissions (e.g., NMOG+NO_x, CO) and an additional requirement that at least 50 percent of the test vehicles for the test group fail for the same substance. If these criteria are met for a test group, the manufacturer is required to test an additional 10 vehicles which are screened for proper use and maintenance.

The 2010 light-duty GHG rule set full useful life greenhouse gas emissions standards for which each vehicle is required to comply and required in-use testing under the In-Use Verification Program (IUCP) testing provisions. At that time, EPA did not set criteria for In-Use Confirmatory Program (IUCP) for GHG but indicated that IUCP will be a valuable future tool for achieving compliance and that EPA would reassess IUCP thresholds for GHG in a future rule when more data is available.⁵⁴²

Since the 2010 rule, EPA has received in-use greenhouse gas emissions test results from over 9,500 vehicles. EPA believes there is now sufficient data to establish IUCP threshold criteria based on greenhouse gas emissions and that doing so is warranted.

The 2010 rule established an in-use CO₂ standard to be 10 percent above the vehicle-level emission test results or model-type value if no subconfiguration test data are available. Over 95 percent of the test results EPA received complied with this in-use standard based on the 10 percent margin. Therefore, EPA is proposing two options for approaches to setting the in-use GHG standards: Either (1) if the in-use standard continues to include a 10 percent adjustment factor applied to the reported GHG result, set the IUCP threshold criteria to be at least 50 percent of the test vehicles for the test group exceed the relevant in-use CO₂ standard; or (2) if the in-use standard is identical to the reported GHG result, set the IUCP threshold criteria to be at least 50 percent of the test vehicles for the test group exceed the relevant in-use CO₂ standard by at least 10 percent. In either approach EPA is not proposing an additional criteria based on the average emissions of the test group. The 50

percent failure rate is consistent with the IUCP criteria for criteria emissions that has existed since the CAP 2000 rule was finalized. However, unlike the IUCP criteria for criteria emissions, EPA is not proposing a threshold for the average emissions of the test group (which is 1.3 times for criteria emissions) for a number of reasons. First, unlike criteria pollutants where the in-use standards are generally the same as the certification standards, EPA is proposing a margin of 10 percent above the reported GHG result for the IUCP criteria. Adding an additional multiplier on top of that would be unnecessary, and EPA believes a 10 percent exceedance threshold (either as a part of the in-use standard or as a threshold criteria) is appropriate given the Agency's experience with GHG compliance over the past decade. Second, unlike for criteria pollutants, the CO₂ emissions performance of vehicles is generally not expected to deteriorate with age and mileage (see the 2010 rule). Third, unlike with criteria pollutants, the in-use GHG standards are not consistent within a test group and the compliance level is not determined by the same emissions data vehicle. GHG in-use standards can be different for each subconfiguration or model type. Fourth, the review of the data supports ten percent above the reported GHG value as an appropriate criterion, because over 95 percent of the test results EPA received complied with this in-use standard based on the 10 percent margin. The proposed IUCP criteria is intended to capture vehicles with both unusually high increase in CO₂ emissions compared to the reported value and an unusually high failure rate.

iii. Part 2 Application Changes

EPA is also proposing changes to 40 CFR 86.1844–01(e) “Part 2 Application” to make it clearer that the part 2 application must include the part numbers and descriptions of the GHG emissions related parts, components, systems, software or elements of design, and AECs including those used to qualify for GHG credits (e.g., air conditioning credits, off cycle credits, advanced technology vehicle credits) as previously specified in EPA guidance letter CD–14–19. These changes are not intended to alter the existing reporting requirements, but rather to clarify the existing requirement.

EPA is also proposing changes to 40 CFR 86.1844–01(e) “Part 2 Application” and 40 CFR 85.2110 to no longer accept paper copies of service manuals, Technical Service Bulletins (TSB), owner's manuals, or warranty booklets. In response to the National Archives

and Records Administration (NARA) mandate and OMB's Memorandum for Heads of Executive Departments and Agencies, M–19–21, Transition to Electronic Records, EPA will no longer accept paper copies of these documents.

iv. Fuel Economy and In-Use Verification Test Procedure Streamlining

The “Federal Test Procedure” (FTP) defines the process for measuring vehicle exhaust emissions, evaporative emissions, and fuel economy and is outlined in 40 CFR 1066.801(e). The process includes preconditioning steps to ensure the repeatability of the test results, as described in 40 CFR 86.132–96. EPA proposes two changes to the preconditioning process used for testing of only fuel economy data vehicles (FEDVs) (not emission data vehicles) in order reduce the testing burden while maintaining the repeatability and improving the accuracy of the test results.⁵⁴³ The proposed changes are related to the fuel drain and refueling step and the preconditioning of the evaporative canister. EPA is also proposing to remove one fuel drain and refueling step for in-use surveillance vehicles. In addition, we are proposing changes to the fuel cap placement during vehicle storage for all emission data and fuel economy vehicles.

Currently, all FEDVs must follow the regulations in for preconditioning before conducting the cold-start portion of the test. Included in this preconditioning is the requirement to drain and refuel the fuel tank twice. We propose to remove the second fuel drain step, that occurs after running the Urban Dynamometer Driving Schedule (UDDS) preconditioning cycle, but before the cold start test. The fuel drain and refuel step was originally included in the test procedure because fresh fuel was important for carbureted engines and could impact the test results. However, with today's fuel injection systems, EPA's assessment is that the refueling of the vehicle with fresh fuel does not impact the measured fuel economy of the vehicle.⁵⁴⁴ Removing this step would save a significant amount of fuel for each test run by the manufacturer and run by EPA and reduce the number of voided tests due to mis-fueling and fueling time violations. It would also reduce the labor associated with refueling the vehicle for each test. EPA also proposes to remove this step for in-use vehicle testing on vehicles tested

⁵⁴³ See proposed regulations in 40 CFR 86.132–96 and 1066.801(e).

⁵⁴⁴ Memo to Docket. “EPA FTP Streamlining Test Results.” See Docket EPA–HQ–OAR–2022–0829, March 2023.

under 40 CFR 86.1845–04 (verification testing). It is difficult to drain fuel from an in-use vehicle because they normally do not have fuel drains. Removing this step will save time and fuel from the in-use verification process as well. EPA will still require this step for in-use confirmatory vehicles tested under 40 CFR 86.1846–01.

EPA also proposes to remove the canister loading, and purging as appropriate, steps from the preconditioning for FEDVs. This would provide the following benefits to manufacturers and EPA: The time to run the test would be reduced, less butane would be consumed by the laboratories which reduces the cost of running a test, and the fuel economy measurement accuracy would improve. EPA conservatively estimates that at least 88 kg of butane was consumed by manufacturers in the 2021 calendar year for the purposes of fuel economy testing, based on 909 fuel economy test submissions to EPA and assuming 97 grams of butane per canister. The measurement accuracy would improve because the calculations for fuel economy assume that 100 percent of the fuel consumed during the testing has the carbon balance of the liquid fuel in the tank. The butane vapor that is added to the canister during preconditioning has a different carbon content, and thus causes very small inaccuracies in the fuel economy results. EPA's test program also shows that the canister loading does not have any statistically significant effect on the fuel economy results from the cold start and highway fuel economy tests.⁵⁴⁵

Finally, the regulations in 40 CFR 86.132–96(a) currently state that fuel cap(s) shall be removed during any period when the vehicle is parked outside awaiting testing but may be in place while in the test area. EPA proposes to revise the regulations such that the vehicle shall always be stored in a way that prevents fuel contamination and unnatural loading of the evaporative control system while awaiting testing regardless of location. At this time EPA considers the possibility of contaminants getting into the fuel system while the fuel cap is off to be more significant than any possible “overloading” of the canister. Modern vehicles purge the canister sufficiently during the preconditioning cycles to ensure that tests completed on vehicles that have been parked will not affect testing results significantly. Custodians of test vehicles should avoid parking test vehicles outdoors during hot conditions for long periods of time.

We request comment and data quantifying any effects of removing the second fuel drain and fill step and removing the canister loading steps from the FTP for fuel economy data vehicles and in-use verification vehicles, along with any impacts of keeping the fuel tank cap in place prior to testing.

v. Miscellaneous Amendments

We are proposing to amend the pre-certification exemption in 40 CFR 85.1702 and 85.1706 to clarify that the exemption is limited to companies that already hold a certificate showing that they meet EPA emission standards. This has been a longstanding practice for highway and nonroad engines and vehicles. Companies that are not certificate holders may continue to request a testing exemption under 40 CFR 85.1705.

We are proposing to update the test procedures in 40 CFR 86.113 to reference test fuel specifications in 40 CFR part 1065 for diesel fuel, natural gas, and LPG. We do not expect this change to cause manufacturers to change the test fuels they use for certification, or to prevent any manufacturer from using carryover data to continue certifying vehicles in later model years. In the case of diesel fuel, the two sets of specifications are very similar except that 40 CFR 1065.703 takes a different approach for aromatic content of the fuel by specifying a minimum aromatic content of 100 g/kg. We expect current diesel test fuels to meet this specification. In the case of natural gas, 40 CFR 1065.715 decreases the minimum methane content from 89 to 87 percent, with corresponding adjustments in allowable levels of nonmethane compounds. In this case too, manufacturers would be able to continue meeting test fuel specifications without changing their current practice. In the case of LPG, 40 CFR 86.113–94 directs manufacturers to ask EPA to approve a test fuel. In the absence of any other specific requirements, we would likely rely on the published fuel specifications in 40 CFR 1065.720 even without a direct reference. We request comment on these proposed changes to fuel specifications. In particular, we request comment on any unintended conflict between the old and the new specifications, and on any potential need to adjust test fuel specifications to maintain consistency with existing requirements.

The regulation currently requires manufacturers to include information in the application for certification for fuel-fired heaters (40 CFR 86.1844–01(d)(15)). The regulation also requires

manufacturers to account for fuel-fired heater emissions in credit calculations for Tier 2 vehicles (40 CFR 86.1860–04(f)(4)). The Tier 3 regulation inadvertently omitted the requirement related to credit calculations in 40 CFR 86.1860–17. We are proposing to restore the requirement to account for emissions from fuel-fired heaters in credit calculations in 40 CFR 86.1844–01(d)(15).

This proposed rule includes several structural changes that lead to a need to make several changes to the regulations for correct terminology and appropriate organization, including the following examples:

- We are replacing cold temperature NMHC standards with cold temperature NMOG+NO_x standards, and we are adding a cold temperature PM standard. The proposed rule includes updates to refer to cold temperature standards generally, or to cold temperature NMOG+NO_x standards instead of or in addition to cold temperature NMHC standards. 40 CFR 86.1864–10 is similarly adjusted to refer to cold temperature fleet average standards and cold temperature emission credits instead of referencing NMHC.

- We are setting separate emission standards for US06 and SC03 driving schedules rather than setting standards based on a composite calculation for the driving schedules that make up the Supplemental FTP. As a result, we are generally adjusting terminology for Tier 4 vehicles to refer to the specific cycles rather than the Supplemental FTP.

- The existing regulation includes several references to Tier 3 standards (or Tier 3 emission credits, etc.). Those references were generally written to say when regulatory provisions started to apply. Some of those provisions need to continue into Tier 4, but not all. The proposed rule includes new language in several places to clarify whether or how those provisions apply for Tier 4 vehicles.

- The proposed rule eliminates many of the differences in the way we apply emission standards for light-duty and heavy-duty vehicles (we are also starting to refer to heavy-duty vehicles as medium-duty vehicles). As a result, we are proposing the new criteria exhaust emission standards for all these vehicles in 40 CFR 86.1811 rather than continuing to rely on a separate section (40 CFR 86.1816) for heavy-duty vehicles.

The proposal includes several instances of removing regulatory text that has been obsolete for several years. Removing obsolete text is important to prevent people from making errors from thinking that obsolete text continues to

⁵⁴⁵ Ibid.

apply. The final rule may include additional housekeeping amendments to remove obsolete text and to remove or update cross references to obsolete or removed regulatory text.

One case of obsolete text is related to special test procedures as specified in 40 CFR 86.1840–01. Vehicle manufacturers have completed a transition to following the exhaust test procedures specified in 40 CFR part 1066, such that those new test procedures apply instead of the test procedures in 40 CFR part 86, subpart B, starting with model year 2022. Since we address special test procedures in 40 CFR 1066.10©, which in turn relies on 40 CFR 1065.10(c)(2), we no longer need to rely on 40 CFR 86.1840–01 for special test procedures. We note the following aspects of the transition for special test procedures:

- We are proposing to apply the provisions for special procedures equally to all vehicles certified under 40 CFR part 86, subpart S. The special test procedures were written in a way that did not apply for incomplete vehicles certified under 40 CFR part 86, subpart S. This is very likely an artifact of the changing scope of the regulation since 2001.

- We are keeping the reference to infrequently regenerating aftertreatment devices in 40 CFR 86.1840–01 as an example of special test procedures to clarify that we are not proposing to change the way manufacturers demonstrate compliance for vehicles with infrequently regenerating aftertreatment devices. Specifically, we are not proposing to adopt the measurement and reporting requirements that apply for heavy-duty engines under 40 CFR 1065.680.

- We are proposing to apply the provisions related to infrequently regenerating aftertreatment devices equally to all vehicles certified under 40 CFR part 86, subpart S. The provisions in 40 CFR 86.1840–01 were written in a way that they did not apply for medium-duty passenger vehicles. This is very likely an artifact of the changing scope of the regulation since 2001.

We are proposing the following additional amendments:

- Section 85.1510(d): Waiving the requirement for Independent Commercial Importers to apply fuel economy labels to electric vehicles. Performing the necessary measurements to determine label values would generally require accessing high-voltage portions of the vehicles electrical system. Manufacturers can appropriately and safely make these measurements as part of product development and testing. These

measurements can pose an unreasonable safety risk when making these measurements on production vehicles. The benefit of labeling information for these vehicles is not enough to outweigh the safety risks of generating that information.

- Section 86.1816–18: The published final rule to adopt the Tier 3 exhaust emission standards for Class 2b and Class 3 vehicles inadvertently increased the numerical value of those standards a trillion-fold by identifying the units as Tg/mile. We are proposing to revert to g/mile as we intended by adopting the Tier 3 standards.

6. Light- and Medium-Duty Emissions Warranty for Certain ICE Components

EPA is proposing to designate several emission control components of light-duty ICE vehicles as specified major emission control components. These include components of the diesel Selective Reductant Catalysts (SRC) system, components of the diesel Exhaust Gas Recirculation (EGR) system, and diesel and gasoline particulate filters (DPFs and GPFs). As the result of this designation, these components will have the same warranty requirements as other components that have been established as specified major emission control components.

As described in Section III.F.3, CAA section 207(i) specifies that the warranty period for light-duty vehicles is 2 years or 24,000 miles of use (whichever first occurs), except the warranty period for specified major emission control components is 8 years or 80,000 miles of use (whichever first occurs). The Act defines the term “specified major emission control component” to mean only a catalytic converter, an electronic emissions control unit (ECU), and an onboard emissions diagnostic device, except that the Administrator may designate any other pollution control device or component as a specified major emission control component if—

(A) the device or component was not in general use on vehicles and engines manufactured prior to the model year 1990; and

(B) the Administrator determines that the retail cost (exclusive of installation costs) of such device or component exceeds \$200 (in 1989 dollars),⁵⁴⁶ adjusted for inflation or deflation as calculated by the Administrator at the time of such determination.

EPA believes that GPFs meet the requirements set forth in CAA section 207(i) and should be designated as specified major emission control

components. GPFs were not in general use prior to model year 1990 and their cost exceeds the threshold specified in the CAA. EPA anticipates that the PM standards in this proposal will require the application of a GPF. In the event of a GPF failure, PM emissions will most likely exceed the proposed standards. It is imperative that a properly functioning GPF be installed on a vehicle in order to achieve the environmental benefits projected by this proposal.

In order to meet the current emissions standards, diesel vehicles utilize Selective Reductant Catalysts (SRC) as the primary catalytic converter for NO_x emissions controls and well as a Diesel Oxidation Catalyst (DOC) as the primary catalytic converter for CO and hydrocarbons and a Diesel Particulate Filter (DPF) as the primary catalytic converter to control particulate matter (PM). In the event that any one of these components fail, EPA anticipates that the relevant standard will be exceeded. The proper functioning of each of these components is necessary for the relevant emissions benefits to be achieved.

More specifically, the SCR catalytic converter relies on a system of components needed to inject a liquid reductant called Diesel Exhaust Fluid (DEF) into the catalytic converter. This system includes pumps, injectors, NO_x sensors, DEF level and quality sensors, storage tanks, DEF heaters and other components that all must function properly for the catalytic converter to work. These components meet the criteria for designation as specified major emission control components.

Vehicles with diesel engines do not rely solely on aftertreatment to control emissions. Diesel engines utilize Exhaust Gas Recirculation (EGR) to control engine out emissions as a critical element of the emissions control system. Components of the EGR system such as electronic EGR valves and EGR coolers meet the criteria for designation as specified major emission control components.

The emission-related warranty period for heavy duty engines and vehicles under CAA section 207(i) is “the period established by the Administrator by regulation (promulgated prior to November 15, 1990) for such purposes unless the Administrator subsequently modifies such regulation.” The regulations specify that the warranty period for light heavy-duty vehicles under 40 CFR 1037.120 is 5 years or 50,000 miles of use (whichever first occurs). EPA is proposing to clarify that this same warranty period applies for medium-duty vehicles certified under 40 CFR part 86, subpart S, except that a longer warranty period of 8 years or

⁵⁴⁶ Equivalent to approximately \$500 today.

80,000 miles would apply for engine-related components described in this section as specified major emission control components.

The warranty provisions in CAA section 207 do not explicitly apply to medium-duty passenger vehicles. However, as with the new standards in this proposed rule, we are proposing to apply warranty requirements to medium-duty passenger vehicles in the same way that they apply to light-duty vehicles.

7. Definition of Light-Duty Truck

EPA currently has separate regulatory definitions for light truck for GHG standards and light-duty truck for criteria pollutant standards. Historically this was not an issue because the car versus truck definition was clear. Nearly all vehicles were passenger cars or pickup trucks with open cargo beds. The earliest sport utility vehicles (SUVs) were primarily derived from pickup truck platforms and were therefore considered light trucks. However, current versions of some of these SUVs are now built off of car-based platforms and have carlike features. Current differences between the two light truck definitions leads to some SUVs being certified to GHG standards as a truck and to criteria pollutant standards as a car. To address this concern, we are proposing to transition to a single definition of light-duty truck with the implementation of the Tier 4 criteria pollutant emission standards.

Currently, the first “light truck” definition is used for determining compliance with the light-duty GHG emission standards (40 CFR 600.002). This definition matches the definition that NHTSA uses in determining compliance with their fuel economy standards (49 CFR 523.5). This definition contains specific vehicle design characteristics that must be met to qualify a vehicle as a truck.

The second “light-duty truck” definition is used for certifying vehicles to the criteria pollutant standards (40 CFR 86.1803–01). This broader definition allows for some SUVs to qualify as trucks even if the specific vehicle does not contain the truck-like design attributes. The definition also includes some ambiguity that requires the manufacturers and EPA to apply judgment to determine the appropriate classification.

To address this concern, we are proposing to revise the definition of light-duty truck used in the criteria pollutant standards to simply refer to the definition of light-truck used in the GHG standards. This proposed change would eliminate any confusion and

simplify reporting for manufacturers because each vehicle would be treated consistently as either a car or a truck for all standards and reporting requirements. We request comment on this proposed revision.

G. Proposed On-Board Diagnostics Program Updates

EPA regulations state that onboard diagnostics (OBD) systems must generally detect malfunctions in the emission control system, store trouble codes corresponding to detected malfunctions, and alert operators appropriately. EPA adopted at 40 CFR 86.1806–17 a requirement for manufacturers to meet the 2013 California Air Resources Board (CARB) OBD regulation as a requirement for an EPA certificate, with certain additional provisions, clarifications and exceptions, in the Tier 3 Motor Vehicle Emission and Fuel Standards final rulemaking (79 FR 23414, April 28, 2014). Since that time, CARB has made several updates to their OBD regulations and continues to consider changes periodically. In this NPRM, EPA is proposing to update to the latest version of the CARB OBD regulation (California’s 2022 OBD–II requirements that are part of title 13, section 1968.2 of the California Code of Regulations, approved on November 22, 2022). This is accomplished by adding a new section for model year 2027 and later vehicles and only putting in requirements in that section that are not in the new CARB regulation. For example, EPA is adding a new monitoring requirement for gasoline particulate filters (GPFs) since the CARB regulation does not specifically have a requirement for a particulate filter diagnostic for gasoline vehicles and EPA is projecting that manufacturers will utilize GPFs as a control strategy in meeting the proposed PM standards. Details are available in DRIA Chapter 3.3.

H. Coordination With Federal and State Partners

Executive Order 14037 directs EPA and DOT to coordinate, as appropriate and consistent with applicable law, during consideration of this rulemaking. EPA has coordinated and consulted with DOT/NHTSA, both on a bilateral level during the development of the proposed program as well as through the interagency review of the EPA proposal led by the Office of Management and Budget. EPA has set some previous light-duty vehicle GHG emission standards in joint rulemakings where NHTSA also established CAFE standards. Most recently, in establishing

standards for model year 2023–2026, EPA and NHTSA concluded that it was appropriate to coordinate and consult but not to engage in joint rulemaking. EPA has similarly concluded that it is not necessary for this EPA proposal to be issued in a joint action with NHTSA. In reaching this conclusion, EPA notes there is no statutory requirement for joint rulemaking and that the agencies have different statutory mandates and their respective programs have always reflected those differences. As the Supreme Court has noted “EPA has been charged with protecting the public’s ‘health’ and ‘welfare,’ a statutory obligation wholly independent of DOT’s mandate to promote energy efficiency.”⁵⁴⁷ Although there is no statutory requirement for EPA to consult with NHTSA, EPA has consulted significantly with NHTSA in the development of this rule. For example, staff of the two agencies met frequently to discuss various technical issues including modeling inputs and assumptions, shared technical information, and shared views related to the assessments conducted for each rule.

EPA also has consulted with analysts from other Federal agencies in developing this proposal, including the Federal Energy Regulatory Commission, the Department of Energy and several national labs. EPA collaborates with DOE and Argonne National Laboratory on battery cost analyses and critical materials forecasting. EPA, National Renewable Energy Laboratory (NREL) and DOE collaborate on forecasting the development of a national charging infrastructure and projecting regional charging demand for input into EPA’s power sector modeling. EPA also coordinates with the Joint Office of Energy and Transportation on charging infrastructure. EPA and the Lawrence Berkeley National Laboratory collaborate on issues of consumer acceptance of plug-in electric vehicles. EPA and the Oak Ridge National Laboratory collaborate on energy security issues. EPA also participates in the Federal Consortium for Advanced Batteries led by DOE and the Joint Office of Energy and Transportation. EPA and DOE also have entered into a Joint Memorandum of Understanding to provide a framework for interagency cooperation and consultation on electric sector resource adequacy and operational reliability.⁵⁴⁸

⁵⁴⁷ *Massachusetts v. EPA*, 549 U.S. at 532.

⁵⁴⁸ Joint Memorandum on Interagency Communication and Consultation on Electric Reliability, U.S. Department of Energy and U.S. Environmental Protection Agency, March 8, 2023.

E.O. 14037 also directs EPA to coordinate with California and other states that are leading the way in reducing vehicle emissions. EPA has engaged with the California Air Resources Board on technical issues in developing this proposal. EPA has considered certain aspects of the CARB Advanced Clean Cars II program, adopted in August 2022, as discussed elsewhere in this notice. We also have engaged with other states, including members of the National Association of Clean Air Agencies, Northeast States for Coordinated Air Use Management, and the Ozone Transport Commission.

I. Stakeholder Engagement

EPA has conducted extensive engagement with a diverse range of interested stakeholders in developing this proposal. We have engaged with those groups with whom E.O. 14037 specifically directs EPA to engage, including labor unions, states, industry, environmental justice organizations and public health experts. In addition, we have engaged with NGOs representing environmental, public health and consumer interests, automotive manufacturers, suppliers, dealers, utilities, charging providers, local governments, Tribal governments, alternative fuels industries, and other organizations. For example, in April–May 2022, EPA held a series of engagement sessions with various interested stakeholder groups so that EPA could hear early input in developing its proposal. These engagement sessions included all of the identified stakeholder groups. EPA has continued engagement with many of these stakeholders throughout the development of this proposal. EPA looks forward to hearing from all stakeholders through comments on this proposal and during the public hearing.

IV. Technical Assessment of the Proposed Standards

A. What approach did EPA use in analyzing potential standards?

For this proposal, EPA has conducted a new technical assessment of the proposed standards, along with an assessment of alternative standards and sensitivity cases. The overall approach used here is consistent with our prior rulemakings for GHG and criteria pollutants for light- and medium-duty vehicles. We continue to refer to the extensive body of prior technical work that has underpinned those rules, and where appropriate we have incorporated both updated and new tools, models and data in conducting this assessment. Some of the areas of particular focus are

related to the significant developments in vehicle electrification that have continued to occur since our most recent previous technical assessment published with the 2021 rule. Battery costs continue to decline, and vehicle manufacturers have continued to introduce PEV products in increased volumes and new market segments, improving the ability to characterize the cost and performance of best-practice designs. New legislation also has provided significant incentives for both the manufacture and purchase of PEVs, and the expansion of charging infrastructure. Additionally, in light of the projected levels of electrification anticipated under the proposed standards, EPA's new technical assessment contains significantly increased focus on the availability of critical minerals, supply chain development, battery manufacturing capacity, and mineral security.

Our modeling can be broadly divided into two categories. The first category is compliance modeling for the vehicle manufacturers, which includes the potential design and technology application decisions to achieve compliance under the modeled standard. The second category is 'effects' modeling, which is intended to capture how changes in vehicle design and use will impact human health, the environment, and other factors that are relevant to a societal benefits-costs analysis.

As in the 2010 and 2012 rules, EPA is again using the Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA) to model vehicle manufacturer compliance with GHG standards. In the 2021 GHG rule EPA used DOT's CAFE Compliance and Effects Modeling System (CCEMS). This approach helped to maintain consistency with the CCEMS modeling used for the 2020 rule allowing for a more direct comparison of results given a single modeling tool having been used for both analyses. For this proposal, EPA is returning to the use of the OMEGA model, and we do so for a few important reasons. For one, the updated version of OMEGA extends the prior version's projections of cost-effective manufacturer compliance decisions by also accounting for the relationship between manufacturer compliance decisions and consumer demand and including important constraints on technology adoption. Also, the updated OMEGA allows for evaluation of the influence of other policies beyond the GHG standards being evaluated, such as state-level ZEV policies. These features make this updated version of OMEGA well-suited for analyzing standards in a

market where BEVs are expected to account for a steadily increasing share of new vehicle sales. EPA has utilized the OMEGA model in evaluating the effects of not only the GHG program but the criteria pollutant emissions program as well. Finally, despite the strengths of the CCEMS and its modeling approach, it is designed around the CAFE program and the statute behind that program, while OMEGA is designed around EPA's GHG program and the Clean Air Act.

This model takes as inputs detailed information about existing vehicles, technologies, costs, and definitions of the policies under consideration. From these inputs, the model projects the stock of vehicles and vehicle attributes, and their use over the analysis period. For the analysis supporting this proposal, EPA has developed an updated and peer-reviewed version of the OMEGA model to better account for the significant evolution over the past decade in vehicle markets, technologies, and mobility services. In particular, recent advancements in BEVs and their introduction into the full range of market segments provides strong evidence that increased vehicle electrification can play a central role in achieving greater levels of emissions reduction in the future. Among the key new features of OMEGA is the representation of consumer-producer interactions when modeling compliance pathways and the associated technology penetration into the vehicle fleet. This capability allows us to project the impacts of the producer and consumer incentives contained in the IRA and BIL legislation. Compared to the previous model version, the updated version of OMEGA has extended capability to model a wider range of GHG program provisions, and it has been critical in the assessment of various policy alternatives that were considered for this proposal. OMEGA is described in detail in DRIA Chapter 2.2.

The ALPHA vehicle simulation model is used to estimate emissions, energy rates, and other relevant vehicle performance estimates. These ALPHA simulation results create the inputs to the OMEGA model for the range of technologies considered in this rulemaking. We have built upon our existing library of benchmarked engines and transmissions used in previous rulemakings by adding several new technologies for non-hybrid and hybrid ICE vehicles, and newly refined models of BEV powertrains. For this proposal, we have also adopted an updated approach for representing the ALPHA simulation results in OMEGA, using 'response surfaces' of emissions and

energy rates. These continuous technology representations can be applied across vehicles of different size, weight, and performance characteristics without requiring that vehicles be binned into discrete vehicle classes. The response surface approach also simplifies the model validation process, since the absolute values of absolute emissions and energy rates that are produced can be readily checked against actual vehicle test data. This is in contrast to the validation process needed for the incremental effectiveness values that were estimated in previous rulemakings using either a 'lumped parameter model' or direct table lookup of effectiveness. The modeling in ALPHA and generation of response surfaces is described in DRIA Chapter 2.4.

The technology cost estimates used in this assessment are from both new and previously referenced sources, including some values used in recent rulemakings where those remain the best available estimates. Vehicle teardown studies remain an important source of detailed cost estimates, and for this rulemaking EPA has contracted a new teardown study that compares ICE and BEV manufacturing costs for a high-volume crossover utility vehicle. Battery costs are an especially important element for this rulemaking. Consistent with prior rulemakings, we have used DOE's BatPaC model to estimate current battery pack costs which, similar to other technology costs, are assumed to decline over time as production volumes grow and manufacturing efficiencies improve. The costing approaches and assumptions are described in more detail in DRIA Chapter 2.5.

The main function of the OMEGA compliance modeling is to simulate how a manufacturer can meet future GHG standards through the application of technologies. Among multiple pathways that typically exist for achieving compliance, OMEGA aims to find the pathway that minimizes costs for the manufacturer given a set of inputs that includes technology costs and emissions rates. The compliance modeling for this rulemaking also includes constraints on new vehicle production and sales that are informed by our assessment of manufacturer and consumer decisions, and in some cases account for factors that were not included in the technical assessments in our prior rulemakings.

EPA also consulted and considered data and forecasts from government agencies, analyst firms, and industry in order to assess capacity for battery production and to thereby establish appropriate constraints on PEV battery

production (in terms of gigawatt-hours (GWh) in a given year) during the time frame of the proposal.⁵⁴⁹ This effectively acts as an upper limit on BEV production, particularly during the earlier years of the analysis, and represents, for example, considerations such as availability of critical minerals and the lead time required to construct battery production facilities. The development of the battery GWh constraint and the sources considered are described in detail in DRIA Chapter 3.1.3.2.

Consistent with compliance modeling for past rulemakings, the OMEGA model also limits the rate at which new vehicle designs can be introduced by applying redesign cycle constraints (DRIA Chapter 2.6). EPA has evaluated historic vehicle data (e.g., the rate of product redesigns) to ensure that the technology production pace in the modeling is feasible. In addition to vehicle production constraints, market assumptions and limits on manufacturer pricing cross-subsidization have been implemented to constrain the number of BEVs that can enter the fleet. EPA has evaluated market projections from both public and proprietary sources to calibrate the OMEGA model's representation of the consumer market's ICE-BEV share response. A detailed discussion of the constraints used in EPA's compliance modeling is provided in DRIA Chapter 2.7.

As in prior rulemakings, this assessment is a projection of the future, and is subject to a range of uncertainties. We have assessed a number of sensitivity cases for key assumptions in order to evaluate how they would impact the results.

B. EPA's Approach To Considering the No Action Case and Sensitivities

EPA has assessed the effects of this proposal with respect to a No Action case, for all stringency alternatives and several sensitivities. The Office of Management and Budget (OMB) provides guidance for regulatory analysis through Circular A4. Circular A4 describes, in general, how a regulatory agency should conduct an analysis in support of a future regulation and includes a requirement for assessing the baseline, or "no action", condition: "what the world will be like if the proposed rule is not

adopted". In addition, Circular A4 provides that the regulating agency may also consider "alternative baselines," which EPA has considered via several sensitivities in this proposal. In the development of a No Action case, EPA also considers existing finalized rulemakings. For this proposal, these finalized rules include the 2014 Tier 3 criteria pollutant regulation, the 2016 Phase 2 GHG standards for medium-duty vehicles, and the recently finalized MY 2023–2026 light-duty GHG standards.

EPA recognizes that during the timeframe of our existing standards the industry and market has already developed considerable momentum toward continuing increases in BEV uptake (as discussed at length throughout this preamble). This dynamic raises an important question about what the projected market penetration for BEVs in the absence of the proposed standards will be. EPA also recognizes there are many projections from third parties and various stakeholders for increased BEV penetration into the future. There are a range of assumptions that vary across such projections such as consumer adoption, financial incentives, manufacturing capacity and vehicle price. Vehicle price is also impacted by range and efficiency assumptions (more efficient EVs require smaller batteries to travel the same distance and smaller batteries cost less). Depending on what specific assumptions regarding the future are made, there can be significant variation in future BEV projections. Increasingly favorable consumer sentiment towards BEVs, decreasing costs (either through a reduction in manufacturing costs or through financial incentives), and a broadening number of BEV product offerings all support a projected higher number of new vehicle BEV sales in the future, independent of additional regulatory action. As described in preamble Section I.A.2.ii, EPA reviewed several recent reports and studies containing BEV projections which altogether span a range from 32 to 50 percent of new vehicle sales in 2030 and as high as 67 percent by 2032.

EPA has considered a similar set of factors as those studies conducted by other stakeholders to develop the No Action case for this proposal. EPA's No Action case has been primarily informed by the technical assessment conducted by the agency in support of this proposal. This includes detailed vehicle and battery cost analyses, impacts of consumer and manufacturing financial incentives (such as those provided by the Inflation Reduction

⁵⁴⁹ Sources included, among others, Wood Mackenzie proprietary forecasts of battery manufacturing capacity, battery costs, and critical mineral availability; Department of Energy analyses and forecasts of critical mineral availability and battery manufacturing capacity; and other public sources. See DRIA Chapter 3.1.3.2 for a description of these sources and how they were used.

Act), consumer acceptance studies, vehicle performance modeling and technology applications, and battery manufacturing assessments.

The No Action case in our central analysis reaches 39 percent BEVs in 2032, shown in Table 81, compared to an actual 3 percent BEV share of new vehicles in MY 2021. This projected BEV increase is driven by EPA's projections of an increase in consumer interest and acceptance over that period, the availability of economic incentives for electric vehicles for both manufacturers and consumers provided by the IRA, cost learning for BEV technology over time, and the ongoing effect of the 2021 rulemaking and the associated stringency increases in MYs 2022 through 2026. In the absence of this proposed rulemaking, the MY 2026 standards carry forward indefinitely into future years and define the No Action policy case for the analysis in this proposal. Notably, this projection does not include announcements made by manufacturers about their future plans and corporate goals, or state laws that have recently been adopted or are likely to be adopted in the next decade. While our projected BEV penetrations in the No Action case show a substantial increase over time, the 39 percent value in MY 2032 is lower than some third-party projections and manufacturer announcements.⁵⁵⁰ For example, the International Energy Agency (IEA) synthesized industry announcements to date and concluded that if industry follows its announced plans, 50 percent

of new vehicle sales in the U.S. would be zero-emission by 2030.⁵⁵¹ The same IEA analysis found that the combined effect of all current policies without consideration of these announcements would result in more than 20 percent BEV sales in 2030. Our own projection of the No Action BEV share of new vehicles falls between these two IEA cases, and well below the higher case of what the industry has announced it will do. While we consider manufacturer announcements as additional evidence that high levels of BEV penetration are feasible, for purposes of this proposal we have not integrated manufacturer announcements directly into our modeling of the No Action baseline. We note here that there are two key reasons why our central No-Action case projections of BEV penetration for this rulemaking are lower than announcements from some manufacturer and some third-party projections. First, our analysis does not include the effect of state-level policies whereas projections from other sources may include those policies. We did not include these policies because many are still not in effect; however, we do anticipate that in the next decade, state-level policies may play an important role in driving BEV penetration. For this reason, we have included a sensitivity No Action case, which includes the ZEV requirements of the California Advanced Clean Car (ACC) II program

for California and other participating states. Second, our analysis is based on the assumption that manufacturers follow a purely cost-minimizing compliance strategy. We do not account for strategic business decisions or corporate policies that might cause a manufacturer to pursue a higher-BEV strategy such as the numerous manufacturer announcements and published corporate goals that suggest this approach may underestimate the rate of BEV adoption in a No Action scenario.

As a way to explore the impact that alternative assumptions would have on the future BEV penetrations under the No Action case, the agency has also conducted a range of sensitivities in addition to a central No Action case. Specifically, EPA conducted three categories of sensitivity cases to explore how various input assumptions affected the No Action case as well as the Proposal and the Alternatives. First, EPA explored a sensitivity reflecting state adoption of the California Advanced Clean Cars II (ACC II) program. Second, EPA conducted sensitivities of both higher and lower battery costs. Third, EPA made assumptions about a faster or slower pace of consumer acceptance of BEVs. Our central No Action case projects 39 percent BEVs in MY2032. Across the sensitivity analyses, MY2032 BEV projections ranged from 29 to 66 percent in their respective No Action cases. Each of the sensitivity cases is discussed in more detail in Section IV.E. Our projections through MY 2032 for BEV penetrations in the No Action case are shown in Figure 20.

⁵⁵⁰ A summary of industry announcements and third-party projections of BEV penetrations is provided in Section I.A.2.

⁵⁵¹ International Energy Agency, "Global EV Outlook 2022," p. 107, May 2022. Accessed on November 18, 2022 at <https://iea.blob.core.windows.net/assets/e0d2081d-487d-4818-8c59-69b638969f9e/GlobalElectricVehicleOutlook2022.pdf>.

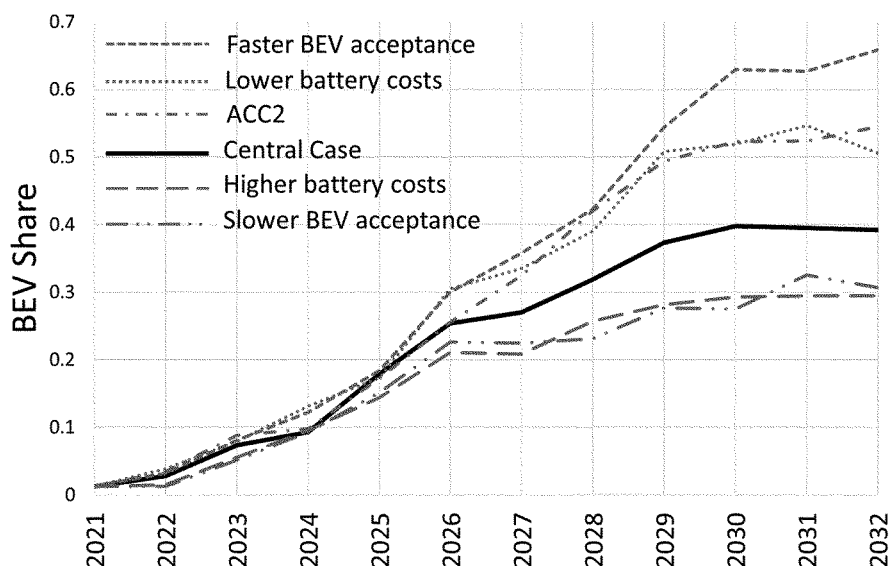


Figure 20. No Action projections of light-duty BEV penetrations for central and sensitivity cases

We acknowledge the range of possible assumptions, and on balance, we believe that EPA's approach to assessing potential No Action cases provides a technically robust method of determining the feasibility and costs associated with the emissions reductions required by the proposed standards.

EPA requests comment on our approach to the No Action case, both the methodologies and detailed technical inputs used by EPA to develop the No Action case for this proposal, and also on other approaches EPA may consider as an alternative to the approach used in this proposal. EPA will assess the comments and other information gathered in response to this proposal in determining an appropriate approach to the No Action case for the final rule.

C. How did EPA consider technology feasibility and related issues?

1. Light- and Medium-Duty Technology Feasibility

The levels of stringency considered in this proposal continue a trend of more stringent emission standards established by EPA in prior rulemakings based on EPA's consideration of available and projected technologies consistent with the factors EPA must consider when establishing standards under the Clean Air Act. As with prior rules, as part of the development of this proposed rulemaking, EPA has assessed the feasibility of the proposed standards in light of current and anticipated progress by automakers in developing and

deploying new emissions-reducing technologies.

Compliance with the EPA GHG and criteria pollutant standards over the past decade has been achieved predominantly through the application of advanced technologies and improved aftertreatment systems to internal combustion engine (ICE) vehicles. For example, in the analyses performed for the 2012 GHG rule, a significant portion of EPA's analysis included an assessment of technologies available to manufacturers for achieving compliance with the standards. Advanced ICE technologies were identified as playing a major role in manufacturer compliance with the emission reductions required by those rules.

In that same time frame, as the EPA standards have increased in stringency, automakers have relied to an increasing degree on a range of electrification technologies, including hybrid electric vehicles (HEVs) and, in recent years, plug-in hybrid electric vehicles (PHEVs) and battery-electric vehicles (BEVs). As these technologies have been advancing rapidly over the past decade, and as battery costs have continued to decline, automakers have begun to include BEVs and PHEVs (together referred to as PEVs or plug-in electric vehicles) as an integral and growing part of their current and future product lines, leading to an increasing diversity of these clean vehicles planned for high-volume production. HEV and PHEV vehicle architectures not only decrease GHG emissions but provide the vehicle manufacturers with additional technology options for reducing criteria

pollutant emissions. Blended ICE and electric operation allow the vehicle manufacturers to control the engine for optimal operating conditions to reduce criteria pollutants. In addition, the inclusion of a higher voltage battery provides the opportunity to preheat the catalyst to reduce cold start emissions. In EPA's 2021 rule that set GHG emission standards for MYs 2023 through 2026, we projected that manufacturers would comply with the 2026 standards with about 17 percent PEVs at the industry-wide level, reflecting the increased cost-effectiveness of PEV technologies in achieving compliance with increasingly stringent emissions standards.

This trend in technology application for light-duty vehicles is evidence of a continuing shift toward electrification as an important technology for both criteria pollutant and GHG compliance. As many advanced ICE technologies have now reached high penetrations across the breadth of manufacturers' product lines, electrification technology becomes increasingly attractive as a cost-effective pathway to further emission reductions. As described in detail in the Executive Summary, manufacturers have increasingly begun to shift research and development investment away from ICE technologies and are allocating large amounts of new investment to electrification technologies. For more discussion of this rapidly increasing trend, see preamble Section I.A.2.

In addition to the light-duty vehicle sector, the medium-duty sector is also experiencing a shift toward

electrification in several important market segments. As described in Section I.A.2 of this preamble, numerous commitments to produce all-electric medium-duty delivery vans have been announced by large fleet companies in partnerships with various OEMs. This rapid shift to BEVs in a fleet that is currently predominantly gasoline- and diesel-fueled suggests that the operators of these fleets consider BEV delivery vans the best available and most cost-effective technology for meeting their needs. Owing to the large size of these vehicle fleets, this segment alone is likely to represent a significant portion of the future electrification of the medium-duty vehicle fleet.

These trends in light- and medium-duty vehicle technology suggest that electrification is already poised to play a rapidly increasing role in the onroad fleet and provides further evidence that BEV and PHEV technologies are increasingly seen as an effective and feasible set of vehicle technologies that are available to manufacturers to help comply with increasing levels of emission reductions.

EPA has assessed the feasibility of the proposed standards in light of current and anticipated progress by automakers in developing and deploying new emissions-reducing technologies and has presented the bulk of this analysis in Chapter 3 of the DRIA. DRIA 3.1.1 provides further discussion of recent trends and feasibility of light-duty vehicle technologies that manufacturers have available to meet the proposed standards. DRIA 3.1.2 discusses recent trends in electrification of medium-duty vehicles. The following paragraphs summarize other aspects of PEV feasibility, such as technology costs, consumer acceptance, charging infrastructure, supply chain, manufacturing capacity, critical minerals, and effects of BEV penetration on upstream emissions; the respective chapters of the DRIA provide additional detail.

While EPA has not specifically modeled the adoption of plug-in hybrid electric vehicle (PHEV) architectures in the analysis for this proposal, the agency recognizes that PHEVs can provide significant reductions in GHG emissions and that some vehicle manufacturers may choose to utilize this technology as part of their technology offering portfolio in response to customer demands/needs and in response to EPA emission standards (as some firms are already doing today). PHEVs have been available in the light-duty vehicle market in the U.S. for more than a decade and a number of models are available now across a larger breadth

of vehicle types, including sedans, such as the Toyota Prius Prime, and crossover SUVs, such as the Subaru Crosstrek, Ford Escape PHEV, Kia Niro Plug-in Hybrid, Kia Sportage Plug-In Hybrid, Hyundai Tucson Plug-In Hybrid, Mitsubishi Outlander PHEV and Toyota RAV4 Prime. Stellantis currently offers a minivan PHEV in its Chrysler Pacifica Hybrid. Large PHEV SUVs are also currently available, including the Jeep Grand Cherokee and Jeep Wrangler 4xe, the Kia Sorento Plug in Hybrid, the Lincoln Corsair Grand Touring, the Lincoln Aviator, and the Volvo XC90 Recharge.

Although no PHEV pickup truck applications currently exist, EPA believes the PHEV architecture may lend itself well to future pickup truck applications, including some MDV pickup truck applications. One major manufacturer, Stellantis, recently announced at the 2023 Consumer Electronics Show that a range-extender will be an option on their new full-size Ram 1500 REV electric pickup.⁵⁵² A PHEV pickup architecture would provide several benefits: Some amount of zero-emission electric range (depending on battery size); increased total vehicle range during heavy towing and hauling operations using both charge depleting and charge sustaining modes (depending on ICE-powertrain sizing); job-site utility with auxiliary power capabilities similar to portable worksite generators, and the efficiency improvements normally associated with strong hybrids that provide regenerative braking, extended engine idle-off, and launch assist for high torque demand applications. Depending on the vehicle architecture, PHEVs used in pickup truck applications may also offer additional capabilities, similar to BEV pickups, with respect to torque control and/or torque vectoring to reduce wheel slip during launch in trailer towing applications. In addition, PHEVs may help provide a bridge for consumers that may not be ready to adopt a fully electric vehicle.

The MY 2023 Jeep Grand Cherokee 4xe with the “Trailhawk” package is an example of a large SUV with significant tow capability and similar packages may eventually be used in pickup truck applications. The vehicle has a 6,125 pound GVWR and a 12,125-pound GCWR using a combination of a 270 bhp turbocharged GDI engine with P2 and P0 electric machines of 100kW and 33kW, respectively. The vehicle also

uses a 17.3 kWh (nominal size) battery pack that provides 25 miles of all-electric range. The MY 2023 Jeep Wrangler 4xe uses a similar powertrain and battery pack. The Wrangler 4xe equipped with the “Rubicon” package has a 6,400-pound GVWR and a 9,200-pound GCWR.

EPA requests comment on the types of PHEVs EPA could consider in our analysis for the final rulemaking, including whether or not EPA should explicitly model PHEVs in light-duty and MDV pickup applications. EPA also requests comment on recommendations for likely PHEV architectures that should be investigated, and any relevant performance or utility data that may help inform our modeling and analyses. EPA has initiated contract work with Southwest Research Institute to investigate likely technology architectures of both PHEV and internal combustion engine range-extended electric light-duty and MDV pickup trucks that we anticipate will provide data in time for the final rule. In addition, within DRIA Chapter 2.6.1.4 “PHEV Powertrain Costs,” EPA provides component technology descriptions and cost estimates that include the major components needed to manufacture a PHEV, including batteries, e-motors, power electronics and other ancillary systems. EPA requests comment on our PHEV cost estimates contained in the DRIA. EPA may rely upon those estimates and other information gathered in response to this proposal and EPA’s on-going technical work for estimating the costs for PHEVs for the final rule.

Many light-duty and medium-duty PHEVs purchased for commercial use would be eligible for the Commercial Clean Vehicle Credit (45W) under the IRA, which provides a credit of up to \$7,500 for qualified vehicles with gross vehicle weight ratings (GVWRs) of under 14,000 pounds and up to \$40,000 for qualified vehicles above 14,000 pounds GVWR. As the amount of the credit depends on the GVWR and the incremental cost of the vehicle relative to a comparable ICE vehicle, EPA also requests comment on estimating the amount of the credit that will on average apply to commercial MDV PHEVs, such as PHEV pickups, and other commercial PHEVs and BEVs.

2. Approach To Estimating Electrification Technology Costs

Among the various technology costs that are relevant to technology feasibility, costs for electrification technology are of particular interest due to the increased penetrations of

⁵⁵² Kiley, D. Ram 1500 BEV Expected To Hit Market With 500 Miles of Range. “Wards Auto”, January 5, 2023. <https://www.wardsauto.com/print/389039>.

electrified vehicles that are projected in the compliance analysis.

This section provides a general review of how battery and other electrification component costs were developed for this analysis. A more detailed discussion of the development of the electrification cost estimates used in the proposal, and the sources we considered, may be found in DRIA Chapter 2.

To develop battery cost estimates for PEVs, EPA relied on a number of resources. First, as part of our ongoing research activities, we followed recent and anticipated trends in PEV battery design and configuration in order to understand the general design parameters of batteries that are appearing in high-production PEV models and whose cost therefore should be modeled in the analysis. To identify appropriate pack designs, we sought to model batteries with pack topologies, cell sizes, and chemistry that are similar to those seen in emerging high-production battery platforms, such as for example the GM Ultium battery platform, the VW MEB vehicle platform, and the Hyundai E-GMP vehicle platform. EPA considers these platforms to exemplify the trend toward BEV-specific vehicle platforms with battery packs of several capacities that are constructed from various numbers of modules that utilize one or two standard cell sizes of relatively large capacity, generally forming a flat battery pack assembly suitable for residing in the vehicle floor.

EPA then used Argonne National Laboratory's BatPaC model version 5.0 as a key tool to generate base year (2022) direct manufacturing cost estimates for battery packs of such a design, as they are likely to be experienced today in a well optimized, high-volume battery production facility. As described in

more detail in DRIA Chapter 2.5.2.1.2, we generated a population of pack costs for various pack energy capacities (kWh) and developed curve fits to express base year cost per kWh as a function of gross kWh,⁵⁵³ for a number of annual production volumes.

To determine battery manufacturing costs in future years of the analysis, we first looked to industry forecasts and other literature regarding expected cost reductions for typical BEV battery packs in future years, expected to result from factors commonly cited in these forecasts, such as improved manufacturing efficiency and increasing production volumes. We then used this information to derive a nominal reference trajectory for future battery pack cost per kWh for an average BEV battery pack. The development of the reference trajectory is described in DRIA 2.5.2.1.3.

This generic reference trajectory was used as a reference point with which to qualitatively compare BEV battery costs per kWh that are output by the OMEGA model. When the OMEGA model generates a compliant fleet in a given future year of the analysis, battery costs for BEVs in that year are determined dynamically, by applying a learning cost reduction to the base year cost. The learning factor is calculated based on the cumulative GWh of battery production necessary to supply the number of BEVs that OMEGA has thus far placed in the analysis fleet, up to that analysis year. This is consistent with "learning by doing," a standard basis for representing cost reductions due to learning in which a specific percentage cost reduction occurs with each doubling of cumulative production over time. This dynamic method of

⁵⁵³ As described in DRIA Chapter 2, larger packs tend to achieve a lower cost per kWh, and this tendency is evident in BatPaC results.

assigning a cost reduction due to learning means that OMEGA runs that result in different cumulative battery production levels will result in somewhat different battery costs.

Because it is concerned with projecting a compliant U.S. fleet, OMEGA estimates only the cumulative GWh of battery production needed to supply the U.S. PEV fleet. On a global scale, and across other battery applications such as stationary storage or other classes of vehicles, cumulative GWh of battery production is likely to be much larger than that for the U.S. fleet alone, and could potentially lead to a greater potential for learning to occur over the same time frame. Therefore, our use of cumulative U.S. production may be conservative with respect to the potential for volume-based learning to occur. EPA invites comment on whether and how EPA should consider the issue of global battery production in the context of our application of learning for the final rule analysis.

As an example of the pack direct manufacturing costs used in the analysis, Figure 21 shows the sales-weighted average battery pack direct manufacturing cost per kWh generated by OMEGA for the central case of the proposal, alongside the reference trajectory. The Proposal costs compare quite favorably to the reference trajectory and vary generally as expected. From 2022 to 2025 they are somewhat lower, due to the substantially larger average pack size (96 to 103 kWh) compared to the 75 kWh of the reference trajectory. Post-2027, the Proposal costs are also lower than the reference trajectory, again due in part to the larger pack size, and increasingly, to the growing cumulative production volume due to the additional BEVs driven by the proposal.

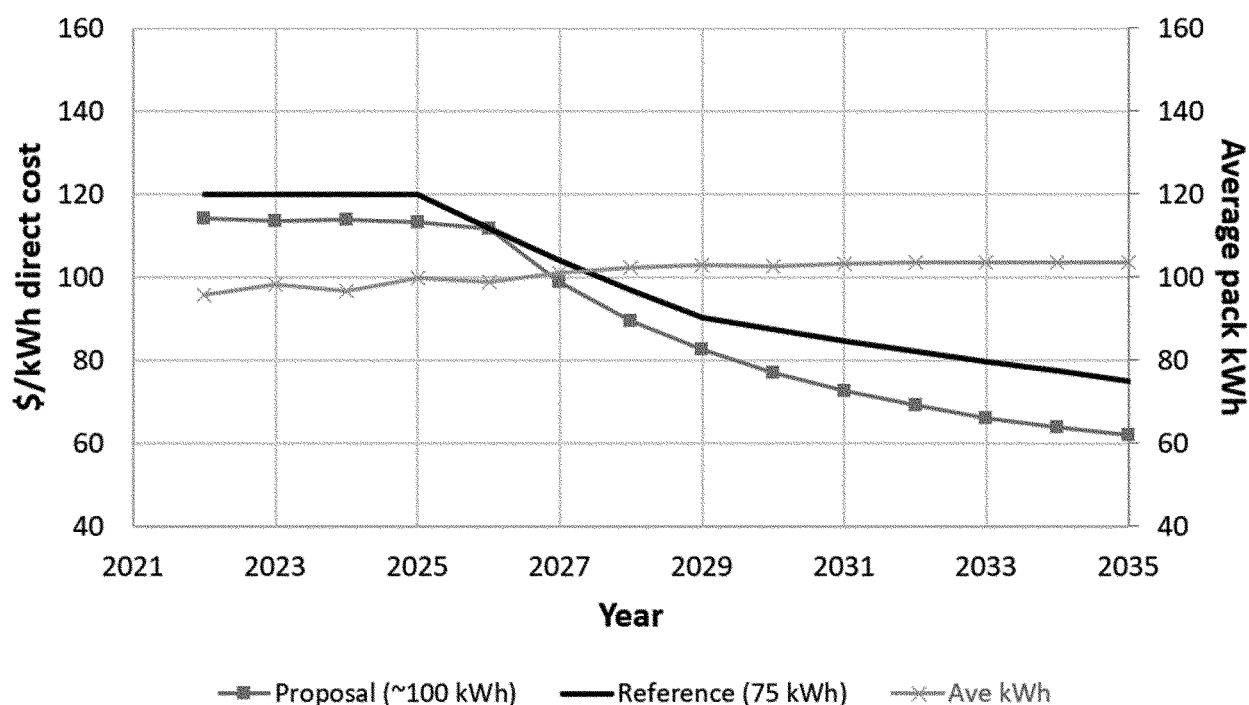


Figure 21. Example of pack direct manufacturing cost per kWh and average pack kWh generated by OMEGA.

The average pack size for BEVs generated by OMEGA is plotted on the right axis. The 96 kWh to 103 kWh average pack capacity is due in part to their use in relatively large vehicles, such as large SUVs and light trucks, which form a significant part of the OMEGA modeled compliance fleet and to which OMEGA directs a significant amount of electrification in its identification of a least cost compliance pathway. Another factor is the use of a 300-mile driving range for all BEVs in the analysis, which is a longer average range than in some other studies but which EPA believes is an appropriate modeling choice to reflect currently prevailing range expectations by consumers.⁵⁵⁴ More discussion of the OMEGA model and the OMEGA results can be found in Section IV.C and in the DRIA.

To reflect the anticipated effect of the Inflation Reduction Act (IRA) on battery production costs to manufacturers, we applied a further battery cost reduction based on the Section 45X Advanced Manufacturing Production Tax Credit. This provision of the IRA provides a \$35 per kWh tax credit for manufacturers of battery cells, and an additional \$10 per kWh for manufacturers of battery modules, as well as a credit equal to 10

percent of the manufacturing cost of electrode active materials and another 10 percent for the manufacturing cost of critical minerals (all applicable only to manufacture in the United States). The credits, with the exception of the critical minerals credit, are available immediately to manufacturers who meet the U.S. production requirement and phase out from 2030 to 2032.

We assumed that manufacturer ability to take advantage of the \$35 cell credit and the \$10 module credit would ramp up linearly from 60 percent of total cells and modules in 2023 (a conservative estimate of the current percentage of U.S.-based battery and cell manufacturing likely to be eligible today for the credit)⁵⁵⁵ 556 557 to 100 percent in 2027, and then ramping down by 25 percent per year as the law phases out the credit from 2030 (75 percent)

⁵⁵⁵ U.S. Department of Energy, "FOTW #1192, June 28, 2021: Most U.S. Light-Duty Plug-In Electric Vehicle Battery Cells and Packs Produced Domestically from 2018 to 2020," June 28, 2021. <https://www.energy.gov/eere/vehicles/articles/fotw-1192-june-28-2021-most-us-light-duty-plug-electric-vehicle-battery>.

⁵⁵⁶ Argonne National Laboratory, "Lithium-Ion Battery Supply Chain for E-Drive Vehicles in the United States: 2010–2020," ANL/ESD–21/3, March 2021.

⁵⁵⁷ U.S. Department of Energy, "Vehicle Technologies Office Transportation Analysis Fact of the Week #1278, Most Battery Cells and Battery Packs in Plug-in Vehicles Sold in the United States From 2010 to 2021 Were Domestically Produced," February 20, 2023.

through 2033 (zero percent). Although a large percentage of 2023 U.S. BEV battery and cell manufacturing is represented by the production of one OEM, we expect that the many large U.S. battery production facilities that are being actively developed by suppliers and other OEMs (as described in Section IV.C.6 of this Preamble) will allow benefit of the credit to be accessible to all manufacturers by 2027.

Because RPE is meant to be a multiplier against the direct manufacturing cost, and the 45X credit does not reduce the actual direct manufacturing cost at the factory but only compensates the cost after the fact, we felt that it was most appropriate to apply the 45X credit to the marked-up cost. The 45X cell and module credits per kWh were applied by first marking up the direct manufacturing cost by the 1.5 RPE factor to determine the indirect cost (*i.e.*, 50 percent of the manufacturing cost), then deducting the credit amount from the marked-up cost to create a post-credit marked-up cost. The post-credit direct manufacturing cost would then become the post-credit marked-up cost minus the indirect cost. Details on the application of the 45X credit in OMEGA can be found in DRIA 2.5.2.1.

EPA did not apply a further cost reduction to represent the 10 percent electrode active material or critical mineral production credits under 45X,

⁵⁵⁴ For light-duty, OMEGA uses a 300 mile range for BEVs. For medium-duty, OMEGA uses a 300 mile range for pickup BEVs and a 150 mile range for van BEVs.

which are also available to be utilized by manufacturers. Although not explicitly modeled, these credits could have a substantial impact on reducing battery costs for some manufacturers in the short term and many in the long term, and so their exclusion from the currently modeled cost estimates represents a conservative assumption. EPA requests comment on how the effect of these specific credits might be quantitatively represented in battery production cost for the final rule analysis.

The IRA also includes consumer purchase incentives, which do not affect battery manufacturing cost, but reduce vehicle purchase cost to consumers.

A substantial Clean Vehicle Credit (CVC, or IRS 30D) of up to \$7,500 is available to eligible buyers of eligible PEVs, subject to a number of requirements such as location of final assembly (in North America), critical minerals and battery component origin, vehicle retail price, and buyer income. Similarly, a Commercial Clean Vehicle Credit (CCVC, or IRS 45W) of up to \$7,500 is available for light-duty vehicles purchased for commercial use. Guidance by the Internal Revenue Service indicates that vehicles leased to consumers (rather than sold) are commercial vehicles that will qualify for the full credit to be paid to the lessor.⁵⁵⁸ EPA recognizes that this guidance could lead to increased relevance of the CCVC for vehicles and buyers that would not otherwise be eligible for the CVCC, and that this could constitute an additional PEV cost reduction for certain consumers. Relevant considerations in quantifying the extent to which the CVCC may influence cost of PEVs to consumers would include factors such as the degree to which the value of the CVCC credit (paid to lessor) would be represented in reduced payments to the lessee, and the degree to which manufacturers and dealers that currently sell vehicles outright choose to switch to a leasing model.

Because of the requirements of the 30D credit and the uncertainties regarding utilization of the 45W credit, EPA is not assuming that all BEV sales will qualify for the full \$7,500 30D or 45W credit. A portion of the market that is unable to capture the 30D credit may be capable of utilizing the 45W credit.

For these reasons, in the OMEGA model we have applied a portion of the \$7,500 maximum from either incentive. For 2023 we estimated that an average credit amount (across all PEV purchases) of \$3,750 per vehicle could reasonably be expected to be realized through a combination of the 30D and 45W tax credits. For later years, we recognized that the attractiveness of the credits to manufacturers and consumers would likely increase eligibility over time. To reflect this, we ramped the value linearly to \$6,000 by 2032, the last year of the credits. We did not ramp to the full theoretical value of \$7,500, in expectation that not all purchases will qualify for 30D due to MSRP or income limitations, and that not all PEVs are likely to enter the market through leasing.

The credit amount is modeled in OMEGA as a direct reduction to the consumer purchase costs,⁵⁵⁹ and therefore has an influence on the shares of BEVs demanded by consumers. The purchase incentive is assumed to be realized entirely by the consumer and does not impact the vehicle production costs for producer. For more discussion and the values used by OMEGA, please see DRIA Chapter 2.6.8.

EPA also considered potential impacts on battery manufacturing cost that might result from the proposed battery durability and warranty requirements described in Sections III.F.2 and III.F.3. Because the durability minimum performance requirement and the minimum battery warranty are similar to currently observed industry practices regarding durability performance and warranty terms, EPA does not expect that the proposed requirements will result in an increase in battery manufacturing costs.

Forecasting of future battery costs is a very active research area, particularly at this time of rapidly increasing demand in an actively evolving industry. As new forecasts of battery cost become available, EPA plans to consider this information for the final rule analysis. One example of the potential for new information to emerge periodically on this active topic is the recently released report (December 6, 2022) from Bloomberg New Energy Finance (BNEF) describing the results of their annual Battery Price Survey, which indicates

that after years of steady decline, the global average price for lithium-ion battery packs (volume-weighted across the passenger, commercial, bus, and stationary markets) climbed by about 7 percent in 2022, from \$141 per kWh the year before to \$151 per kWh in 2022.^{560 561} For passenger BEV batteries the average price paid was reported to be \$138 per kWh. Although the BNEF report is useful to understand trends in prices that are reported as being paid across the industry, it is difficult to compare the BNEF costs to the modeled costs in our analysis, which apply to a specific class of pack design manufactured in large quantities at a large manufacturing facility, to fulfill large orders for a major OEM. In contrast, the survey respondents are likely to include both large and small purchasers of diverse battery packs whose designs and average gross capacities may differ from those modeled in the analysis. Recognizing these and other uncertainties, EPA believes that our proposed battery cost estimates are reasonable based on the record at this time. To improve upon these estimates for the final rule analysis, EPA plans to continue to monitor emerging studies and will review the cost estimates based on available information and public comment. We also plan to work with ANL to continue updating our estimates of battery cost for current and future years, by adjusting key inputs to the BatPaC model to represent expected improvements to production processes, forecasts of future mineral costs, and design improvements. This will allow refinement of the scaling factors based on BatPaC modeling in addition to our consideration of industry forecasts.

In Figure 22 we compare the example battery costs of Figure 21 to the high and low battery cost sensitivities that were examined in the 2021 rule. The dotted lines show the high- and low-cost sensitivities in the 2021 rule, applicable to a 60-kWh pack as per the discussion that was provided in the 2021 rule. For comparison to the current proposal, the solid line shows the example OMEGA cost per kWh shown in Figure 21. The average battery size generated for BEVs by OMEGA is larger than the 60 kWh example from the 2021 rule, at about 100 kWh.

⁵⁵⁸ Internal Revenue Service, "Topic G—Frequently Asked Questions About Qualified Commercial Clean Vehicles Credit," February 3, 2023. <https://www.irs.gov/newsroom/topic-g-frequently-asked-questions-about-qualified-commercial-clean-vehicles-credit>.

⁵⁵⁹ As described in Chapter 4.1 of the DRIA, the modeling of consumer demand for ICE and BEV vehicles considers purchase and ownership costs as

components of a "consumer generalized cost" for the ICE and BEV options. The purchase cost reflects the vehicle purchase price and any assumed purchase incentives under 30D of the IRA.

⁵⁶⁰ Bloomberg New Energy Finance, "Rising Battery Prices Threaten to Derailed the Arrival of Affordable EVs," December 6, 2022. Accessed on December 6, 2022 at: <https://www.bloomberg.com/news/articles/2022-12-06/rising-battery-prices-threaten-to-derail-the-arrival-of-affordable-evs>.

⁵⁶¹ Bloomberg New Energy Finance, "Lithium-ion Battery Pack Prices Rise for First Time to an Average of \$151/kWh," December 6, 2022.

Accessed on December 6, 2022 at: <https://about.bnef.com/blog/lithium-ion-battery-pack-prices-rise-for-first-time-to-an-average-of-151-kwh/>.

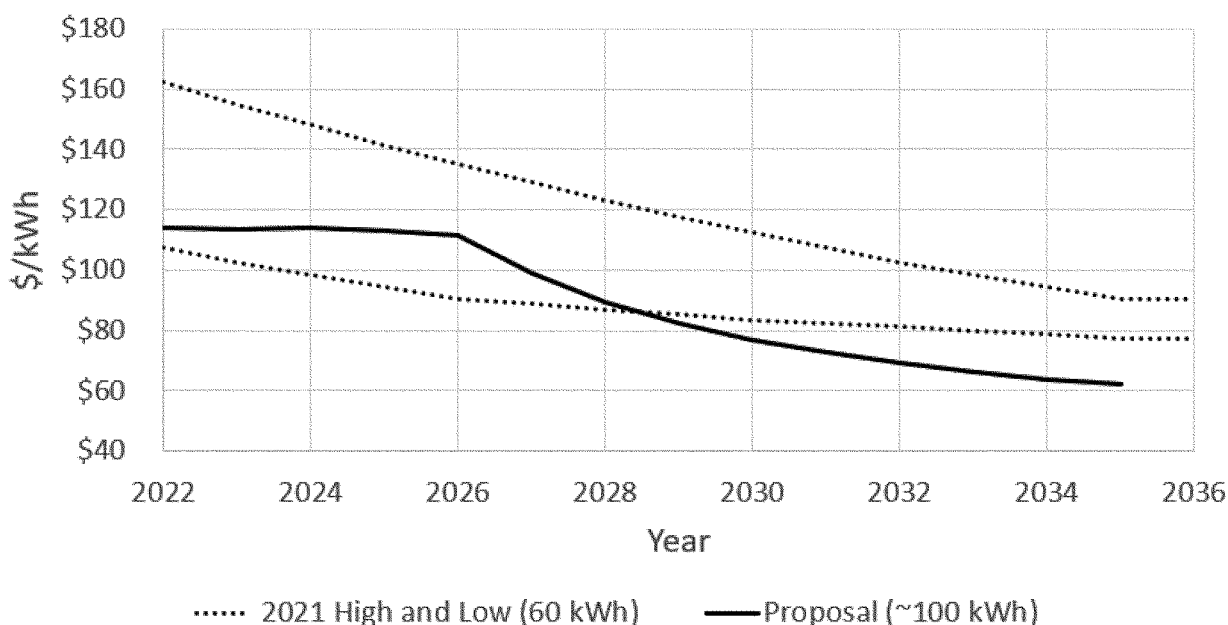


Figure 22. Comparison of average BEV battery costs in proposal central case to high and low sensitivities in the

2021 rule analysis.⁵⁶²

It can be seen that the average battery costs in the current proposal remain within the band delineated by the high and low sensitivities of the 2021 final rule analysis, out to MY 2028–2029. At MY 2029, the cost begins to decline below the lower sensitivity in the 2021 rule. In general, part of the lower cost is due to the larger pack capacity. Also, in the central case of the 2021 final rule analysis, we had chosen to hold the battery cost learning rate constant after MY 2029, essentially subjecting it to a floor that was meant to represent uncertainty about the potential for continued reductions due to rising demand and prices for critical minerals that were beginning to become apparent at the time of the rulemaking. We had noted that this was a conservative assumption, reflecting uncertainty at the time about what the appropriate level of learning would be in light of emerging cost increases for critical minerals. We also noted that we would continue to study the potential for cost reductions in batteries during and after the time frame of the rule, noting that pending updates to the ANL BatPaC model, as

well as collection of emerging data on forecasts for future mineral prices and production capacity, would make it possible to more confidently characterize the rate of decline in battery costs, and that we would incorporate this information in the current proposal.

Since then, these developments have improved our ability to understand the potential for cost reductions past 2029, in place of the lower limit we had assumed in the 2021 analysis. While predicting the actual cost of batteries this far into the future is highly uncertain, most analysts expect continued progress to occur as a result of continued improvement in battery manufacturing and battery chemistry during this extended future timeframe.

Forecasting of future battery costs is subject to a great deal of uncertainty due to factors such as the ongoing and active development of the technology and rapidly increasing demand. EPA welcomes comment on the battery costs used in this analysis and how to best represent future expectations of trends in battery costs, as well as additional data and information that EPA should consider in assessing battery costs for the final rule analysis.

Detailed discussion of the development of the battery cost estimates used in the proposal and the

sources we considered may be found in DRIA Chapter 2.

EPA has also updated the non-battery powertrain costs that were used to determine the direct manufacturing cost of electrified powertrains. We referred to a variety of industry and academic sources, focusing primarily on teardowns of components and vehicles conducted by leading engineering firms. These included the 2017 teardown of the Chevy Bolt conducted by Munro and Associates for UBS;⁵⁶³ a 2018 teardown of several electrified vehicle components conducted by Ricardo for the California Air Resources Board;⁵⁶⁴ a set of commercial teardown reports published in 2019 and 2020 by Munro & Associates;⁵⁶⁵ 566 567 568 569 570 and the

⁵⁶³ UBS AG, “Q-Series: UBS Evidence Lab Electric Car Teardown—Disruption Ahead?” UBS Evidence Lab, May 18, 2017.

⁵⁶⁴ California Air Resources Board, “Advanced Strong Hybrid and Plug-In Hybrid Engineering Evaluation and Cost Analysis,” CARB Agreement 15CAR018, prepared for CARB and California EPA by Munro & Associates, Inc. and Ricardo Strategic Consulting, April 21, 2017.

⁵⁶⁵ Munro and Associates, “Twelve Motor Side-by-Side Analysis,” provided November 2020.

⁵⁶⁶ Munro and Associates, “6 Inverter Side-by-Side Analysis,” provided January 2021.

⁵⁶⁷ Munro and Associates, “3 Inverter Side-by-Side Analysis,” provided November 2020.

⁵⁶⁸ Munro and Associates, “BMW i3 Cost Analysis,” dated January 2016, provided November 2020.

⁵⁶² For valid comparison to the example costs reported in the 2021 final rule, the costs depicted in the figure represent a 60-kWh pack and thus are slightly higher than the cost trajectory shown in DRIA Chapter 2.5.2.1.3 (“Trajectory of future battery pack manufacturing costs for a 75 kWh BEV pack”) which represents a 75-kWh pack.

2021 NAS Phase 3 report.⁵⁷¹

Throughout the process of compiling the results of these studies, we collaborated with technical experts from the California Air Resources Board and NHTSA. More discussion of the technical basis for the non-battery electrified vehicle cost estimates used in the proposal may be found in DRIA Chapter 2.

We also commissioned a new full-vehicle teardown study comparing a gasoline-fueled VW Tiguan to the battery-electric VW ID.4, conducted for EPA by FEV of America.⁵⁷² The study was designed to compare the manufacturing cost and assembly labor requirements for two comparable vehicles, one an ICE vehicle and one a BEV, both of which were built on respective dedicated-ICE⁵⁷³ and dedicated-BEV⁵⁷⁴ platforms by the same manufacturer. The teardown applies a bill-of-materials approach to both vehicles and derives cost and assembly labor estimates for each component. The report was delivered to EPA in February 2023 and will undergo a contractor-managed peer review process to be completed by mid-2023. The results of this study will be used to inform the analysis for the final rulemaking where appropriate. For example, component costs for the BEV and ICE vehicle may be used to support or update our battery or non-battery costs for electrified vehicles, or our costs for ICE vehicles; assembly labor data may be used to further inform the employment analysis; and any other qualitative or quantitative information that may be drawn from the report may be used in the analysis. An additional task under this work assignment was for FEV to review the non-battery electric powertrain costs EPA has described in Chapter 2.6.1 of the DRIA, with respect to the cost values used and the method of scaling these costs across different vehicle

performance characteristics and vehicle classes, and to suggest alternative values or scalings where applicable. More details about the goals of the teardown study can be found in DRIA 2.5.2.2.3. The complete teardown report, the associated bill-of-materials data worksheets, and the FEV review of non-battery costs and scaling are available in the Docket.⁵⁷⁵ EPA may rely on this information and other information gathered in response to this proposal and EPA's ongoing technical work for estimating the costs for ICE vehicles and PEVs for the final rule.

EPA requests comment on all aspects of the battery and non-battery costs used in this analysis, including the base year costs, the forecast and estimation of future battery costs, assumptions relating to driving range, and similar issues that would affect modeling of battery and non-battery costs. EPA also requests comment on alternative ways to account for the effect of the IRA provisions, including the 45X, 30D, 45W, and other relevant provisions, in the estimation of battery or vehicle production cost to manufacturers or other impacts on the cost of PEVs to consumers, and will consider such comments for the analysis for the final rulemaking. We also request comment on our application of learning to battery cost reduction, and evidence and data related to the potential use of global battery production volumes instead of domestic volumes in that context, and/or the use of battery production volumes in related sectors.

3. Analysis of Power Sector Emissions

As PEVs are anticipated to represent a significant share of the future U.S. light- and medium-duty vehicle fleet, EPA has developed new approaches to estimate the upstream emissions (*i.e.*, from electricity generation and transmission) of increased PEV charging demand as part of the assessment of the proposed standards. Electric generation was modeled using EPA's Power Sector Modeling Platform, which in turn uses the Integrated Planning Model (IPM).⁵⁷⁷ IPM provides projections of least-cost capacity expansion, electricity dispatch, and emission control strategies for meeting energy demand and environmental, transmission, dispatch, and reliability constraints represented within 74 regions of the 48 contiguous

United States. The power sector modeling used for determining the PEV upstream emissions inventory and costs for the proposal and alternatives included changes to the platform to better represent the impacts of both the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA) on electric power generation.

The regionalization of IPM and the anticipation of a highly regionalized initial rollout of electric vehicles under the California ZEV program necessitated modeling of the regionalization of PEV charge demand in order to fully capture emissions and other impacts on the electric power sector. National-level VMT and charge demand from scenarios modeled within the OMEGA compliance model were regionalized into the 74 IPM regions using the EVI-X modeling suite of electric vehicle charging infrastructure analysis tools developed by the National Renewable Energy Laboratory (NREL) combined with a PEV likely adopter model. Chapter 5 of the DRIA contains a detailed description of the analysis of PEV charging demand, electric generation and the resulting emissions and cost for different projected vehicle electrification scenarios.

Power sector modeling results of generation and grid mix from 2030 to 2050 and CO₂ emissions from 2028 to 2050 for the contiguous United States (CONUS) are shown in Figure 23. Power sector CO₂ emissions for the proposal are compared to a no-action case in Figure 24. Power sector modeling results are summarized in more detail within Chapter 5 of the DRIA. The results show significant continued year-over-year growth in both total generation and the use of renewables for electric generation (Figure 23) and year-over-year reductions in CO₂ emissions (Figure 24). Emissions of NO_x (Figure 25), SO₂ (Figure 26), PM_{2.5}, and other EGU emissions followed similar general trends to the CO₂ emissions results. The largest differences in modeled EGU emissions between the proposal and No Action case were in 2035, when CO₂, NO_x and SO₂ were approximately 7 percent, 6 percent and 9 percent higher, respectively. It should be noted, however, that this represents EGU emissions only and does not include anticipated emissions reductions from vehicle tailpipe or refinery emissions. By 2050, modeled EGU PM_{2.5}, and NO_x emissions increased by less than 3 percent for the proposal than for a No Action case and by less than 5 percent for CO₂ and SO₂ emissions.

Power sector modeling results showed that the increased use of renewables will largely displace coal and (to a lesser

⁵⁶⁹ Munro and Associates, "2020 Tesla Model Y Cost Analysis," provided November 2020.

⁵⁷⁰ Munro and Associates, "2017 Tesla Model 3 Cost Analysis," dated 2018, provided November 12, 2020.

⁵⁷¹ National Academies of Sciences, Engineering, and Medicine 2021. "Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy 2025–2035". Washington, DC: The National Academies Press. <https://doi.org/10.17226/26092>.

⁵⁷² FEV Consulting Inc., "Cost and Technology Evaluation, Conventional Powertrain Vehicle Compared to an Electrified Powertrain Vehicle, Same Vehicle Class and OEM," prepared for Environmental Protection Agency, EPA Contract No. 68HERC19D00008, February 2023.

⁵⁷³ VW MQB A2 ("Modularer Querbaukasten" or "Modular Transversal Toolkit", version A2) global vehicle platform.

⁵⁷⁴ VW MEB ("Modularer E-Antriebs Baukasten" or "modular electric-drive toolkit) global vehicle platform.

⁵⁷⁵ Memo to Docket ID No. EPA-HQ-OAR-2022-0829, titled "Cost and Technology Evaluation, Conventional Powertrain Vehicle Compared to an Electrified Powertrain Vehicle, Same Vehicle Class and OEM."

⁵⁷⁶ Memo to Docket ID No. EPA-HQ-OAR-2022-0829, titled "EV Non-Battery Cost Review by FEV."

⁵⁷⁷ <https://www.epa.gov/power-sector-modeling>.

extent) natural gas EGUs and will primarily be driven by provisions of the IRA. By 2035, power sector modeling results also showed that non-hydroelectric renewables (primarily wind and solar) will be the largest source of electric generation (approximately 46 percent of total generation), and they would account for more than 70 percent of generation by 2050. This displacement of coal EGUs by renewables was also the primary factor in the year-over-year reductions in CO₂, NO_x, SO₂, PM_{2.5}, and other EGU emissions. Impacts on EGU GHG and criteria pollutant emissions due to grid-

related IRA provisions were substantially larger than the impact of increased electricity demand due to increased electrification of light and medium-duty vehicles within the proposal. As EGU emissions continue to decrease between 2028 and 2050 due to increasing use of renewables, and as vehicles increasingly electrify, the power sector GHG and criteria pollutant emissions associated with light- and medium-duty vehicle operation will continue to decrease.

Power sector modeling also showed a significant increase in the use of batteries for grid storage. When

modeling PEV charge demand for both the proposal and for a No Action case, grid battery storage capacity increased from approximately zero capacity in 2020 to approximately 70 GW in 2030 and 170 GW in 2050, representing the equivalent of approximately 100 GWh and 300 GWh of annual generation, respectively. The increase in grid battery storage was primarily due to modeling of incentives put in place under the IRA.

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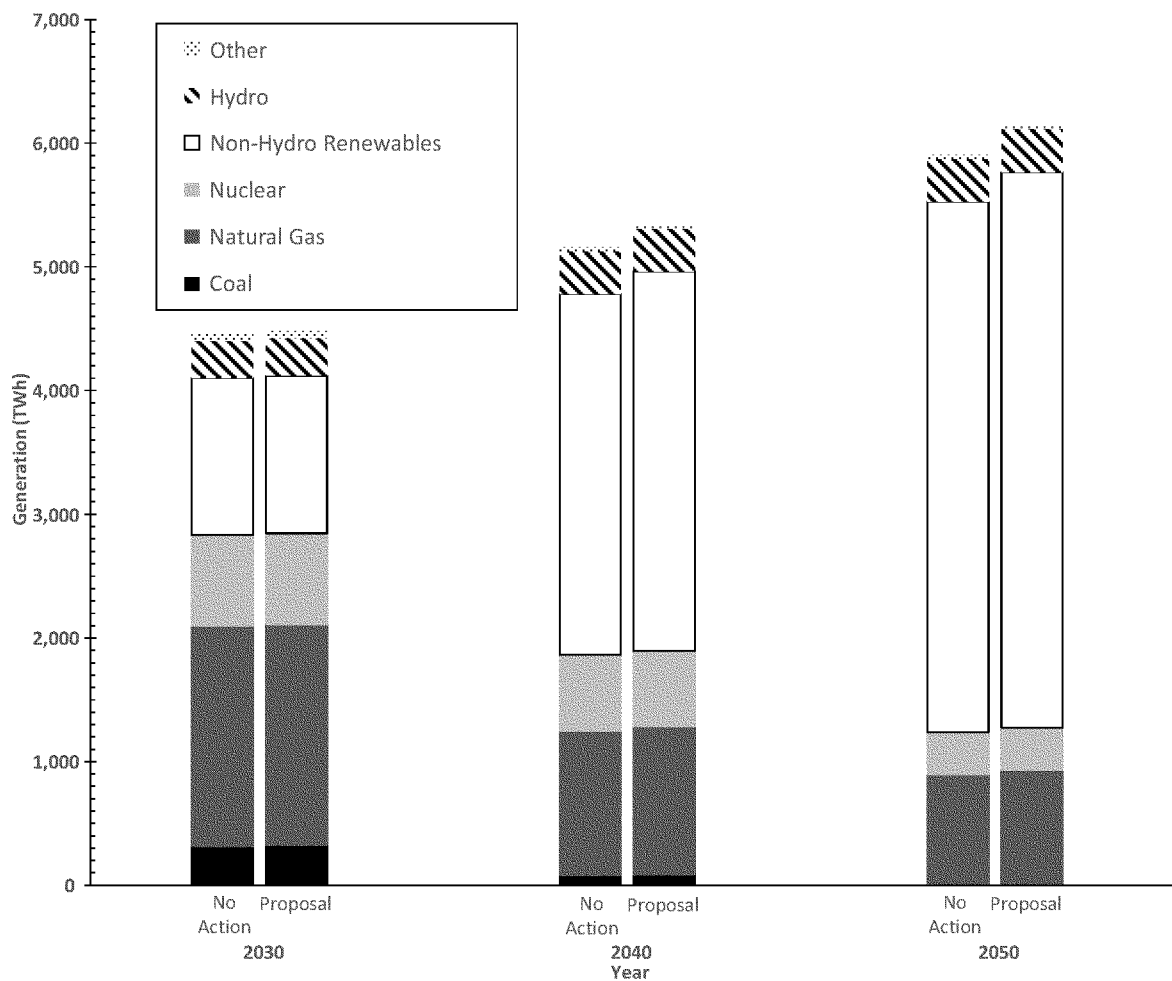


Figure 23. 2030 - 2050 power sector grid mix for the No Action case (left side of each pair of bars representing each year) compared to the proposal (right side of each pair of bars).

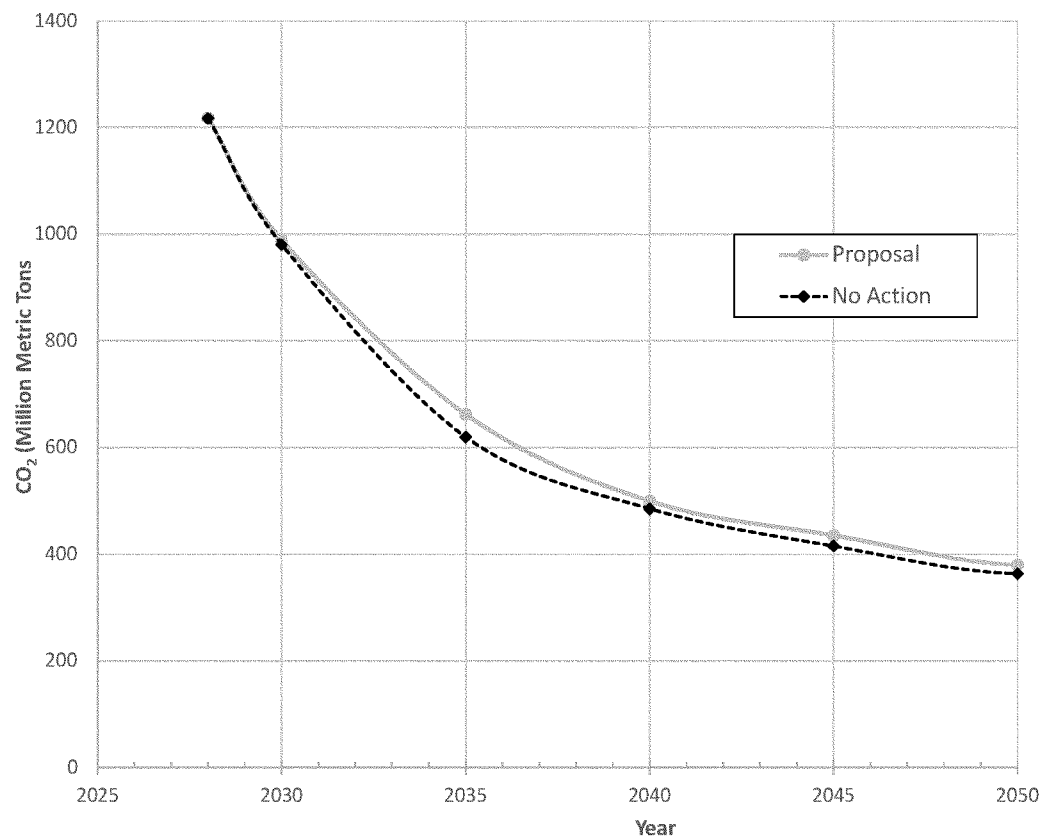


Figure 24. 2028 through 2050 CONUS CO₂ emissions from electricity generation for the proposal (gray line) compared to a No Action case (black dashed line).

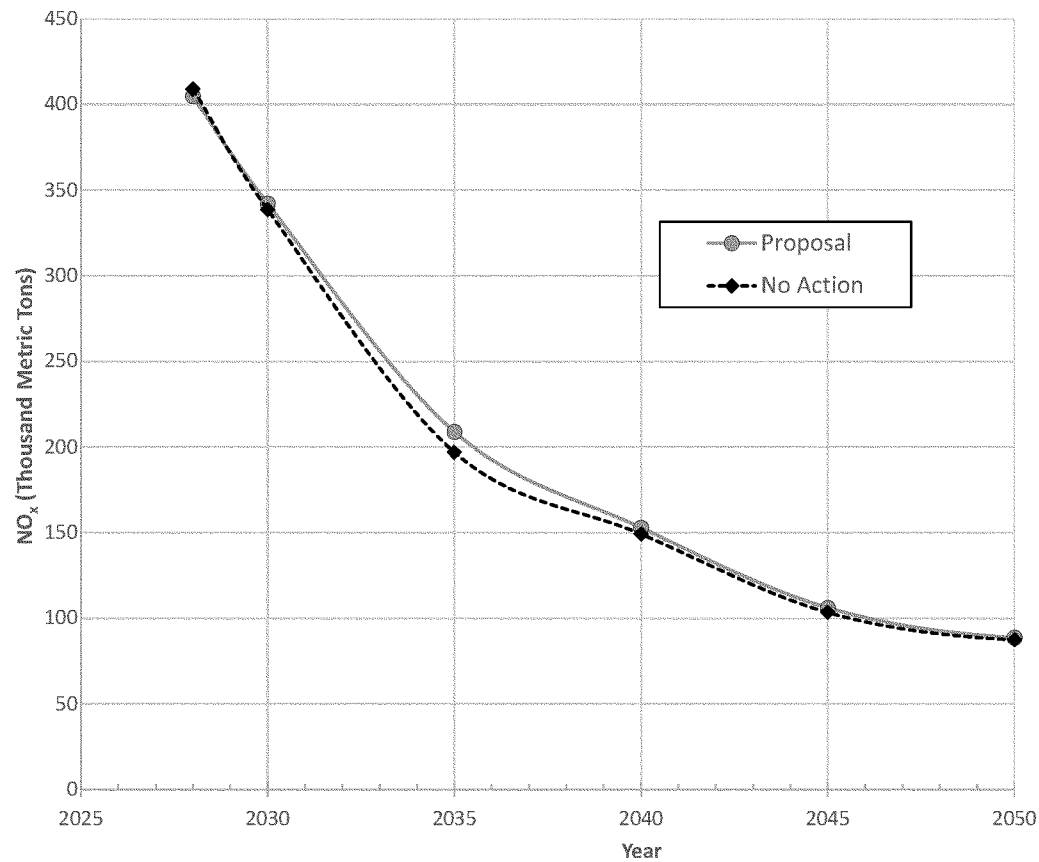


Figure 25. 2028 through 2050 CONUS NO_x emissions from electricity generation for the proposal (gray line) compared to a No Action case (black dashed line).

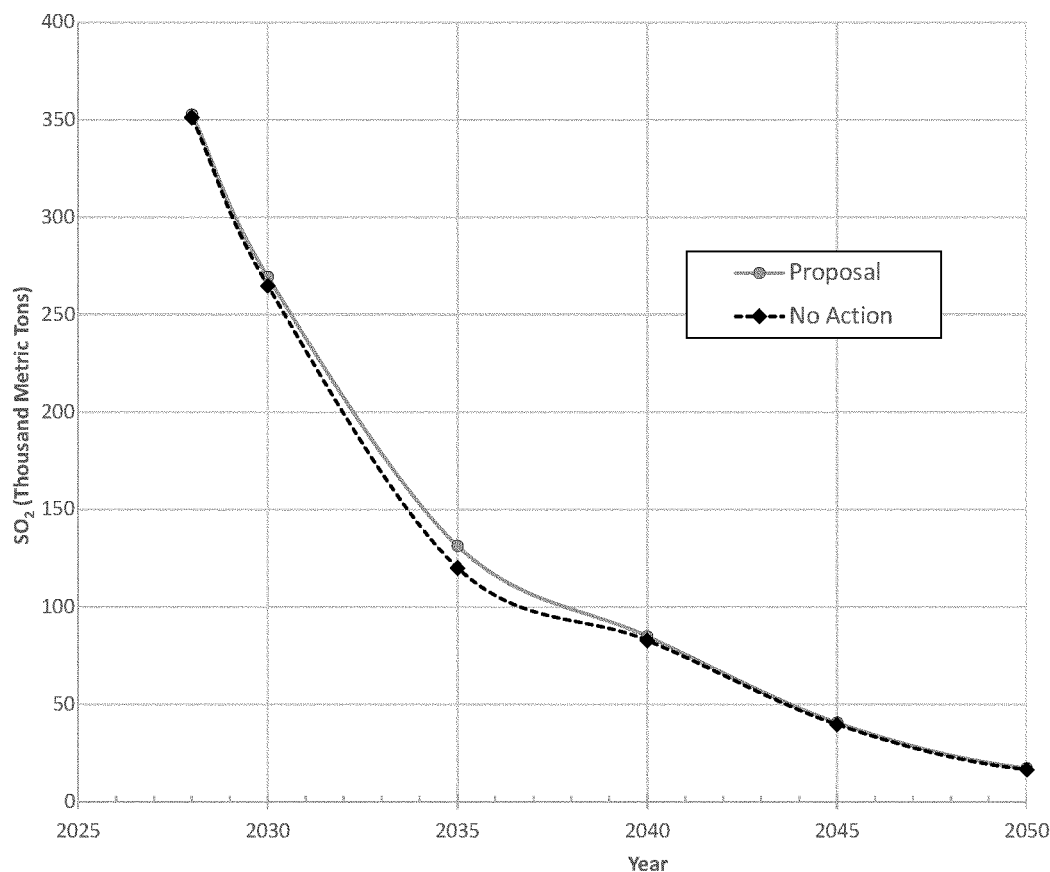


Figure 26. 2028 through 2050 CONUS SO₂ emissions from electricity generation for the proposal (gray line) compared to a No Action case (black dashed line).

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4. PEV Charging Infrastructure Considerations

Charging infrastructure has been growing rapidly in the past few years. There are over 50,000 non-residential public and private charging stations in the U.S. today with more than 140,000 electric vehicle supply equipment (EVSE) ports (or outlets that can charge vehicles simultaneously).⁵⁷⁸ This is an increase from just over 85,000 EVSE ports as of the end of 2019.⁵⁷⁹ While estimates for future infrastructure needs vary widely in the literature, an NREL report found that the overall ratio of EVSE ports to the number of PEVs on the road today generally compares favorably to projected needs in two national studies.⁵⁸⁰ Of course, keeping

up with charging needs as PEV adoption grows will require continued expansion of charging infrastructure.

EPA anticipates a mix of public and private investments will be available to help meet these future infrastructure needs. The Bipartisan Infrastructure Law (BIL) provides up to \$7.5 billion over five years to build out a national PEV charging network.⁵⁸¹ Two-thirds of this funding is for the National Electric Vehicle Infrastructure (NEVI) Formula Program with the remaining \$2.5 billion for the Charging and Fueling Infrastructure (CFI) Discretionary Grant Program. Both programs are administered under the Federal Highway Administration with support from the Joint Office of Energy and Transportation. The first phase of NEVI

funding—a formula program for states—was launched in 2022 and initial plans for all 50 states, DC, and Puerto Rico have now been approved. Together, this initial \$1.5 billion of investments will help deploy or expand charging infrastructure on about 75,000 miles of highway.⁵⁸² In March 2023, the first funding opportunity was opened under the CFI Program with up to \$700 million to deploy PEV charging and hydrogen, propane, or natural gas fueling infrastructure in communities and along corridors.⁵⁸³ Ensuring equitable access to charging is one of the stated goals of these infrastructure funds. Accordingly,

⁵⁷⁸ U.S. DOT, FHWA, “Historic Step: All Fifty States Plus D.C. and Puerto Rico Greenlit to Move EV Charging Networks Forward, Covering 75,000 Miles of Highway,” September 27, 2022. Accessed January 10, 2023, at <https://highways.dot.gov/newsroom/historic-step-all-fifty-states-plus-dc-and-puerto-rico-greenlit-move-ev-charging-networks>.

⁵⁷⁹ Ibid.

⁵⁸⁰ Brown, A. et al., “Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling

⁵⁸¹ Enacted as the Infrastructure Investment and Jobs Act, Public Law 117–58. 2021. Accessed January 10, 2023, at <https://www.congress.gov/bills/117th-congress/house-bill/3684>.

⁵⁸² U.S. DOT, FHWA, “Historic Step: All Fifty States Plus D.C. and Puerto Rico Greenlit to Move EV Charging Networks Forward, Covering 75,000 Miles of Highway,” September 27, 2022. Accessed January 10, 2023, at <https://highways.dot.gov/newsroom/historic-step-all-fifty-states-plus-dc-and-puerto-rico-greenlit-move-ev-charging-networks>.

⁵⁸³ Joint Office of Energy and Transportation, “Biden-Harris Admin Opens First Round Applications for \$2.5 Billion Program to Build EV Charging in U.S. Communities,” March 14, 2023. Accessed March 31, 2023, at <https://driveelectric.gov/news/#charging-fueling-infrastructure>.

⁵⁷⁸ U.S. DOE, Alternative Fuels Data Center, “Electric Vehicle Charging Infrastructure Trends”. Accessed February 28, 2023, at https://afdc.energy.gov/fuels/electricity_infrastructure_trends.html.

⁵⁷⁹ Ibid.

⁵⁸⁰ Brown, A. et al., “Electric Vehicle Charging Infrastructure Trends from the Alternative Fueling

FHWA instructed states to incorporate public engagement in their planning process for the NEVI Formula Program, including reaching out to Tribes, and rural, underserved, and disadvantaged communities.⁵⁸⁴ Both the formula funding and discretionary grant program are subject to the Justice40 target that 40 percent of the benefits go to disadvantaged communities. Other programs with funding authorizations under the BIL that could be used in part to support charging infrastructure installations include the Congestion Mitigation & Air Quality Improvement Program, National Highway Performance Program, and Surface Transportation Block Grant Program among others.⁵⁸⁵

The Inflation Reduction Act (IRA) signed into law on August 16, 2022, can also help reduce the costs for deploying infrastructure.⁵⁸⁶ The IRA extends the Alternative Fuel Refueling Property Tax Credit (Section 13404) through Dec 31, 2032, with modifications. Under the new provisions, residents in low-income or rural areas would be eligible for a 30 percent credit for the cost of installing residential charging equipment up to a \$1,000 cap. Businesses would be eligible for up to 30 percent of the costs associated with purchasing and installing charging equipment in these areas (subject to a \$100,000 cap per item) if prevailing wage and apprenticeship requirements are met and up to 6 percent otherwise. The Joint Committee on Taxation estimates the cost of this tax credit from FY 2022–2031 to be \$1.738 billion,⁵⁸⁷ which reflects a significant level of support for charging infrastructure and other eligible alternative fuel property.

States, utilities, auto manufacturers, charging network providers, and others are also investing in and supporting PEV charging infrastructure deployment. California announced plans in 2021 to invest over \$300

million in light-duty charging infrastructure and nearly \$700 million in medium- and heavy-duty ZEV infrastructure.⁵⁸⁸ Several states including New Jersey and Utah offer partial rebates for residential, workplace, or public charging while others such as Georgia and DC offer tax credits.⁵⁸⁹ The NC Clean Energy Technology Center identified more than 200 actions taken across 38 states and DC related to providing financial incentives for electric vehicles and or charging infrastructure in 2022, a four-fold increase over the number of actions in 2017.⁵⁹⁰ The Edison Electric Institute estimates that electric companies have already invested nearly \$3.7 billion.⁵⁹¹ And over 60 electric companies and cooperatives serving customers in 48 states and the District of Columbia have joined together to advance fast charging through the National Electric Highway Coalition.⁵⁹² Auto manufacturers are investing in charging infrastructure by offering consumers help with costs to install home charging or providing support for public charging. For example, GM will pay for a standard installation of a Level 2 (240 VAC) outlet for customers purchasing or leasing a new Bolt.⁵⁹³ GM is also partnering with charging provider EVgo to deploy over 2,700 DCFC ports⁵⁹⁴ and charging provider FLO to deploy as

many as 40,000 L2 ports.⁵⁹⁵ Volkswagen, Hyundai, and Kia all offer customers complimentary charging at Electrify America's public charging stations (subject to time limits or caps) in conjunction with the purchase of select new EV models.⁵⁹⁶ Ford has agreements with several charging providers to make it easier for their customers to charge and pay across different networks⁵⁹⁷ and plans to install publicly accessible DCFC ports at nearly 2,000 dealerships.⁵⁹⁸ Mercedes-Benz recently announced that it is planning to build 2,500 charging points in North America by 2027.⁵⁹⁹ Tesla has its own network with over 17,000 DCFC ports and nearly 10,000 Level 2 ports in the United States.⁶⁰⁰ Tesla recently announced that by 2024, 7,500 or more existing and new ports (including 3,500 DCFC) would be open to all PEVs.⁶⁰¹

Other charging networks are also expanding. Francis Energy, which has fewer than 1,000 EVSE ports today,⁶⁰² aims to deploy over 50,000 by the end of the decade.⁶⁰³ Electrify America

⁵⁹⁵ Joint Office of Transportation and Energy, "Private Sector Continues to Play Key Part in Accelerating Buildout of EV Charging Networks," February 15, 2023. Accessed March 6, 2023, at <https://driveelectric.gov/news/#private-investment>.

⁵⁹⁶ Details of complimentary charging and eligible vehicle models vary by auto manufacturer. See: <https://www.vw.com/en/models/id-4.html>, <https://www.hyundaiusa.com/us/en/electrified/charging>, and <https://owners.kia.com/content/owners/en/kia-electrify.html>.

⁵⁹⁷ Ford, "Ford Introduces North America's Largest Electric Vehicle Charging Network, Helping Customers Confidently Switch to an All-Electric Lifestyle," October 17, 2019. Accessed January 11, 2023, at <https://media.ford.com/content/fordmedia/fna/us/en/news/2019/10/17/ford-introduces-north-americas-largest-electric-vehicle-charging-network.html>.

⁵⁹⁸ Joint Office of Transportation and Energy, "Private Sector Continues to Play Key Part in Accelerating Buildout of EV Charging Networks," February 15, 2023. Accessed March 6, 2023, at <https://driveelectric.gov/news/#private-investment>.

⁵⁹⁹ Reuters, "Mercedes to launch vehicle-charging network, starting in North America," January 6, 2023. Accessed January 11, 2023, at <https://www.reuters.com/business/autos-transportation/mercedes-launch-vehicle-charging-network-starting-north-america-2023-01-05/>.

⁶⁰⁰ DOE, Alternative Fuels Data Center, "Electric Vehicle Charging Station Locations". Accessed February 28, 2023, at https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC.

⁶⁰¹ The White House, "Fact Sheet: Biden-Harris Administration Announces New Standards and Major Progress for a Made-in-America National Network of Electric Vehicle Chargers," February 15, 2023. Accessed March 6, 2023, at <https://www.whitehouse.gov/briefing-room/statements-releases/2023/02/15/fact-sheet-biden-harris-administration-announces-new-standards-and-major-progress-for-a-made-in-america-national-network-of-electric-vehicle-chargers/>.

⁶⁰² DOE, Alternative Fuels Data Center, "Electric Vehicle Charging Station Locations". Accessed March 6, 2023, at https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC.

⁶⁰³ Joint Office of Transportation and Energy, "Private Sector Continues to Play Key Part in

⁵⁸⁸ California Energy Commission, "CEC Approves \$1.4 Billion Plan for Zero-Emission Transportation Infrastructure and Manufacturing," November 15, 2021. Accessed January 11, 2023, at <https://www.energy.ca.gov/news/2021-11/cec-approves-14-billion-plan-zero-emission-transportation-infrastructure-and>.

⁵⁸⁹ Details on eligibility, qualifying expenses, and rebate or tax credit amounts vary by state. See DOE Alternative Fuels Data Center, State Laws and Incentives. Accessed January 11, 2023, at <https://afdc.energy.gov/laws/state>.

⁵⁹⁰ Apadula, E. et al., "50 States of Electric Vehicles Q4 2022 Quarterly Report & 2022 Annual Review Executive Summary," February 2023, NC Clean Energy Technology Center. Accessed March 8, 2023, at https://nccleantech.ncsu.edu/wp-content/uploads/2023/02/Q4-22_EV_execsummary_Final.pdf. (NOTE: Includes actions by states and investor-owned utilities.)

⁵⁹¹ EEI, "Issues & Policy: National Electric Highway Coalition". Accessed January 11, 2023, at <https://www.eei.org/issues-and-policy/national-electric-highway-coalition>. (NOTE: \$3.7 billion total includes infrastructure deployments and other customer programs to advance transportation electrification.)

⁵⁹² Ibid.

⁵⁹³ Chevrolet, "Installation Made Easy. Home Charging Installation on Us." Accessed March 3, 2023, at <https://www.chevrolet.com/electric/living-electric/home-charging-installation>.

⁵⁹⁴ GM, "To Put 'Everybody In' an Electric Vehicle, GM introduces Ultium Charge 360," Accessed January 11, 2023, at <https://media.gm.com/media/us/en/gm/home.detail.html/content/Pages/news/us/en/2021/apr/0428-ultium-charge-360.html>.

⁵⁸⁴ U.S. DOT, FHWA, "The National Electric Vehicle Infrastructure (NEVI) Formula Program Guidance," February 10, 2022. Accessed January 10, 2023, at https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/90d_nevi_formula_program_guidance.pdf.

⁵⁸⁵ Ibid.

⁵⁸⁶ Inflation Reduction Act of 2022, Public Law 117–169, 2022. Accessed December 2, 2022, at <https://www.congress.gov/117/bills/hr5376/BILLS-117hr5376enr.pdf>.

⁵⁸⁷ Joint Committee on Taxation, "Estimated Budget Effects of the Revenue Provisions of Title I—Committee on Finance, of an Amendment in the Nature of a Substitute to H.R. 5376, 'An Act to Provide for Reconciliation Pursuant to Title II of S. Con. Res. 14,' as Passed by the Senate on August 7, 2022, and Scheduled for Consideration by the House of Representatives on August 12, 2022" JCX–18–22, August 9, 2022. Accessed January 11, 2023, at <https://www.jct.gov/publications/2022/jcx-18-22/>.

plans to more than double its network size⁶⁰⁴ to 10,000 fast charging ports across 1,800 U.S. and Canadian stations by 2026. This is supported in part by a \$450 million investment from Siemens and Volkswagen Group.⁶⁰⁵ Blink plans to invest over \$60 million to grow its network over the next decade. Charging companies are also partnering with major retailers, restaurants, and other businesses to make charging available to customers and the public. For example, EVgo is deploying DCFC at certain Meijer locations, CBL properties, and Wawa. Volta is installing DCFC and L2 ports at select Giant Food, Kroger, and Stop and Shop stores, while ChargePoint and Volvo Cars are partnering with Starbucks to make charging available at select Starbucks locations.⁶⁰⁶ Other efforts will expand charging access along major highways,

including at up to 500 Pilot and Flying J travel centers (through a partnership between Pilot, GM, and EVgo) and 200 TravelCenters of America and Petro locations (through a partnership between TravelCenters of America and Electrify America).⁶⁰⁷ BP plans to invest \$1 billion toward charging infrastructure by the end of the decade, including through a partnership to provide charging at various Hertz locations across the country that could support rental and ridesharing vehicles, taxis, and the general public.⁶⁰⁸

We assess the infrastructure needs and the associated costs for this proposal from 2027 to 2055. We start with estimates of electricity demand for the PEV penetration levels in the proposal compared to those in the No Action case using the methodology described in Section IV.C.3.⁶⁰⁹ A suite of NREL models is used to characterize the quantity and mix of EVSE ports that could meet this demand, including EVI-Pro to simulate charging demand from typical daily travel, EVI-RoadTrip to

simulate demand from long-distance travel, and EVI-OnDemand to simulate demand from ride-hailing applications. EVSE ports are broken out by charging location (home, work, or public) and by charging type and power level: AC Level 1 (L1), AC Level 2 (L2), and DC fast charging with a maximum power of 50 kW, 150 kW, 250 kW, or 350 kW (DC–50, DC–150, DC–250, and DC–350). We anticipate that the highest number of ports will be needed at homes, growing from under 12 million in 2027 to over 75 million in 2055 under the proposal. This is followed by workplace charging, estimated at about 400,000 EVSE ports in 2027 and over 12.7 million in 2055. Finally, we estimate public charging needs growing from just over 110,000 ports to more than 1.9 million in that timeframe.⁶¹⁰ Figure 27 illustrates the growth in charging network size needed for the proposal and No Action case over select years.⁶¹¹

⁶¹⁰ The number of EVSE ports needed to meet a given level of electricity demand will vary based on assumptions about the mix of charging ports, charging preferences, and other factors. See DRIA Chapter 5 for a more detailed description of the assumptions underlying the EVSE port counts shown here.

⁶¹¹ See DRIA Chapter 5 for estimated port counts for each year from 2027 to 2055 in the proposal and No Action case.

Accelerating Buildout of EV Charging Networks,” February 15, 2023. Accessed March 6, 2023, at <https://driveelectric.gov/news/#private-investment>.

⁶⁰⁴ DOE, Alternative Fuels Data Center, “Electric Vehicle Charging Station Locations”. Accessed March 6, 2023, at https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC.

⁶⁰⁵ Joint Office of Transportation and Energy, “Private Sector Continues to Play Key Part in Accelerating Buildout of EV Charging Networks,” February 15, 2023. Accessed March 6, 2023, at <https://driveelectric.gov/news/#private-investment>.

⁶⁰⁶ Ibid.

⁶⁰⁷ Ibid.

⁶⁰⁸ Ibid.

⁶⁰⁹ The No Action case referred to as part of the infrastructure cost analysis was based on earlier work with lower projected PEV penetration rates than the No Action case used for compliance modeling and described in Section IV.B. (See discussion in DRIA Chapter 5.3.2.6.)

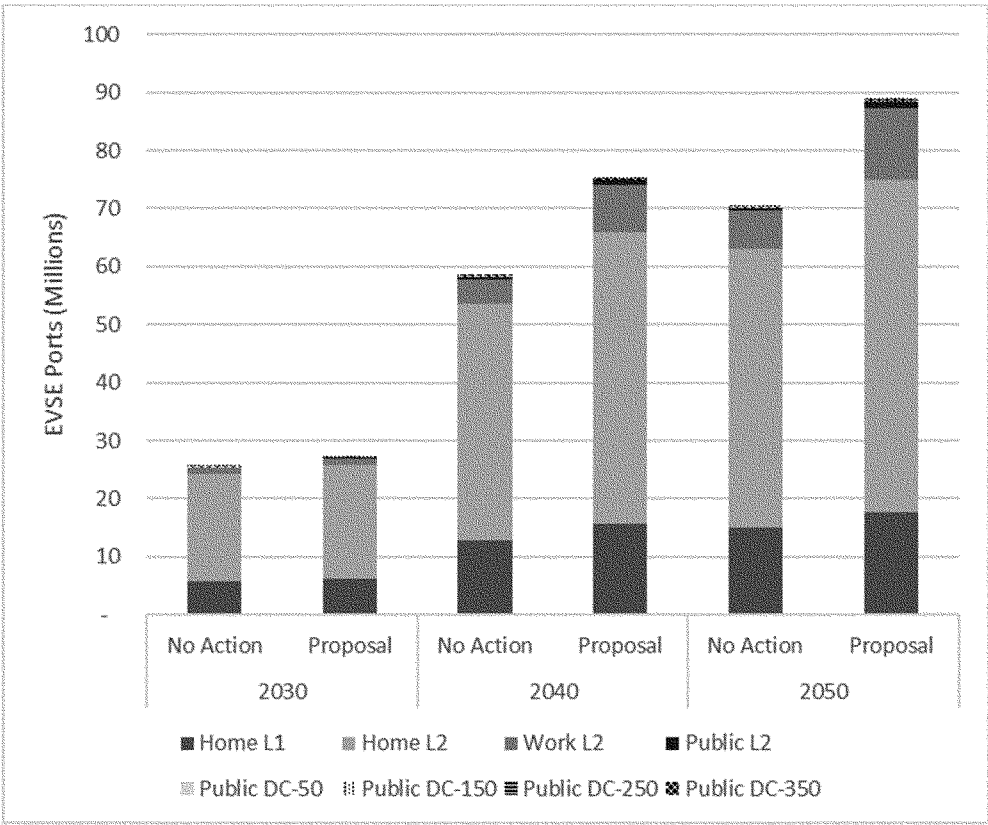


Figure 27. EVSE port counts by charging location and type for the No Action case (left side of each pair of bars) and the proposal (right side of each pair of bars) for select years.

We estimate the costs to deploy the number of EVSE ports needed each year (2027–2055) to achieve the modeled network sizes for the proposal and No Action case.⁶¹² Costs for each EVSE port are sourced from recent literature and are intended to reflect upfront hardware and installation costs. PEVs typically

come with a charging cord that can be used for L1 charging by plugging it into a standard 120 V outlet, and, in some cases, for L2 charging by plugging into a 240 V outlet. We include the cost for this cord as part of the vehicle costs described in DRIA Chapter 2, and therefore we do not include it here. We

make the simplifying assumption that PEV owners opting for L1 home charging already have access to a 120 V outlet and therefore do not incur installation costs.⁶¹³ Table 65 shows our assumed costs per EVSE port.

TABLE 65—COSTS (HARDWARE AND INSTALLATION) PER EVSE PORT
[2019 dollars]⁶¹⁴

Home			Work	Public				
L1	SFH L2	Other L2	L2	L2	DC–50	DC–150	DC–250	DC–350
\$0	\$1,100	\$3,700	\$5,900	\$5,900	\$56,000	\$121,000	\$153,000	\$185,000

There are many factors that can impact equipment and installation costs, including whether a charging unit has multiple EVSE ports, how many ports are installed per site as well as regional differences. Costs also vary in

the literature. EPA welcomes comments on additional studies or information that EPA should consider in assessing PEV charging infrastructure costs for the final rule.

See DRIA Chapter 5 for a more complete discussion of this analysis including low and high sensitivities not shown here. The final PEV charging infrastructure costs are presented in Section VIII of this Preamble.

⁶¹² We assume a 15-year equipment lifetime for EVSE ports. We did not estimate costs for EVSE maintenance or repair though we note that this may be able to extend equipment lifetimes. See discussion in DRIA Chapter 5.

⁶¹³ For Level 2 home charging, some PEV owners may opt to simply install or upgrade to a 240 V outlet for use with a charging cord while others may choose to purchase or install a wall-mounted or

other Level 2 charging unit. We assume a 50%:50% mix for the costs shown in Table 65.

⁶¹⁴ Costs shown are expressed in 2019 dollars, consistent with the original sources from the literature.

EPA acknowledges that there may be additional infrastructure needs and costs beyond those associated with charging equipment itself. While planning for additional electricity demand is a standard practice for utilities and not specific to PEV charging, the buildout of public and private charging stations (particularly those with multiple high-powered DC fast charging units) could in some cases require upgrades to local distribution systems. For example, a recent study found power needs as low as 200 kW could trigger a requirement to install a distribution transformer.⁶¹⁵ The use of onsite power control systems, battery storage or renewables may be able to reduce the need for some distribution upgrades; station operators may also opt to install these to mitigate demand charges associated with peak power.⁶¹⁶ However, there is considerable uncertainty associated with the uptake of these technologies as well as with future distribution upgrade needs, and we do not model them directly as part of our infrastructure cost analysis. We welcome comments on this and other aspects of our cost analysis.

As discussed in the previous section, we model changes to power generation due to the increased electricity demand anticipated in the proposal as part of our upstream analysis. We project the additional generation needed to meet the demand of the light- and medium-duty PEVs in the proposal to be relatively modest compared to the No Action case, ranging from less than 0.4 percent in 2030 to approximately 4 percent in 2050 (as shown in Figure 23). The U.S. electricity end use between the years 1992 and 2021 increased by around 25%⁶¹⁷ without any adverse effects on electric grid reliability or electricity generation capacity shortages. As the proposal is estimated to increase electric power end use by electric vehicles by between 0.1% (2028) and 4.2% (2055)—approximately 18% of the increase that occurred between 1995 and 2021—grid reliability is not expected to be adversely affected by the modest increase in electricity demand

associated with electric vehicle charging.

The private sector and the government share responsibility for the reliability of the electric power grid. Most of the electric power grid—the commercial electric power transmission and distribution system comprising power lines and other infrastructure—is owned and operated by private industry. However, Federal, state, local, Tribal, and territorial governments also have significant roles in enhancing the reliability of the electric power grid.⁶¹⁸ The Federal government plays a key role in enhancing electric power grid reliability.⁶¹⁹ For instance, the Department of Homeland Security (DHS) is responsible for coordinating the overall Federal effort to promote the security and reliability of the nation's critical infrastructure sectors; the Department of Energy (DOE) leads Federal efforts to ensure that the nation's energy delivery system is secure, resilient, and reliable, including research and technology development by national laboratories; and the Federal Energy Regulatory Commission (FERC) regulates wholesale electricity markets and is responsible for reviewing and approving mandatory electric Reliability Standards, which are developed by the North American Electric Reliability Corporation (NERC). NERC is the federally designated U.S. electric reliability organization which develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel. These efforts help to keep the U.S. electric power grid is reliable.⁶²⁰ We also consulted with FERC and EPRI staff on bulk power system reliability and related issues.

U.S. electric power utilities routinely upgrade the nation's electric power system to improve grid reliability and to meet new electric power demands. For example, when confronted with rapid adoption of air conditioners in the 1960s and 1970s, U.S. electric power utilities successfully met the new demand for electricity by planning and building upgrades to the electric power distribution system. Likewise, U.S. electric power utilities planned and built distribution system upgrades

required to service the rapid growth of power-intensive data centers and server farms over the past two decades. U.S. electric power utilities have already successfully designed and built the distribution system infrastructure required for 1.4 million battery electric vehicles.⁶²¹ Utilities have also successfully integrated 46.1 GW of new utility-scale electric generating capacity into the grid (EIA, 2022).⁶²²

When taking into consideration ongoing upgrades to the U.S. electric power grid, and that the U.S. electric power utilities generally have more capacity to produce electricity than is consumed (EIA, 2022), the expected increase in electric power demand attributable to vehicle electrification is not expected to adversely affect grid reliability due to the modest increase in electricity demand associated with electric vehicle charging. Moreover, distribution system infrastructure became the largest share of capital expenditures for U.S. investor-owned utilities (IOUs) in 2018, according to the Edison Electric Institute (EEI).⁶²³ EEI also projected that such expenditures would constitute one-third of total IOU spending in 2022.

The California Public Utilities Commission (CPUC)⁶²⁴ and the California Energy Commission (CEC)⁶²⁵ have been actively engaged in Vehicle-Grid Integration (VGI) efforts for over a decade, along with the California Independent System Operator⁶²⁶ (California ISO), large private and public electrical utilities (SCE, PG&E, SDG&E, etc.), most major automakers (Ford, GM, FCA, BMW, Audi, Nissan,

⁶²¹ U.S. DOE Alternative Fuels Data Center, Maps and Data—Electric Vehicle Registrations by State, <https://afdc.energy.gov/data/>.

⁶²² EIA, Electric Power Annual 2021, November 2022. https://www.eia.gov/electricity/annual/html/epa_01_01.html.

⁶²³ https://www.eei.org/-/media/Project/EEI/Documents/Issues-and-Policy/Finance-And-Tax/bar_cap_ex.pdf?la=en&hash=3D08D74D12F1CCA51EE89256F53EBABEEAAAF4673.

⁶²⁴ Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification. California Public Utilities Commission, Rulemaking 18–12–006, 12/21/2020.

⁶²⁵ Chhaya, Sunil, Norman McCollough, Viswanath Ananth, Arindam Maitra, Ramakrishnan Ravikumar, Jamie Dunckley—Electric Power Research Institute; George Bellino—Clean Fuel Connection, Eric Cutter, Energy & Environment Economics, Michael Bourton, Kitu Systems, Inc., Richard Scholer, Fiat Chrysler Automobiles, Charlie Botsford, AeroVironment, Inc., 2019. Distribution System Constrained Vehicle-to-Grid Services for Improved Grid Stability and Reliability. California Energy Commission. Publication Number: CEC–500–2019–027.

⁶²⁶ California Independent System Operator (CAISO). 2014. California VGI Roadmap: Enabling Vehicle-based Grid Services. <https://www.caiso.com/Documents/Vehicle-GridIntegrationRoadmap.pdf>.

⁶¹⁵ Borlaug, B. et al., “Heavy-duty truck electrification and the impacts of depot charging on electricity distribution systems,” *Nat Energy* 6, 673–682 (2021). Accessed on January 11, 2023, at <https://doi.org/10.1038/s41560-021-00855-0>.

⁶¹⁶ Alexander, M. et al., “Assembly Bill 2127: Electric Vehicle Charging Infrastructure Assessment,” July 2021, California Energy Commission. Accessed March 9, 2023, at <https://www.energy.ca.gov/programs-and-topics/programs/electric-vehicle-charging-infrastructure-assessment-ab-2127>.

⁶¹⁷ Annual Energy Outlook 2022, U.S. Energy Information Administration, March 3, 2022 (<https://www.eia.gov/outlooks/aeo/narrative/introduction/sub-topic-01.php>).

⁶¹⁸ Federal Efforts to Enhance Grid Resilience. General Accounting Office, GAO–17–153, 1/25/2017. <https://www.gao.gov/assets/gao-17-153.pdf>.

⁶¹⁹ Electricity Grid Resilience. General Accounting Office, GAO–21–105403, 9/20/2021. <https://www.gao.gov/assets/gao-21-105403.pdf>.

⁶²⁰ <https://www.nerc.com/AboutNERC/Pages/default.aspx>.

Toyota, Honda, and others), and EV charger companies, the Electric Power Research Institute (EPRI), and various other research organizations.

These ongoing research efforts have demonstrated the ability of U.S. electric utilities to reschedule up to 20 percent of electric vehicle charging loads occurring at any hour of the day to any other hour of the day.⁶²⁷ Conversely, these research efforts have also demonstrated the ability of U.S. electric power utilities to reschedule up to 30 percent of electric vehicle charging loads occurring at any hour of day to any particular hour of that day. As the expected increase in electric power demand resulting from PEV charging in this proposal will be well under 20 percent, we do not anticipate it to pose grid reliability issues.

The ability to shift and curtail electric power is a feature that can improve grid operations and, therefore, grid reliability. Integration of electric vehicle charging into the power grid, by means of vehicle-to-grid software and systems that allow management of vehicle charging time and rate, has been found to create value for electric vehicle drivers, electric grid operators, and ratepayers.⁶²⁸ Management of PEV charging can reduce overall costs to utility ratepayers by delaying electric utility customer rate increases associated with equipment upgrades and may allow utilities to use electric vehicle charging as a resource to manage intermittent renewables. The development of new electric utility tariffs, including those for submetering for electric vehicles, will also help to facilitate the management of electric vehicle charging.

We also note that DOE is engaged in multiple efforts to modernize the grid and improve resilience and reliability. For example, in November 2022, DOE announced \$13 billion in funding opportunities under BIL to support transmission and distribution infrastructure. This includes \$3 billion for smart grid grants with a focus on PEV integration among other topics.⁶²⁹

⁶²⁷ Lipman, Timothy, Alissa Harrington, and Adam Langton. 2021. Total Charge Management of Electric Vehicles. California Energy Commission. Publication Number: CEC-500-2021-055.

⁶²⁸ Chhaya, S., et al., "Distribution System Constrained Vehicle-to-Grid Services for Improved Grid Stability and Reliability; Publication Number: CEC-500-2019-027, 2019. Accessed December 13, 2022 at <https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-027.pdf>.

⁶²⁹ DOE, "Biden-Harris Administration Announces \$13 Billion to Modernize and Expand America's Power Grid," November 18, 2022. Accessed January 11, 2023, at <https://www.energy.gov/articles/biden-harris-administration-announces-13-billion-modernize-and-expand-americas-power-grid>.

5. Consumer Acceptance

Consumer uptake of zero-emission vehicle technology is expected to continue to grow with the key enablers of PEV acceptance, namely increasing market presence, more model choices, expanding infrastructure, and decreasing costs to consumers.⁶³⁰ First, annual sales of light-duty PEVs in the U.S. have grown robustly and are expected to continue to grow. New PEV sales represented 2.2 percent (1.7 percent BEV and 0.5 percent PHEV) of new light-duty vehicle sales in 2020 (Davis and Boundy 2021; U.S. Environmental Protection Agency 2021b), and annual PEV market share in 2021 was 4.6 percent (3.4 percent for BEVs and 1.2 percent for PHEVs). As of May 2022, actual PEV market share was 6.6 percent (5.2 percent for BEVs and 1.4 percent for PHEVs).⁶³¹ This history of robust growth combined with vehicle manufacturers' plans to expand of PEV production strongly suggests that PEV market share will continue to grow rapidly. Second, the number of PEV models available to consumers is increasing, meeting to consumers demand for a variety of body styles and price points. Specifically, the number of BEV and PHEV models available for sale in the U.S. has more than doubled from about 24 in MY 2015 to about 60 in MY 2021, with offerings in a growing range of vehicle segments.⁶³² Recent model announcements indicate that this number will increase to more than 80 models by MY 2023,⁶³³ and more than 180 models by 2025.⁶³⁴ Third, the expansion of charging infrastructure has been keeping up with PEV adoption. This trend is widely expected to continue, particularly in light of very large public and private investments. Lastly, while the initial purchase price of BEVs is currently higher than for most ICE vehicles, the price difference is likely to narrow or become insignificant as the cost of batteries fall and PEV production rises in the coming

⁶³⁰ Jackman, D K, K S Fujita, H C Yang, and M Taylor. 2023. Literature Review of U.S. Consumer Acceptance of New Personally Owned Light Duty Plug-in Electric Vehicles. Washington, DC: U.S. Environmental Protection Agency.

⁶³¹ <https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard>.

⁶³² [Fueleconomy.gov](https://www.fueleconomy.gov), 2015 Fuel Economy Guide and 2021 Fuel Economy Guide.

⁶³³ Environmental Defense Fund and M.J. Bradley & Associates, "Electric Vehicle Market Status—Update, Manufacturer Commitments to Future Electric Mobility in the U.S. and Worldwide," April 2021.

⁶³⁴ Environmental Defense Fund and ERM, "Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide," September 2022.

years.⁶³⁵ Among the many studies that address cost parity, an emerging consensus suggests that purchase price parity is likely to be achievable by the mid-2020s for some vehicle segments and models, and TCO parity even sooner for a broader segment of the market.^{636 637}

EPA, in coordination with the Lawrence Berkeley National Laboratory, conducted a peer-reviewed literature review of consumer acceptance of PEVs. In this literature review, we present what we refer to as the "4A framework," consisting of awareness, access, approval, and adoption, that we use to define acceptance and organize a comprehensive review of the scientific literature on this topic.⁶³⁸ Through that review, we identify enablers and obstacles to consumer acceptance of PEVs. Across all stages of the 4A framework, we find that the enablers and obstacles of PEV acceptance are largely external to the consumer. We conclude that there is no evidence in the reviewed literature to suggest anything immutable within consumers or inherent to PEVs that irretrievably obstructs acceptance. Rather, acceptance of PEVs is achievable among mainstream consumers. For more information on LD vehicle purchase considerations, see DRIA Chapter 4.1.

6. Supply Chain, Manufacturing, and Mineral Security Considerations

Although the market share of PEVs in the U.S. is already rapidly growing, EPA recognizes that the proposed standards may accelerate this trend. Assessing the feasibility of incremental penetrations of PEVs that may result from the proposed standards includes consideration of the capability of the supply chain to provide the required quantities of critical minerals, components, and battery manufacturing capacity. This section provides a general review of how we considered supply chain and manufacturing considerations in this analysis, the sources we considered, and how we used this information in the analysis. It also provides a high-level discussion of the security implications

⁶³⁵ International Council on Clean Transportation, "Assessment of Light-Duty Electric Vehicle Costs and Consumer Benefits in the United States in the 2022–2035 Time Frame," October 2022.

⁶³⁶ Ibid.

⁶³⁷ Environmental Defense Fund and ERM, "Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide," September 2022.

⁶³⁸ Jackman, D K, K S Fujita, H C Yang, and M Taylor. 2023. Literature Review of U.S. Consumer Acceptance of New Personally Owned Light Duty Plug-in Electric Vehicles. Washington, DC: U.S. Environmental Protection Agency.

of increased demand for minerals and other commodities used to manufacture electrified vehicles. Additional details on these aspects of the analysis may be found in DRIA Chapter 3.1.3, including how we used this information to develop modeling constraints on PEV penetration for the compliance analysis.

In performing this analysis, we considered the ability for global and domestic manufacturing and critical mineral capacity to respond to the projected demand for zero-emission vehicles that manufacturers may choose to produce to comply under the various Alternatives. We consulted with industry and government agency sources (including DOE, USGS, and several analysis firms) to collect information on production capacity, price forecasts, global mineral markets, and related topics, and have considered this information to inform our assumptions about future manufacturing capabilities and costs. We have included consideration of the influence of critical minerals and materials availability as well as vehicle and battery manufacturing capacities on production of PEVs at various market penetration scenarios.

We believe that the proposed rate of stringency is appropriate in light of this assessment. It is also our assessment that widespread automotive electrification in the U.S. will not lead to a critical long-term dependence on foreign imports of minerals or components, nor that increased demand for these products will become a vulnerability to national security. First, in many cases the reason that these products are often sourced from outside of the U.S. is not because the products cannot be produced in the U.S., but because other countries have already invested in developing a supply chain for their production. It is likely that a domestic supply chain for these products would develop over time as U.S. manufacturers work to secure reliable and geographically proximate supplies of the components and materials needed to build the products they manufacture, and to remain competitive in a global market where electrification is already proceeding rapidly. Second, many automakers, suppliers, startups, and related industries have already recognized the need for increased domestic production capacity as a business opportunity and are basing business models on building out various aspects of the supply chain. Third, Congress and the Administration have taken significant steps to accelerate this activity by funding, facilitating, and otherwise promoting the rapid growth of U.S. supply chains for these products

through the Inflation Reduction Act, the Bipartisan Infrastructure Law, and numerous Executive Branch initiatives. EPA has confidence that these efforts are effectively addressing supply chain concerns. Finally, utilization of critical minerals is different from the utilization of foreign oil, in that oil is consumed as a fuel while minerals become a constituent of manufactured vehicles. Minerals that are imported for vehicle production remain in the vehicle and can be reclaimed through recycling. Each of these points will be expanded in more detail in the following sections.

i. Critical Minerals

Critical minerals are commonly taken to include a large diversity of products, ranging from relatively plentiful materials that are constrained primarily by production capacity and refining, such as aluminum, to those that are both relatively rare and costly to process, such as the rare-earth metals that are used in magnets for permanent-magnet synchronous motors (PMSMs) and some semiconductor products. Extraction, processing, and recycling of certain critical minerals (for example, lithium, cobalt, nickel, manganese, graphite, and rare earth metals) are important parts of the supply chain supporting the production of electrified vehicle components.

These minerals are also experiencing increasing demand across many other sectors of the global economy, not just the transportation industry, as the world seeks to reduce carbon emissions. As with any emerging technology, a transition period must take place in which a robust supply chain develops to support production of these products. At the present time in the U.S. many of these minerals are commonly sourced from global suppliers and do not yet benefit from a fully developed domestic supply chain. As demand for these materials increases due to increasing production of PEVs, current mining and processing capacity across the world will be driven to expand over time. The process of establishing new mining capacity, as well as processing capacity for the mined product, can be subject to uncertain issues such as permitting, investor expectations of demand and future prices, and many others, making it difficult to predict with precision the rate at which new capacity will be brought online in the future. For example, depending on the source (hardrock mining or brine), lithium mining capacity can take from five to ten years to develop a new mine or mineral source, and has in some cases taken longer. However, industry interest and motivation toward developing these

resources has become very high and is expected to remain so, as the demand outlook for lithium and other battery minerals is very robust. For example, rapid growth in lithium demand has driven new development of resources and robust growth in supply, which is likely a factor in recently observed reductions in lithium price, with strong profit margins remaining even afterward.⁶³⁹ Due to such factors the price of lithium is likely to stabilize at or near its historical levels by the mid-2020s,⁶⁴⁰ a perspective also supported, for example, in proprietary battery price forecasts such as those EPA has examined from Wood Mackenzie.⁶⁴¹ ⁶⁴² This expected stabilization of prices after a period of elevation is a common feature of commodity markets that experience rapid growth in demand, and further supports the outlook that sufficient chemical product will be available to meet growing demand.

The U.S. Geological Survey (USGS) lists 50 minerals as “critical to the U.S. economy and national security.”⁶⁴³ ⁶⁴⁴ According to USGS, the Energy Act of 2020 defines a “critical mineral” as “a non-fuel mineral or mineral material essential to the economic or national security of the U.S. and which has a supply chain vulnerable to disruption.”⁶⁴⁵ Critical minerals are not

⁶³⁹ New York Times, “Falling Lithium Prices Are Making Electric Cars More Affordable,” March 20, 2023. Accessed on March 23, 2023 at <https://www.nytimes.com/2023/03/20/business/lithium-prices-falling-electric-vehicles.html>.

⁶⁴⁰ Sun et al., “Surging lithium price will not impede the electric vehicle boom,” *Joule*, doi:10.1016/j.joule.2022.06.028 (<https://dx.doi.org/10.1016/j.joule.2022.06.028>).

⁶⁴¹ Wood Mackenzie, “Battery & raw materials—Investment horizon outlook to 2032,” September 2022 (filename: brms-q3–2022-ih.pdf). Available to subscribers.

⁶⁴² Wood Mackenzie, “Battery & raw materials—Investment horizon outlook to 2032,” accompanying data set, September 2022 (filename: brms-data-q3–2022.xlsx). Available to subscribers.

⁶⁴³ U.S. Geological Survey, “U.S. Geological Survey Releases 2022 List of Critical Minerals,” February 22, 2022. Available at: <https://www.usgs.gov/news/national-news-release/us-geological-survey-releases-2022-list-critical-minerals>.

⁶⁴⁴ The full list includes: Aluminum, antimony, arsenic, barite, beryllium, bismuth, cerium, cesium, chromium, cobalt, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, germanium, graphite, hafnium, holmium, indium, iridium, lanthanum, lithium, lutetium, magnesium, manganese, neodymium, nickel, niobium, palladium, platinum, praseodymium, rhodium, rubidium, ruthenium, samarium, scandium, tantalum, tellurium, terbium, thulium, tin, titanium, tungsten, vanadium, ytterbium, yttrium, zinc, and zirconium.

⁶⁴⁵ U.S. Geological Survey, “U.S. Geological Survey Releases 2022 List of Critical Minerals,” February 22, 2022. Available at: <https://www.usgs.gov/news/national-news-release/us-geological-survey-releases-2022-list-critical-minerals>.

necessarily short in supply but are seen as essential to the manufacture of products that are important to the economy or national security. The risk to their availability may stem from geological scarcity, geopolitics, trade policy, or similar factors.⁶⁴⁶

Emission control catalysts for ICE vehicles utilize critical minerals including cerium, palladium, platinum, and rhodium. These are also required for PHEVs due to the presence of the ICE. Critical minerals most relevant to lithium-ion battery production include cobalt, graphite, lithium, manganese, and nickel, which are important constituents of electrode active materials, their presence and relative amounts depending on the chemistry formulation. Aluminum is also used for cathode foils and in some cell chemistries. Rare-earth metals are used in permanent-magnet electric machines, and include several elements such as dysprosium, neodymium, and samarium.

Some of the electrification technologies that use critical minerals have alternatives that use other minerals or eliminate them entirely. For these, automakers in some cases have some flexibility to modify their designs to reduce or avoid use of minerals that are difficult or expensive to procure. For example, in some PEV battery applications it is feasible and increasingly common to employ an iron phosphate cathode which has lower energy density but does not require cobalt, nickel, or manganese. Similarly, rare earths used in permanent-magnet electric machines have potential alternatives in the form of ferrite or other advanced magnets, or the use of induction machines or advanced externally excited motors, which do not use permanent magnets.

This discussion therefore focuses on minerals that are most critical for battery production, including nickel, cobalt, graphite, and lithium.

Availability of critical minerals for use in battery production depends on

two primary considerations: Production of raw minerals from mining (or recycling) operations, and refining operations that produce purified and processed substances (precursors, electrolyte solutions, and finished electrode powders) made from the raw minerals, that can then be made into battery cells.

As shown in Figure 28, in 2019 about 50 percent of global nickel production occurred in Indonesia, Philippines, and Russia, with the rest distributed around the world. Nearly 70 percent of cobalt originated from the Democratic Republic of Congo, with some significant production in Russia and Australia, and about 20 percent in the rest of the world. More than 60 percent of graphite production occurred in China, with significant contribution from Mozambique and Brazil for another 20 percent. About half of lithium was mined in Australia, with Chile accounting for another 20 percent, and China about 10 percent.

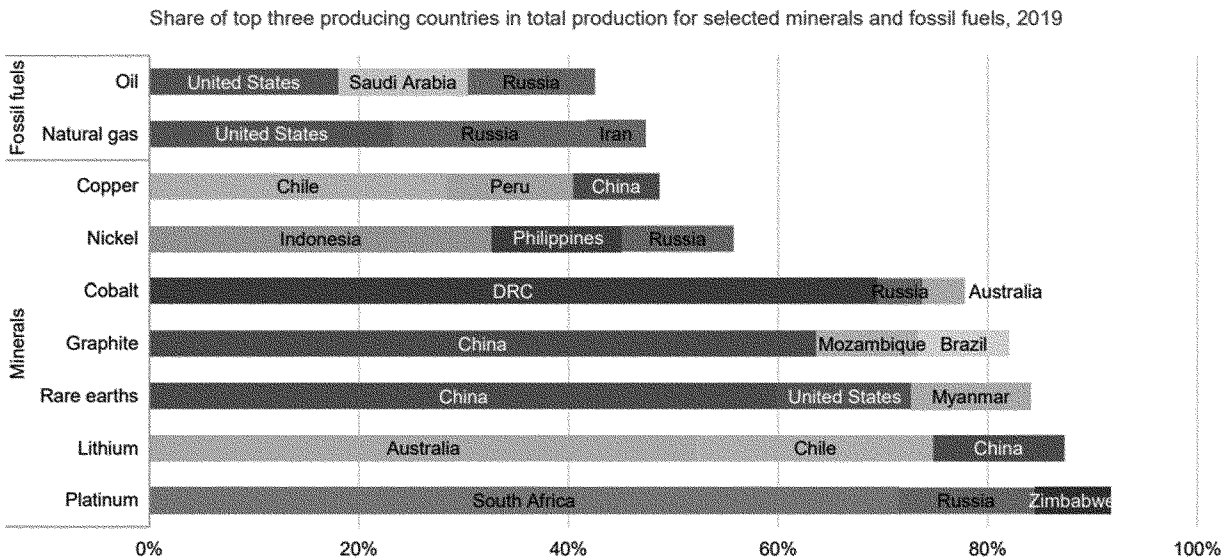


Figure 28. Share of top three producing countries for critical minerals and fossil fuels in 2019 (IEA). ⁶⁴⁷

According to the Administration’s 100-day review under E.O. 14017, of the major actors in mineral refining, 60 percent of lithium refining occurred in China, with 30 percent in Chile, and 10 percent in Argentina. 72 percent of

cobalt refining occurred in China, with another 17 percent distributed among Finland, Canada, and Norway. 21 percent of Class 1 nickel refining occurred in Russia, with 16 percent in China, 15 percent in Japan, and 13

percent in Canada.⁶⁴⁸ Similar conclusions were reached in an analysis by the International Energy Agency, shown in Figure 29.

⁶⁴⁶ International Energy Agency, “The Role of Critical Minerals in Clean Energy Transitions,” World Energy Outlook Special Report, Revised version. March 2022.

⁶⁴⁷ International Energy Agency, “The Role of Critical Minerals in Clean Energy Transitions,” World Energy Outlook Special Report, Revised version. March 2022.

⁶⁴⁸ The White House, “Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth,” 100-Day Reviews under Executive Order 14017, June 2021 (p. 121).

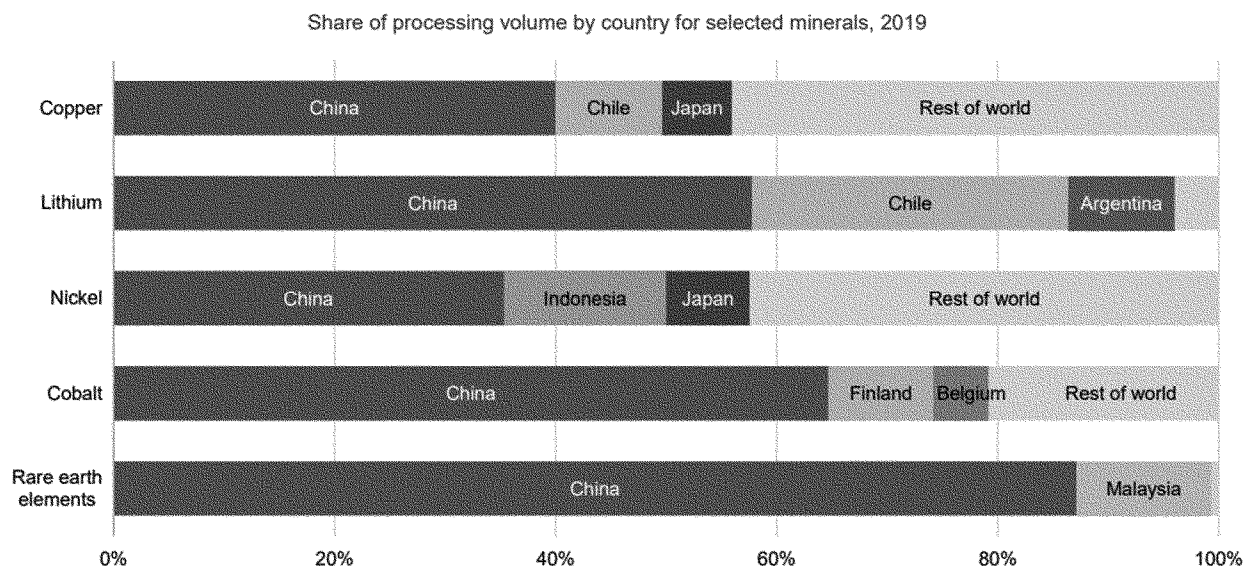


Figure 29. IEA accounting of share of refining volume of critical minerals by country (IEA).⁶⁴⁹

Currently, the U.S. is lagging behind much of the rest of the world in critical mineral production. Although the U.S. has nickel reserves, and opportunity also exists to recover significant nickel from mine waste remediation and similar activities, it is more convenient for U.S. nickel to be imported from other countries, with 68 percent coming from Canada, Norway, Australia, and Finland, countries with which the U.S. has good trade relations.⁶⁵⁰ According to the USGS, ample reserves of nickel exist in the U.S. and globally, potentially constrained only by processing capacity.⁶⁵¹ The U.S. has numerous cobalt deposits but few are developed while some have produced cobalt only in the past; about 72 percent of U.S. consumption is imported.⁶⁵² Similar observations may be made about graphite and lithium. Significant lithium deposits do exist in the U.S. in Nevada and California as well as several other locations,^{653 654} and are currently

the target of development by suppliers and automakers.⁶⁵⁵ U.S. deposits of natural graphite also exist but graphite has not been produced in the U.S. since the 1950s and significant known resources are largely undeveloped.⁶⁵⁶

As described in the following sections, the development of mining and processing capacity in the U.S. is a primary focus of efforts on the part of both industry and the Administration toward building a robust domestic supply chain for electrified vehicle production and will be greatly facilitated by the provisions of the BIL and the IRA as well as large private business investments that are already underway and continuing.

ii. Battery and Mineral Production Capacity

Although much of the content needed for electrified vehicle manufacture is currently imported from other countries, a number of prominent examples of rapid U.S. manufacturing growth and supply chain development already indicate that this is rapidly changing. For example, even though most global battery manufacturing capacity is currently located outside the U.S., most of the batteries and cells present in the

domestic PEV fleet were manufactured in the U.S. Specifically, about 57 percent of cells and 84 percent of assembled packs sold in the U.S. from 2010 to 2021 were produced in the U.S.^{657 658} This indicates that U.S. PEV production has not been exclusively reliant on foreign manufacture of batteries and cells, and suggests that it need not become so as PEV penetration increases. Many manufacturers are rapidly building battery and cell manufacturing facilities in the U.S. and are also taking steps to secure domestically sourced minerals and related commodities to supply production for these plants. Highlights of these developments and what they mean for the domestic supply chain going forward are described in this section.

Battery manufacturing, in terms of constructed and planned plant capacity for assembly of cells and packs, does not appear to pose a critical constraint to expected uptake of PEVs, either globally or domestically. A 2021 report from Argonne National Laboratory (ANL)⁶⁵⁹ examined the state of the global supply

⁶⁴⁹ International Energy Agency, "The Role of Critical Minerals in Clean Energy Transitions," World Energy Outlook Special Report, Revised version, March 2022.

⁶⁵⁰ The White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth," 100-Day Reviews under Executive Order 14017, June 2021.

⁶⁵¹ Ibid.

⁶⁵² U.S. Geological Survey, "Cobalt Deposits in the United States," June 1, 2020. Available at <https://www.usgs.gov/data/cobalt-deposits-united-states>.

⁶⁵³ U.S. Geological Survey, "Mineral Commodity Summaries 2022—Lithium", January 2022. Available at <https://pubs.usgs.gov/periodicals/mcs2022/mcs2022-lithium.pdf>.

⁶⁵⁴ U.S. Geological Survey, "Lithium Deposits in the United States," June 1, 2020. Available at

<https://www.usgs.gov/data/lithium-deposits-united-states>.

⁶⁵⁵ Investing News, "Which Lithium Juniors Have Supply Deals With EV Makers?," February 8, 2023. Accessed on March 24, 2023 at <https://investingnews.com/lithium-juniors-ev-supply-deals/>.

⁶⁵⁶ U.S. Geological Survey, "USGS Updates Mineral Database with Graphite Deposits in the United States," February 28, 2022.

⁶⁵⁷ Argonne National Laboratory, "Lithium-Ion Battery Supply Chain for E-Drive Vehicles in the United States: 2010–2020," ANL/ESD–21/3, March 2021.

⁶⁵⁸ U.S. Department of Energy, "Vehicle Technologies Office Transportation Analysis Fact of the Week #1278, Most Battery Cells and Battery Packs in Plug-in Vehicles Sold in the United States From 2010 to 2021 Were Domestically Produced," February 20, 2023.

⁶⁵⁹ Argonne National Laboratory, "Lithium-Ion Battery Supply Chain for E-Drive Vehicles in the United States: 2010–2020," ANL/ESD–21/3, March 2021.

chain for electrified vehicles and included a comparison of recent projections of future global battery manufacturing capacity and projections of future global battery demand from various analysis firms out to 2030, as

seen in Figure 30. The three most recent projections of capacity (from BNEF, Roland Berger, and S&P Global in 2020–2021) that were collected by ANL exceed the corresponding projections of demand by a significant margin in every

year for which they were projected, suggesting that global battery manufacturing capacity is generally expected to respond strongly to increasing demand.

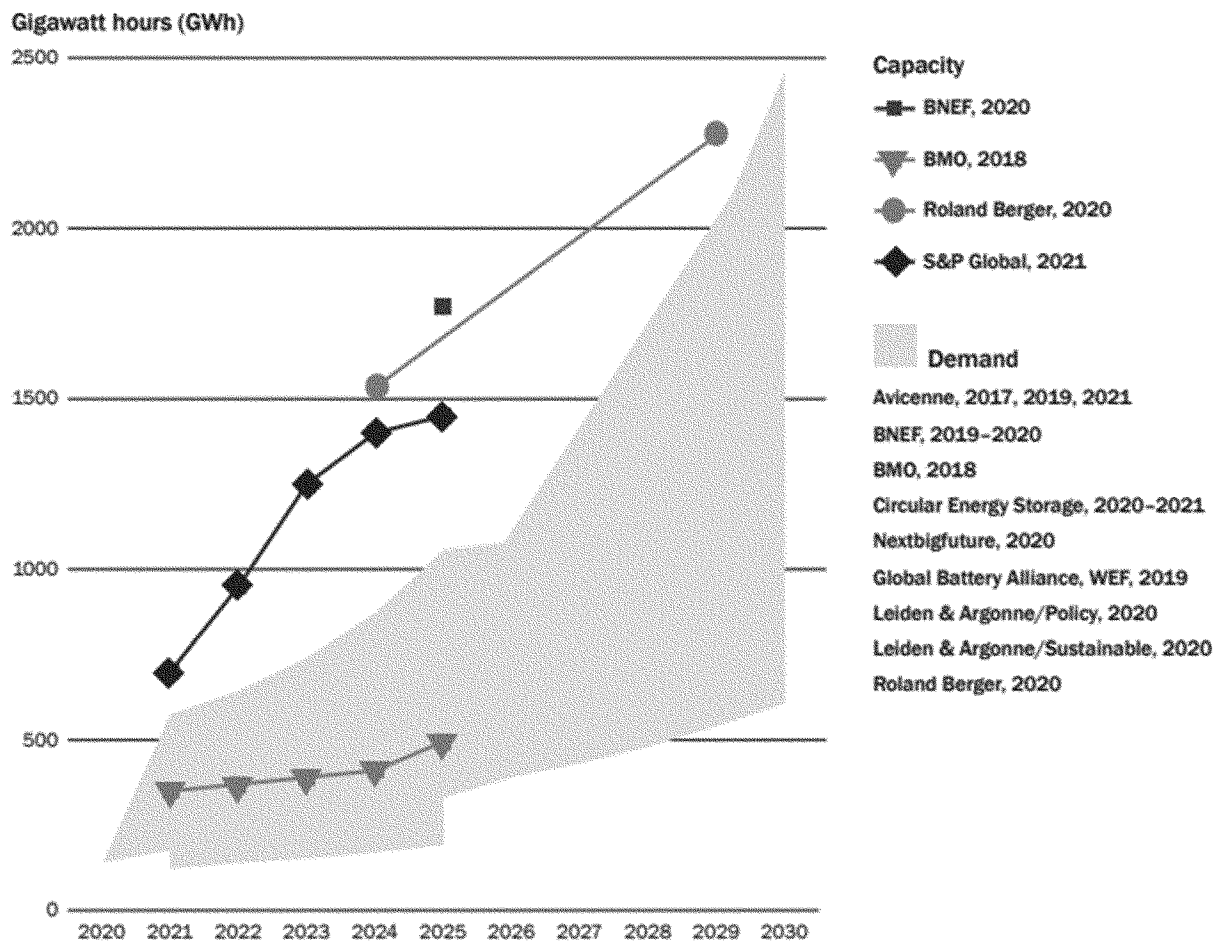


Figure 30. Future global Li-ion battery demand and production capacity, 2020-2030.^{660,661}

Global demand for zero-emission vehicles has led to widespread and ongoing investment in manufacturing capacity for the vehicles and their components, including electric machines, power electronics, and batteries. The need to further develop a robust domestic supply chain for these components has accordingly received broad attention in the industry. As

described in Section I.A.2.ii of this Preamble, manufacturers are increasingly adopting product plans with high levels of electrification and are continuing to make very large investments toward increasing manufacturing capacity and securing sources and suppliers for critical minerals, materials, and components.

As also noted, one analysis indicates that 37 of the world's automakers are planning to invest a total of almost \$1.2 trillion by 2030 toward electrification,⁶⁶² a large portion of

which will be used for construction of manufacturing facilities for vehicles, battery cells and packs, and materials, supporting up to 5.8 terawatt-hours of battery production and 54 million BEVs per year globally.⁶⁶³ Similarly, an analysis by the Center for Automotive Research shows that a significant shift in North American investment is occurring toward electrification technologies, with \$36 billion of about \$38 billion in total automaker manufacturing facility investments

⁶⁶⁰ Argonne National Laboratory, "Lithium-Ion Battery Supply Chain for E-Drive Vehicles in the United States: 2010–2020," ANL/ESD–21/3, March 2021.

⁶⁶¹ Federal Consortium for Advanced Batteries, "National Blueprint for Lithium Batteries 2021–2030," June 2021 (Figure 2). Available at https://www.energy.gov/sites/default/files/2021-06/FCAB%20National%20Blueprint%20Lithium%20Batteries%200621_0.pdf.

⁶⁶² Reuters, "A Reuters analysis of 37 global automakers found that they plan to invest nearly \$1.2 trillion in electric vehicles and batteries through 2030," October 21, 2022. Accessed on November 4, 2022 at <https://graphics.reuters.com/AUTOS-INVESTMENT/ELECTRIC/akpeqgzypr/>.

⁶⁶³ Reuters, "Exclusive: Automakers to double spending on EVs, batteries to \$1.2 trillion by 2030," October 25, 2022. Accessed on November 4, 2022 at <https://www.reuters.com/technology/exclusive-automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/>.

announced in 2021 being slated for electrification-related manufacturing in North America, with a similar proportion and amount on track for 2022.⁶⁶⁴

According to the Department of Energy, at least 13 new battery plants, most of which will include cell manufacturing, are expected to become operational in the U.S. in the next four years.⁶⁶⁵ Among these, in partnership with SK Innovation, Ford is building three large new battery plants in Kentucky and Tennessee⁶⁶⁶ and a fourth in Michigan.⁶⁶⁷ General Motors is partnering with LG Chem to build another three plants in Tennessee,

Michigan, and Ohio, and considering another in Indiana. LG Chem has also announced plans for a cathode material production facility in Tennessee, said to be sufficient to supply 1.2 million high-performance electric vehicles per year by 2027.⁶⁶⁸ Contemporary Amperex (CATL) is considering construction of plants in Arizona, Kentucky, and South Carolina. Panasonic, already partnering with Tesla for its factories in Texas and Nevada, are planning two new factories in Oklahoma and Kansas. Toyota plans to be operational with a plant in Greensboro, North Carolina in 2025, and Volkswagen in Chattanooga, Tennessee at about the same time. According to a

May 2022 forecast by S&P Global, announcements such as these could result in a U.S. annual manufacturing capacity of 382 GWh by 2025,⁶⁶⁹ or 580 GWh by 2027,⁶⁷⁰ up from roughly 60 GWh^{671 672} today. A more recent forecast by the Department of Energy, as shown in Figure 31, illustrates the rapid recent growth in new plant announcements, estimating that announcements for North America to date will enable an estimated 838 GWh of annual capacity by 2025, 896 GWh by 2027, and 998 GWh by 2030, the vast majority of which is cell manufacturing capacity, enough to supply from 10 to 13 million BEVs per year.⁶⁷³

Announced Battery Plant Capacity in North America

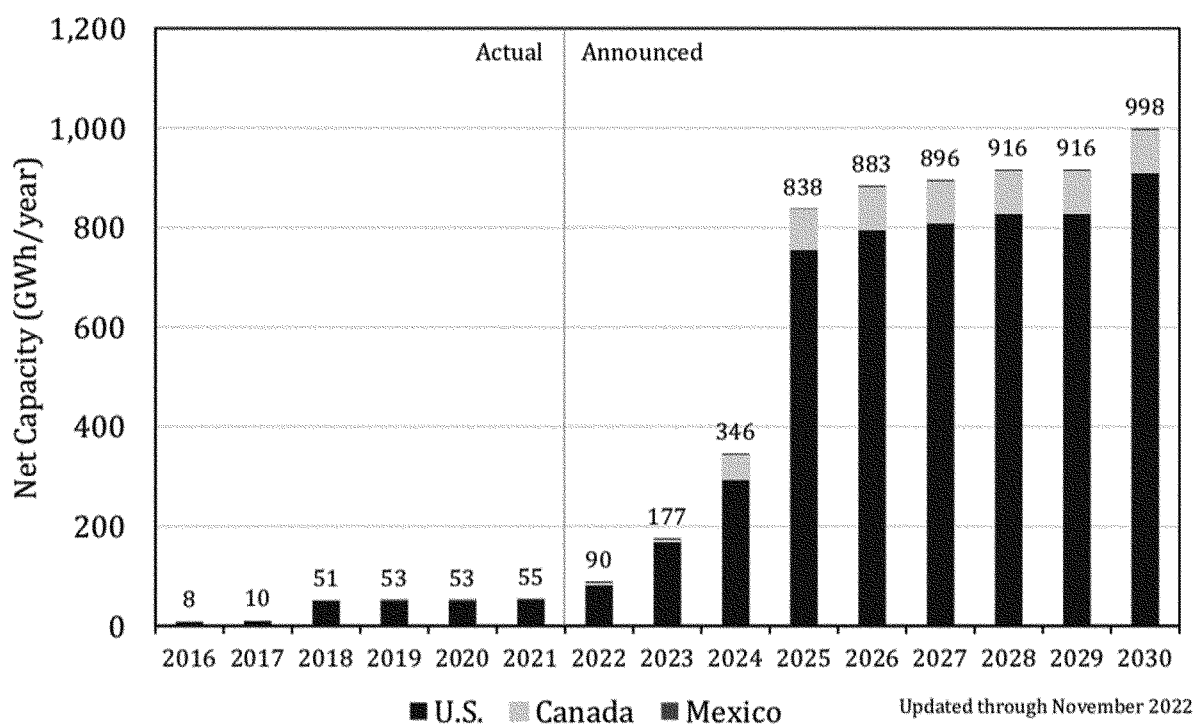


Figure 31. Announced capacity for battery plants in North America, as of November 2022.

⁶⁶⁴ Center for Automotive Research, "Automakers Invest Billions in North American EV and Battery Manufacturing Facilities," July 21, 2022. Retrieved on November 10, 2022 at <https://www.cargroup.org/automakers-invest-billions-in-north-american-ev-and-battery-manufacturing-facilities/>.

⁶⁶⁵ Department of Energy, Fact of the Week #1217, "Thirteen New Electric Vehicle Battery Plants Are Planned in the U.S. Within the Next Five Years," December 20, 2021.

⁶⁶⁶ Ford Media Center, "Ford to Lead America's Shift to Electric Vehicles with New Mega Campus in Tennessee and Twin Battery Plants in Kentucky; \$11.4B Investment to Create 11,000 Jobs and Power New Lineup of Advanced EVs," Press Release, September 27, 2021.

⁶⁶⁷ Ford Media Center, "Ford Taps Michigan for New LFP Battery Plant; New Battery Chemistry

Offers Customers Value, Durability, Fast Charging, Creates 2,500 More New American Jobs," Press Release, February 13, 2023.

⁶⁶⁸ LG Chem, "LG Chem to Establish Largest Cathode Plant in US for EV Batteries," Press Release, November 22, 2022.

⁶⁶⁹ S&P Global Market Intelligence, "US ready for a battery factory boom, but now it needs to hold the charge," October 3, 2022. Accessed on November 22, 2022 at <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-ready-for-a-battery-factory-boom-but-now-it-needs-to-hold-the-charge-72262329>.

⁶⁷⁰ S&P Global Mobility, "Growth of Li-ion battery manufacturing capacity in key EV markets," May 20, 2022. Accessed on November 22, 2022 at [https://www.spglobal.com/mobility/en/research-](https://www.spglobal.com/mobility/en/research-analysis/growth-of-li-ion-battery-manufacturing-capacity.html)

[analysis/growth-of-li-ion-battery-manufacturing-capacity.html](https://www.spglobal.com/mobility/en/research-analysis/growth-of-li-ion-battery-manufacturing-capacity.html).

⁶⁷¹ Federal Consortium for Advanced Batteries, "National Blueprint for Lithium Batteries 2021–2030," June 2021.

Available at https://www.energy.gov/sites/default/files/2021-06/FCAB%20National%20Blueprint%20Lithium%20Batteries%200621_0.pdf.

⁶⁷² S&P Global Mobility, "Growth of Li-ion battery manufacturing capacity in key EV markets," May 20, 2022. Accessed on November 22, 2022 at <https://www.spglobal.com/mobility/en/research-analysis/growth-of-li-ion-battery-manufacturing-capacity.html>.

⁶⁷³ Argonne National Laboratory, "Assessment of Light-Duty Plug-in Electric Vehicles in the United States, 2010–2021," ANL–22/71, November 2022.

For comparison, Figure 32 shows the annual gross battery production needed for BEVs in the U.S. new vehicle fleet in the central case of the Proposal analysis. The annual battery production

required for the compliant fleet generated by OMEGA is about 925 GWh in 2030, less than the 998 GWh of North American capacity projected for the same year in Figure 31. Demand reaches

about 1,050 GWh per year in 2032. These figures compare to a maximum of about 620 GWh under the No Action case.

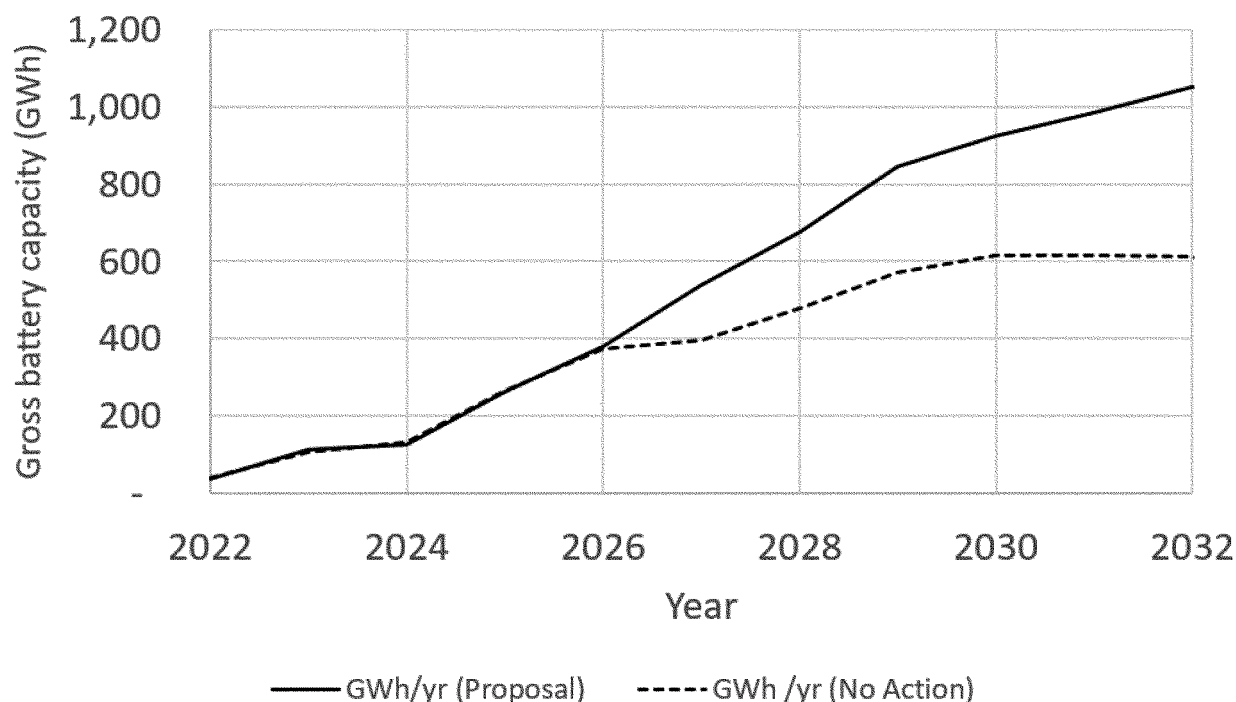


Figure 32: Annual battery production (GWh) required for BEVs in the Central analysis case of the Proposal.

In order to produce at the levels indicated when fully built out, the North American battery plants represented in Figure 31 will require access to sufficient inputs in the form of cathode and anode powders, foils, separators, parts, and other commodities. In conjunction with these construction plans, manufacturers are also moving to secure supplies of the minerals and components necessary to produce batteries at these facilities. For example, Ford has recently moved to secure sources of raw materials for its battery needs;^{674 675} General Motors has signed similar supply chain agreements, for battery materials^{676 677 678} as well as

for rare-earth metals for electric machines;⁶⁷⁹ and Tesla has also moved to secure a domestic lithium supply.⁶⁸⁰ Announcements in this general vein occur frequently and are evidence of widespread industry attention to this business need.

In addition, the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (BIL) are providing significant support to accelerate these efforts to build out a U.S. supply chain for mineral, cell, and battery production. The IRA offers sizeable incentives and other support for further development of domestic and North American manufacture of these vehicles and components. According to the Congressional Budget Office, an

estimated \$30.6 billion will be realized by manufacturers through the Advanced Manufacturing Production Credit, which includes a tax credit to manufacturers for battery production in the U.S. According to one third party estimate based on information from Benchmark Mineral Intelligence, the recent increase in U.S. battery manufacturing plant announcements could increase this figure to \$136 billion or more.⁶⁸¹ Another \$6.2 billion or more may be realized through expansion of the Advanced Energy Project Credit, a 30 percent tax credit for investments in projects that reequip, expand, or establish certain energy manufacturing facilities.⁶⁸² The IRA also provides for Clean Vehicle Credits of up to \$7,500 toward the purchase or lease of clean vehicles with significant critical mineral and battery component content

⁶⁷⁴ Green Car Congress, "Ford sources battery capacity and raw materials for 600K EV annual run rate by late 2023, 2M by end of 2026; adding LFP," July 22, 2022.

⁶⁷⁵ Ford Motor Company, "Ford Releases New Battery Capacity Plan, Raw Materials Details to Scale EVs; On Track to Ramp to 600K Run Rate by '23 and 2M+ by '26, Leveraging Global Relationships," Press Release, July 21, 2022.

⁶⁷⁶ Green Car Congress, "GM signs major Li-ion supply chain agreements: CAM with LG Chem and lithium hydroxide with Livent," July 26, 2022.

⁶⁷⁷ Grzelewski, J., "GM says it has enough EV battery raw materials to hit 2025 production target," The Detroit News, July 26, 2022.

⁶⁷⁸ Hall, K., "GM announces new partnership for EV battery supply," The Detroit News, April 12, 2022.

⁶⁷⁹ Hawkins, A., "General Motors makes moves to source rare earth metals for EV motors in North America," The Verge, December 9, 2021.

⁶⁸⁰ Piedmont Lithium, "Piedmont Lithium Signs Sales Agreement With Tesla," Press Release, September 28, 2020.

⁶⁸¹ Axios.com, "Axios What's Next," February 1, 2023. Accessed on March 1, 2023 at https://www.axios.com/newsletters/axios-whats-next-1185bdcc-1b58-4a12-9f15-8ffc8e63b11e.html?chunk=0&utm_term=emshare#story0.

⁶⁸² Congressional Research Service, "Tax Provisions in the Inflation Reduction Act of 2022 (H.R. 5376)," August 10, 2022.

manufactured in North America. Together, these provisions create a strong motivation for manufacturers to support the continued development of a North American supply chain and already appear to be proving influential on the plans of manufacturers to procure domestic or North American mineral and component sources and to construct domestic manufacturing facilities to claim the benefits of the act.⁶⁸³ ⁶⁸⁴

In addition, the BIL provides \$7.9 billion to support development of the domestic supply chain for battery manufacturing, recycling, and critical minerals.⁶⁸⁵ Notably, it supports the development and implementation of a \$675 million Critical Materials Research, Development, Demonstration, and Commercialization Program administered by the Department of Energy (DOE),⁶⁸⁶ and has created numerous other programs in related areas, such as for example, critical minerals data collection by the U.S. Geological Survey (USGS).⁶⁸⁷ Provisions extend across several areas including critical minerals mining and recycling research, USGS energy and minerals research, rare earth elements extraction and separation research and demonstration, and expansion of DOE loan programs in critical minerals and

zero-carbon technologies.⁶⁸⁸ ⁶⁸⁹ The Department of Energy is working to facilitate and support further development of the supply chain, by identifying weaknesses for prioritization and rapidly funding those areas through numerous programs and funding opportunities.⁶⁹⁰ ⁶⁹¹ ⁶⁹² According to a final report from the Department of Energy's Li-Bridge alliance,⁶⁹³ "the U.S. industry can double its value-added share by 2030 (capturing an additional \$17 billion in direct value-add annually and 40,000 jobs in 2030 from mining to cell manufacturing), dramatically increase U.S. national and economic security, and position itself on the path to a near-circular economy by 2050."⁶⁹⁴ The \$7.9 billion provided by the BIL for U.S. battery supply chain projects⁶⁹⁵ represents a total of about \$14 billion when industry cost matching is considered.⁶⁹⁶ ⁶⁹⁷ Other recently

announced projects will utilize another \$40 billion in private funding.⁶⁹⁸ According to DOE's Li-Bridge alliance, the total of these commitments already represents more than half of the capital investment that Li-Bridge considers necessary for supply chain investment to 2030.⁶⁹⁹

Further, the DOE Loan Programs Office is administering a major loans program focusing on extraction, processing and recycling of lithium and other critical minerals that will support continued market growth,⁷⁰⁰ through the Advanced Technology Vehicles Manufacturing (ATVM) Loan Program and Title 17 Innovative Energy Loan Guarantee Program. This program includes over \$20 billion of available loans and loan guarantees to finance critical materials projects. Some examples of recent projects, amounting to \$3.4 billion in loan support, are outlined in DRIA 3.1.3.2.

Although predicting mineral supply and demand into the future is highly uncertain, it is possible to identify general trends likely to occur in the future. As seen in Figure 33 and Figure 34, preliminary projections prepared by Li-Bridge for DOE,⁷⁰¹ and presented to the Federal Consortium for Advanced Batteries (FCAB)⁷⁰² in November 2022, indicate that global supplies of cathode active material (CAM) and lithium chemical product are expected to be sufficient through 2035.

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⁶⁹⁸ Federal Reserve Bank of Dallas, "Automakers' bold plans for electric vehicles spur U.S. battery boom," October 11, 2022. Accessed on March 4, 2023 at <https://www.dallasfed.org/research/economics/2022/1011>.

⁶⁹⁹ Department of Energy, Li-Bridge, "Building a Robust and Resilient U.S. Lithium Battery Supply Chain," February 2023 (p. 9).

⁷⁰⁰ Department of Energy Loan Programs Office, "Critical Materials Loans & Loan Guarantees," https://www.energy.gov/sites/default/files/2021-06/DOE-LPO_Program_Handout_Critical_Materials_June2021_0.pdf.

⁷⁰¹ Slides 6 and 7 of presentation by Li-Bridge to Federal Consortium for Advanced Batteries (FCAB), November 17, 2022.

⁷⁰² <https://www.energy.gov/eere/vehicles/federal-consortium-advanced-batteries-fcab>.

⁶⁸³ Subramanian, P., "Why Honda's EV battery plant likely wouldn't happen without new climate credits," Yahoo Finance, August 29, 2022.

⁶⁸⁴ LG Chem, "LG Chem to Establish Largest Cathode Plant in US for EV Batteries," Press Release, November 22, 2022.

⁶⁸⁵ Congressional Research Service, "Energy and Minerals Provisions in the Infrastructure Investment and Jobs Act (Pub. L. 117-58)", February 16, 2022. <https://crsreports.congress.gov/product/pdf/R/R47034>.

⁶⁸⁶ Department of Energy, "Biden-Harris Administration Launches \$675 Million Bipartisan Infrastructure Law Program to Expand Domestic Critical Materials Supply Chains," August 9, 2022. Available at <https://www.energy.gov/articles/biden-harris-administration-launches-675-million-bipartisan-infrastructure-law-program>.

⁶⁸⁷ U.S. Geological Survey, "Bipartisan Infrastructure Law supports critical-minerals research in central Great Plains," October 26, 2022. Available at <https://www.usgs.gov/news/state-news-release/bipartisan-infrastructure-law-supports-critical-minerals-research-central>.

⁶⁸⁸ Congressional Research Service, "Energy and Minerals Provisions in the Infrastructure Investment and Jobs Act (Pub. L. 117-58)", February 16, 2022. <https://crsreports.congress.gov/product/pdf/R/R47034>.

⁶⁸⁹ International Energy Agency, "Infrastructure and Jobs act: Critical Minerals," October 26, 2022. <https://www.iea.org/policies/14995-infrastructure-and-jobs-act-critical-minerals>.

⁶⁹⁰ Department of Energy, Li-Bridge, "Building a Robust and Resilient U.S. Lithium Battery Supply Chain," February 2023.

⁶⁹¹ The White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth," 100-Day Reviews under Executive Order 14017, June 2021.

⁶⁹² Federal Consortium for Advanced Batteries, "National Blueprint for Lithium Batteries 2021-2030," June 2021.

Available at https://www.energy.gov/sites/default/files/2021-06/FCAB%20National%20Blueprint%20Lithium%20Batteries%200621_0.pdf.

⁶⁹³ <https://www.anl.gov/li-bridge>.

⁶⁹⁴ Department of Energy, Li-Bridge, "Building a Robust and Resilient U.S. Lithium Battery Supply Chain," February 2023.

⁶⁹⁵ Congressional Research Service, "Energy and Minerals Provisions in the Infrastructure Investment and Jobs Act (Pub. L. 117-58)", February 16, 2022. <https://crsreports.congress.gov/product/pdf/R/R47034>.

⁶⁹⁶ Department of Energy, Li-Bridge, "Building a Robust and Resilient U.S. Lithium Battery Supply Chain," February 2023 (p. 9).

⁶⁹⁷ Department of Energy, EERE Funding Opportunity Exchange, EERE Funding Opportunity Announcements. Accessed March 4, 2023 at <https://>

Global cathode supply (Mt)

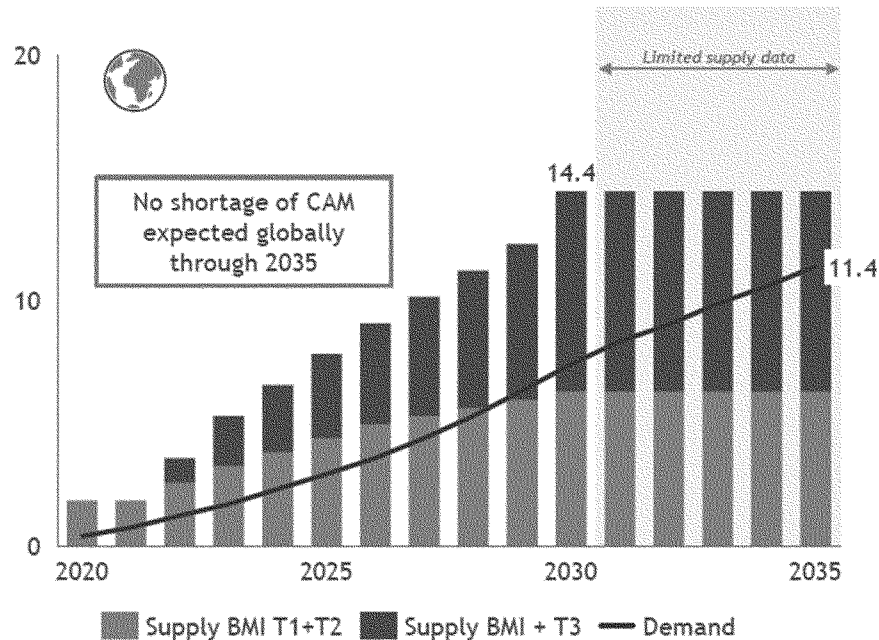


Figure 33. DOE Li-Bridge assessment of global CAM supply and demand.

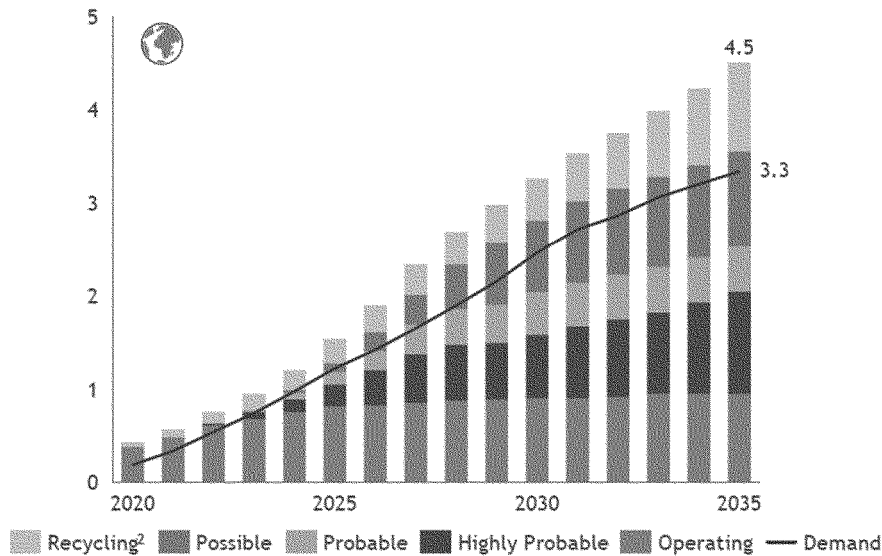
Global lithium chemical supply (Mt LCE¹)Includes Li₂CO₃, LiOH, LiCl, LiF, Li₂SO₄

Figure 34. DOE Li-Bridge assessment of global lithium chemical supply and demand.

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Similarly, the International Energy Agency (IEA) published its Global EV Outlook 2022 which examined the outlook for supply and demand for lithium, cobalt, and nickel between 2020 and 2030 under several demand

scenarios.⁷⁰³ As shown in Figure 35, it found that the supply should be sufficient for their “Stated Policies” (STEPS) scenario, in which the projected demand represents “existing

⁷⁰³ International Energy Agency, “Global EV Outlook 2022,” p. 185, May 2022.

policies and measures, as well as policy ambitions and targets that have been legislated by governments around the world,” and includes “current EV-related policies and regulations and future developments based on the expected impacts of announced deployments and plans from industry

stakeholders.” Under their “Announced Pledges” (APS) scenario, a higher demand scenario which “assumes that the announced ambitions and targets

made by governments around the world, including the most recent ones, are met in full and on time,” nickel and cobalt would still be at sufficient supply, but

lithium would begin to fall short after 2025.

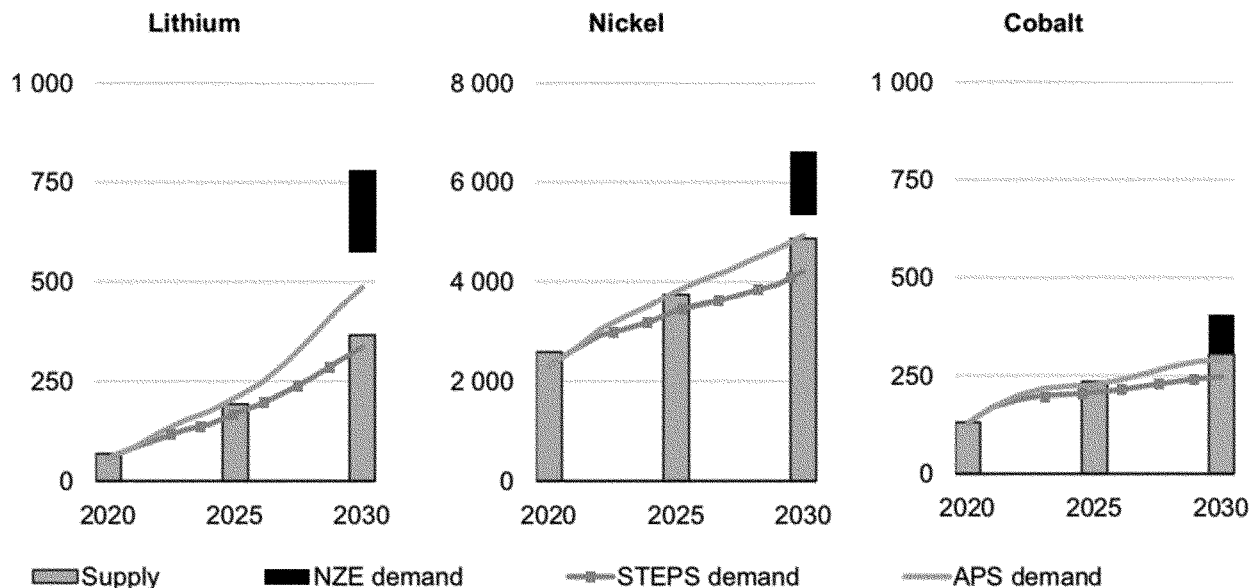


Figure 35. IEA projections of total demand and supply for lithium, nickel, and cobalt, 2020-2030.

Although the IEA Global EV Outlook 2022 was published in May 2022, more recent information indicates that the market is responding robustly to demand⁷⁰⁴ and lithium supplies are expanding as new resources are characterized, projects continue through engineering economic assessments, and others begin permitting or construction. For example, in October 2022, the IEA projected that global Lithium Carbonate Equivalent (LCE) production from operating mines and those under construction would sufficiently meet primary demand until at least 2028 under the Stated Policies Scenario.⁷⁰⁵ Even 2028 is likely a very conservative estimate. In March 2023, DOE communicated to EPA that an ongoing DOE assessment of U.S. lithium resource development projects had

identified additional resources not represented in leading assessments. For example, DOE determined that a December 2022 BNEF projection that lithium mine production could meet end-use demand until at least 2028 did not include additional U.S. resources later identified by DOE and Argonne National Laboratory.⁷⁰⁶ Specifically, the BNEF data included only three U.S. projects: Silver Peak (phase I and II), Rhyolite Ridge (phase I), and Carolina Lithium (phase I). As depicted in Figure 36, adding to the BNEF assessment, DOE and Argonne National Laboratory had identified 19 additional lithium production projects in the United States in addition to the three identified in the December 2022 BNEF data. Some of these projects are likely to ramp in before 2030 and if considered in the

other projections likely would advance lithium sufficiency well beyond 2028. For example, the 19 U.S. projects potentially represent an additional 1,000 kilotons per year LCE not accounted for in the BNEF analysis,⁷⁰⁷ which would be enough to meet the BNEF Net-Zero demand projection, as depicted in Figure 36. Note that these do not include recycling projects, which could increase domestic lithium supply beyond that shown, nor an additional five U.S. projects for which potential LCE production capacity is not yet established. The identification of these additional projects exemplify the dynamic nature of the industry and the likely conservative aspect of existing assessments.

⁷⁰⁴ Bloomberg New Energy Finance, “Lithium-ion Battery Pack Prices Rise for First Time to an Average of \$151/kWh,” December 6, 2022. Accessed on December 6, 2022 at: <https://about.bnef.com/blog/lithium-ion-battery-pack-prices-rise-for-first-time-to-an-average-of-151-kwh/>.

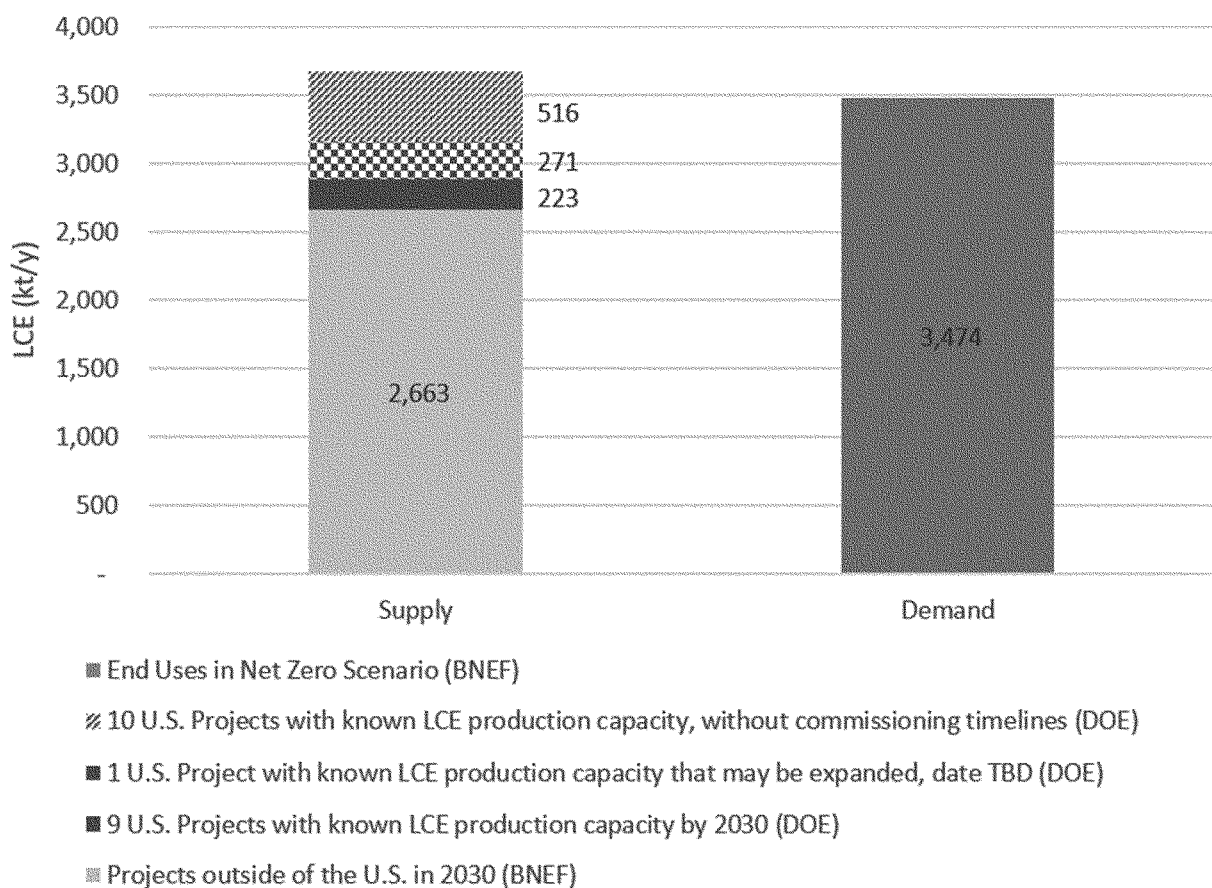
⁷⁰⁵ International Energy Agency, “Committed mine production and primary demand for lithium,

2020–2030,” October 26, 2022. Accessed on March 9, 2023 at <https://www.iea.org/data-and-statistics/charts/committed-mine-production-and-primary-demand-for-lithium-2020-2030>.

⁷⁰⁶ Department of Energy, communication to EPA titled “Lithium Supplies—additional datapoints and research,” March 8, 2023. See memorandum to Docket ID No. EPA-HQ-OAR-2022-0829 titled

“DOE Communication to EPA Regarding Critical Mineral Projects.”

⁷⁰⁷ Department of Energy, communication to EPA titled “Lithium Supplies—additional datapoints and research,” March 8, 2023. See Memo to Docket ID No. EPA-HQ-OAR-2022-0829, titled “DOE Communication to EPA Regarding Critical Mineral Projects.”



NOTE: Data excludes five mining projects in the U.S. without known LCE capacity.

Figure 36: DOE compilation of global lithium supply and demand.

Recent unexpected drops (as of March 2023) in lithium prices are believed to have been the result of robust growth in lithium supply from developments similar to these,⁷⁰⁸ and further supports the expectation of a stabilization in commodity prices, which in turn supports an expectation that sufficient supply will be developed.

In addition, the Inflation Reduction Act’s requirement that qualification for \$3,750 of the Clean Vehicle Credit depends in part on sourcing of critical minerals from the U.S. or countries with which the U.S. has a free trade agreement has spurred other countries to consider action that would expand lithium supply. For example, the European Union is seeking to promote rapid development of Europe’s battery supply chains by considering targeted measures such as accelerating permitting processes and encouraging

⁷⁰⁸ New York Times, “Falling Lithium Prices Are Making Electric Cars More Affordable,” March 20, 2023. Accessed on March 23, 2023 at <https://www.nytimes.com/2023/03/20/business/lithium-prices-falling-electric-vehicles.html>.

private investment. To these ends the European Parliament proposed a Critical Raw Materials Act on March 16, 2023, which includes these and other measures to encourage the development of new supplies of critical minerals not currently anticipated in market projections.⁷⁰⁹ 710 711

In DRIA 3.1.3.2 and 3.1.3.3 we detail these and many other examples that demonstrate how momentum has picked up in the lithium market since

⁷⁰⁹ European Union, “7th High-Level Meeting of the European Battery Alliance: main takeaways by the Chair Maroš Šefčovič and the Council Presidency,” March 1, 2023. Accessed on March 9, 2023 at https://single-market-economy.ec.europa.eu/system/files/2023-03/Main%20takeaways_7th%20High-Level%20Meeting%20of%20EBA.pdf.

⁷¹⁰ New York Times, “U.S. Eyes Trade Deals With Allies to Ease Clash Over Electric Car Subsidies,” February 24, 2023.

⁷¹¹ European Parliament, “Proposal for a regulation of the European Parliament and of the Council establishing a framework for ensuring a secure and sustainable supply of critical raw materials,” March 16, 2023. https://single-market-economy.ec.europa.eu/publications/european-critical-raw-materials-act_en.

IEA’s May 2022 report. For more discussion, please see DRIA Chapters 3.1.3.2 and 3.1.3.3.

In the critical mineral analysis outlined in DRIA Chapter 3.1.3.2, we selected lithium supply as the primary mineral-based limiting factor in constraining the potential rate of BEV penetration for modeling purposes. Of the IEA scenarios considered, in those that anticipated a potential shortfall in any mineral, lithium demand was the first to show potential for exceeding supply in some scenarios. In addition, with respect to other cathode and anode minerals, we note that there is some flexibility in choice of these minerals, as in many cases, opportunity will exist to reduce cobalt and manganese content or to substitute with iron-phosphate chemistries that do not utilize nickel, cobalt or manganese, or use other forms of carbon in the anode, or in conjunction with silicon. However, all currently produced chemistries require lithium in the electrolyte and the cathode, and these have no viable

substitute at this time.⁷¹² Accordingly, in DRIA 3.1.3.2 we focused on lithium availability as a potential limiting factor on the rate of growth of PEV production, and thus the most appropriate basis for establishing a modeling constraint on the rate of PEV penetration into the fleet over the time frame of the proposed rule. In that analysis, we conclude that lithium supply is likely to be adequate to meet anticipated demand as demand increases and supply grows.

Despite recent short-term fluctuations in price, the price of lithium is expected to stabilize at or near its historical levels by the mid-2020s.^{713 714} This perspective is also supported by proprietary battery price forecasts by Wood Mackenzie that include the predicted effect of temporarily elevated mineral prices and show battery costs falling again past 2024.^{715 716} This is consistent with the BNEF battery price outlook 2022 which expects battery prices to start dropping again in 2024, and BNEF's 2022 Battery Price Survey which predicts that average pack prices should fall below \$100/kWh by 2026.⁷¹⁷ Taken together these outlooks support the perspective that lithium is not likely to encounter a critical shortage as supply responds to meet growing demand. For more discussion of the mineral supply outlook for the time frame of the proposed rule, see Chapter 3.1.3.2 of the DRIA.

EPA has considered this information on the development of the supply chain to meet future PEV production needs and has represented this information in developing modeling constraints for use by the OMEGA model that represent limitations on annual rate of growth of PEV production imposed by the rate of growth of the global supply chain for batteries and minerals. Specifically, in our compliance modeling we imposed an upper limit on Gigawatt-hours (GWh)

of gross battery energy capacity that can be produced and made available for production of BEVs that enter the new U.S. vehicle market in a given year of the analysis. The development of this constraint used by the OMEGA model is discussed in Chapter 3.1.3.2 of the DRIA.

EPA requests comment on the GWh constraint described in that DRIA chapter, and on alternative methods for representing constraints on future PEV production that may result from limitations on the supply chain for batteries and the critical minerals and other components that are used in their manufacture.

iii. Mineral Security

As stated at the beginning of this section, it is our assessment that increased automotive electrification in the U.S. does not constitute a vulnerability to national security, for several reasons supported by the discussion in this Section IV.C.6 and in DRIA 3.1.3.2.

A domestic supply chain for battery and cell manufacturing is rapidly forming by the actions of stakeholders including automakers and suppliers who wish to take advantage of the business opportunities that this need presents, and by automakers who recognize the need to remain competitive in a global market that is shifting to electrification. It is, therefore, already a goal of the U.S. manufacturing industry to create a robust supply chain for these products, in order to supply not only the domestic vehicle market, but also all of the other applications for these products in global markets as the world decarbonizes.

Further, the Inflation Reduction Act and the Bipartisan Infrastructure Law are proving to be a highly effective means by which Congress and the Administration have provided support for the building of a robust supply chain, and to accelerate this activity to ensure that it forms as rapidly as possible. An example is the work of Li-Bridge, a public-private alliance committed to accelerating the development of a robust and secure domestic supply chain for lithium-based batteries. It has set forth a goal that by 2030 the United States should capture 60 percent of the economic value associated with the U.S. domestic demand for lithium batteries. Achieving this target would double the economic value expected in the U.S. under "business as usual" growth.⁷¹⁸ More

evidence of recent growth in the supply chain is found in a February 2023 report by Pacific Northwest National Laboratory (PNNL), which documents robust growth in the North American lithium battery industry.⁷¹⁹

Finally, it is important to note that utilization of critical minerals is different from the utilization of foreign oil, in that oil is consumed as a fuel while minerals become a constituent of manufactured vehicles. That is, mineral security is not a perfect analogy to energy security. Supply disruptions and fluctuating prices are relevant to critical minerals as well, but the impacts of such disruptions are felt differently and by different parties. Disruptions in oil supply or gasoline price has an immediate impact on consumers through higher fuel prices, and thus constrains the ability to travel. In contrast, supply disruptions or price fluctuations of minerals affect only the production and price of new vehicles. In practice, short-term price fluctuations do not always translate to higher production cost as most manufacturers purchase minerals via long-term contracts that insulate them to a degree from changes in spot prices. Moreover, critical minerals are not a single commodity but a number of distinct commodities, each having its own supply and demand dynamics, and some being capable of substitution by other minerals. Importantly, while oil is consumed as a fuel and thus requires continuous supply, minerals become part of the vehicle and have the potential to be recovered and recycled. Thus, even when minerals are imported from other countries, their acquisition adds to the domestic mineral stock that is available for domestic recycling in the future.

Over the long term, battery recycling will be a critical component of the PEV supply chain and will contribute to mineral security and sustainability, effectively acting as a domestically produced mineral source that reduces overall reliance on foreign-sourced products. While growth in the return of end-of-life PEV batteries will lag the market penetration of PEVs, it is important to consider the development of a battery recycling supply chain during the time frame of the rule and beyond.

By 2050, battery recycling could be capable of meeting 25 to 50 percent of total lithium demand for battery

⁷¹² In DRIA 3.1.3.3 we discuss the outlook for alternatives to lithium in battery chemistries that are under development.

⁷¹³ Sun et al., "Surging lithium price will not impede the electric vehicle boom," *Joule*, doi:10.1016/j.joule.2022.06.028 (<https://dx.doi.org/10.1016/j.joule.2022.06.028>).

⁷¹⁴ Green Car Congress, "Tsinghua researchers conclude surging lithium price will not impede EV boom," July 29, 2022.

⁷¹⁵ Wood Mackenzie, "Battery & raw materials—Investment horizon outlook to 2032," September 2022 (filename: brms-q3-2022-iho.pdf). Available to subscribers.

⁷¹⁶ Wood Mackenzie, "Battery & raw materials—Investment horizon outlook to 2032," accompanying data set, September 2022 (filename: brms-data-q3-2022.xlsx). Available to subscribers.

⁷¹⁷ Bloomberg New Energy Finance, "Lithium-ion Battery Pack Prices Rise for First Time to an Average of \$151/kWh," December 6, 2022. Accessed on December 6, 2022 at: <https://about.bnef.com/blog/lithium-ion-battery-pack-prices-rise-for-first-time-to-an-average-of-151-kwh/>.

⁷¹⁸ Department of Energy, Li-Bridge, "Building a Robust and Resilient U.S. Lithium Battery Supply Chain," February 2023.

⁷¹⁹ Pacific Northwest National Laboratory, "North American Lithium Battery Materials V 1.2," February 2023. Available at <https://www.pnnl.gov/projects/north-american-lithium-battery-materials-industry-report>.

production.^{720 721} To this end, battery recycling is a very active area of research. The Department of Energy coordinates much research in this area through the ReCell Center, described as “a national collaboration of industry, academia and national laboratories working together to advance recycling technologies along the entire battery life-cycle for current and future battery chemistries.”⁷²² Funding is also being disbursed as directed by the Bipartisan Infrastructure Law.⁷²³ A growing number of private companies are entering the battery recycling market as the rate of recyclable material becoming available from battery production facilities and salvaged vehicles has grown, and manufacturers are already reaching agreements to use these recycled materials for domestic battery manufacturing. For example, Panasonic has contracted with Redwood Materials Inc. to supply domestically processed cathode material, much of which will be sourced from recycled batteries.⁷²⁴ Ford and Volvo have also partnered with Redwood to collect end-of-life batteries for recycling and promote a circular, closed-loop supply chain utilizing recycled materials.⁷²⁵ Redwood has also announced a battery active materials plant in South Carolina with capacity to supply materials for 100 GWh per year of battery production, and is likely to provide these materials to many of the “battery belt” factories that are developing in a corridor between Michigan and Georgia.⁷²⁶ General

Motors and LG Energy Solution have also partnered with Li-Cycle to provide recycling of GM’s Ultium cells.⁷²⁷

Recycling infrastructure is one of the targets of several provisions of the BIL. It includes a Battery Processing and Manufacturing program, which grants significant funds to promote U.S. processing and manufacturing of batteries for automotive and electric grid use, by awarding grants for demonstration projects, new construction, retooling and retrofitting, and facility expansion. It will provide a total of \$3 billion for battery material processing, \$3 billion for battery manufacturing and recycling, \$10 million for a lithium-ion battery recycling prize competition, \$60 million for research and development activities in battery recycling, an additional \$50 million for state and local programs, and \$15 million to develop a collection system for used batteries. In addition, the Electric Drive Vehicle Battery Recycling and Second-Life Application Program will provide \$200 million in funds for research, development, and demonstration of battery recycling and second-life applications.⁷²⁸

The efforts to fund and build a mid-chain processing supply chain for active materials and related products will also be important to reclaiming minerals through domestic recycling. While domestic recycling can recover minerals and other materials needed for battery cell production, they commonly are recovered in elemental forms that require further midstream processing into precursor substances and active material powders that can be used in cell production. The DOE ReCell Center coordinates extensive research on development of a domestic lithium-ion recycling supply chain, including direct recycling, in which materials can be recycled for direct use in cell production without destroying their chemical structure, and advanced resource recovery, which uses chemical

conversion to recover raw minerals for processing into new constituents.⁷²⁹

Currently, pilot-scale battery recycling research projects and private recycling startups have access to only limited amounts of recycling stock that originate from sources such as manufacturer waste, crashed vehicles, and occasional manufacturer recall/repair events. As PEVs are currently only a small portion of the U.S. vehicle stock, some time will pass before vehicle scrappage can provide a steady supply of end-of-life batteries to support large-scale battery recycling. During this time, we expect that the midchain processing portion of the supply chain will continue to develop and will be able to capture much of the resources made available by the recycling of used batteries coming in from the fleet.

D. Projected Compliance Costs and Technology Penetrations

1. CO₂ Targets and Compliance Levels

i. Light-Duty Vehicle Targets and Compliance Levels

The proposed footprint standards curve coefficients for light-duty vehicles were presented in Section III.B.2.iv. Here we present the projected industry average fleet targets for both the Proposal and the No Action case for reference. These average targets (for the proposed standards and the No Action case,⁷³⁰ respectively) are presented for both the car and truck regulatory classes in Table 66 and Table 67, and then for three different modeled body styles: Sedans, crossovers and SUVs, and pickup trucks,⁷³¹ in Table 68 and Table 69. The projected targets for each are based on the industry sales weighted average of vehicle models (and their respective footprints) within the regulatory class or body style.⁷³²

⁷²⁹ Department of Energy, “The ReCell Center for Advanced Battery Recycling FY22 Q4 Report,” October 20, 2022. Available at: <https://recellcenter.org/2022/12/15/recell-advanced-battery-recycling-center-fourth-quarter-progress-report-2022/>.

⁷³⁰ The No-Action case continues MY 2026 flexibilities for the off-cycle and A/C credits available to OEMs as defined in the 2021 Final Rule.

⁷³¹ All sedans are of the car regulatory class; crossovers and SUVs include both cars and trucks; and all pickups are of the truck regulatory class.

⁷³² Note that these targets are projected based on both projected future sales in applicable MYs and our proposed standards; after the standards are finalized the targets will change depending on each manufacturer’s actual sales.

⁷²⁰ Sun et al., “Surging lithium price will not impede the electric vehicle boom,” *Joule*, doi:10.1016/j.joule.2022.06.028 (<https://dx.doi.org/10.1016/j.joule.2022.06.028>).

⁷²¹ Ziemann et al., “Modeling the potential impact of lithium recycling from EV batteries on lithium demand: a dynamic MFA approach,” *Resour. Conserv. Recycl.* 133, pp. 76–85. <https://doi.org/10.1016/j.resconrec.2018.01.031>.

⁷²² <https://recellcenter.org/about/>.

⁷²³ Department of Energy, “Biden-Harris Administration Announces Nearly \$74 Million To Advance Domestic Battery Recycling And Reuse, Strengthen Nation’s Battery Supply Chain,” Press Release, November 16, 2022.

⁷²⁴ Randall, T., “The Battery Supply Chain Is Finally Coming to America,” *Bloomberg*, November 15, 2022.

⁷²⁵ Automotive News Europe, “Ford, Volvo join Redwood in EV battery recycling push in California,” February 17, 2022. <https://europe.autonews.com/automakers/ford-volvo-join-redwood-ev-battery-recycling-push-california>.

⁷²⁶ Wards Auto, “Battery Recycler Redwood Plans \$3.5 Billion South Carolina Plant,” December 27, 2022. <https://www.wardsauto.com/industry-news/battery-recycler-redwood-plans-35-billion-south-carolinaplant>.

⁷²⁷ General Motors, “Ultium Cells LLC and Li-Cycle Collaborate to Expand Recycling in North America,” Press Release, May 11, 2021. <https://news.gm.com/newsroom/detail.html/Pages/news/us/en/2021/may/0511-ultium.html>.

⁷²⁸ Environmental Defense Fund and ERM, “Electric Vehicle Market Update: Manufacturer Commitments and Public Policy Initiatives Supporting Electric Mobility in the U.S. and Worldwide,” September 2022.

TABLE 66—PROJECTED TARGETS FOR PROPOSED LDV STANDARDS, BY REGULATORY CLASS
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	134	116	99	91	82	73
Trucks	163	142	120	110	100	89
Total	152	131	111	102	93	82

TABLE 67—PROJECTED TARGETS FOR LDV NO-ACTION CASE, BY REGULATORY CLASS
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	131	132	132	132	131	131
Trucks	183	182	183	183	183	183
Total	162	162	163	162	162	161

TABLE 68—PROJECTED TARGETS FOR PROPOSED LDV STANDARDS, BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	134	117	99	91	82	73
Crossovers/SUVs	149	130	110	101	92	81
Pickups	195	166	141	129	118	105
Total	152	131	111	102	93	82

TABLE 69—PROJECTED TARGETS FOR LDV NO-ACTION CASE, BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	132	132	133	132	132	131
Crossovers/SUVs	161	161	162	161	161	161
Pickups	222	219	220	222	222	223
Total	162	162	163	162	162	161

The modeled achieved CO₂ levels for the proposed standards and the No Action case are shown for both the car and truck regulatory class in Table 70 and Table 71 and then by body style in Table 72 and Table 73, respectively. These values were produced by the

modeling analysis and represent the projected certification emissions values for possible compliance approaches with the proposed standards, grouped by body style. These achieved values, shown as sales weighted averages over the respective sedan, crossover/SUV,

and pickup truck body styles, include the 2-cycle tailpipe emissions based on the modeled application of emissions-reduction technologies minus the modeled application of off-cycle credit technologies and A/C efficiency credits.

TABLE 70—PROPOSED LDV STANDARDS—ACHIEVED LEVELS BY REGULATORY CLASS
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	115	100	84	72	68	60
Trucks	176	149	123	113	106	95
Total	151	129	107	97	91	81

TABLE 71—LDV NO-ACTION CASE—ACHIEVED LEVELS BY REGULATORY CLASS
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	117	111	104	102	109	113
Trucks	183	169	155	153	158	160

TABLE 71—LDV NO-ACTION CASE—ACHIEVED LEVELS BY REGULATORY CLASS—Continued
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Total	157	146	135	132	138	141

TABLE 72—PROPOSED LDV STANDARDS—ACHIEVED LEVELS BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	108	93	78	63	57	47
Crossovers/SUVs	140	123	102	97	97	95
Pickups	276	220	181	160	131	91
Total	151	129	107	97	91	81

TABLE 73—LDV NO ACTION CASE—ACHIEVED LEVELS BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	106	101	96	95	103	108
Crossovers/SUVs	149	139	129	130	139	141
Pickups	279	251	227	211	204	203
Total	157	146	135	132	138	141

Comparing the target and achieved values it can be seen that the achieved values are over target (higher emissions) for the average pickup truck, and under target (lower emissions) for the average sedan. This is a feature of the unlimited credit transfer provision, which results in a compliance determination that is based on the combined car and truck fleet credits for each manufacturer, rather than a separate determination of each fleet's compliance. The application of technologies is influenced by the relative cost-effectiveness of technologies among each manufacturer's vehicles. For the combined fleet, the

achieved values are typically close to or slightly under the target values, which would represent the banking of credits that can be carried over into other model years. This indicates that overall, the modeled fleet tracks the standards very closely from year-to-year. Note that an achieved value for a manufacturer's combined fleet that is above the target in a given model year does not indicate a likely failure to comply with the standards, since the model includes the GHG program credit banking provisions that allow credits from one year to be carried into another year.

The modeling predicts that the industry will over comply against the

MY 2027–2032 standards in the No Action scenario, driven by the projected significant increase in BEVs. This is in part due to the economic opportunities provided for BEVs to both manufacturers and consumers by the IRA. Figure 37 shows a plot of industry average achieved tailpipe g/mi compared to the projected targets for both the No Action case and the proposed standards. The modeling shows that the industry as a whole should be able to achieve the proposed standards over the MY 2027–2032 time frame.

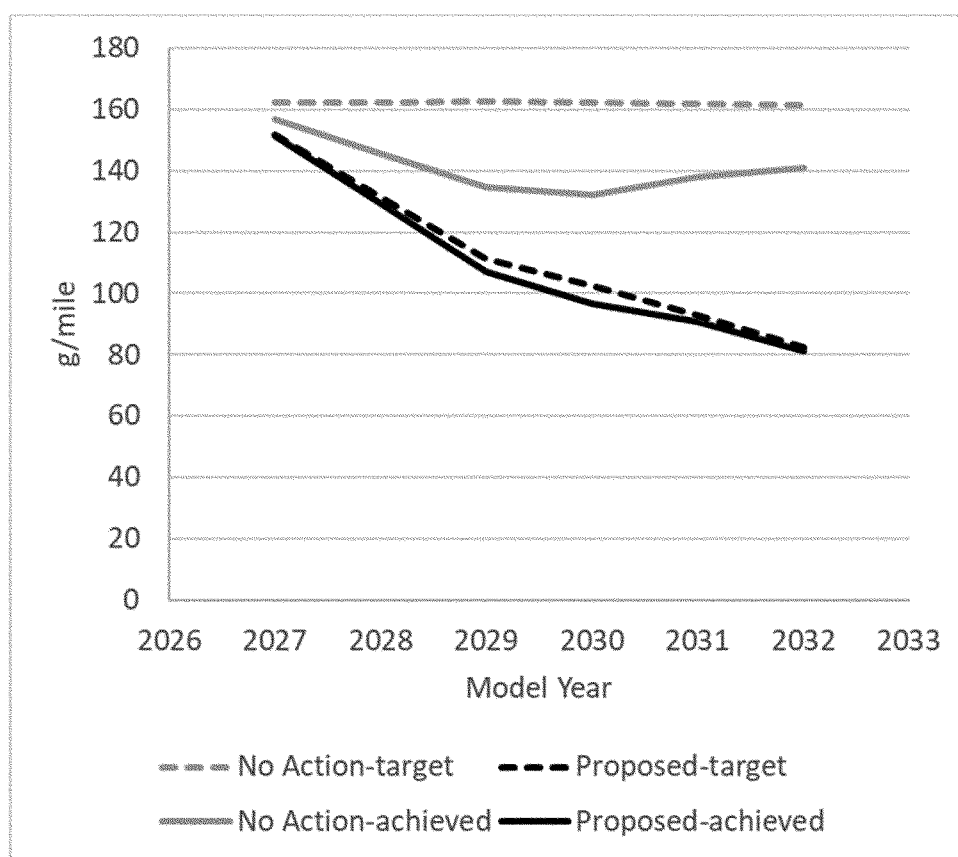


Figure 37. Achieved vs. target GHG g/mi for No Action case and proposed standards.

ii. Medium-Duty Vehicle Targets and Compliance Levels

Based on the proposed work-factor based standards curve coefficients described in Section III.B.3, we present

the projected industry average medium-duty vehicle fleet targets for both the proposed standards and the No Action case in Table 74 and Table 75. These average targets are shown for two different modeled body styles: Vans and

pickup trucks. The projected targets for each case are based on the industry sales weighted average of vehicle models (and their respective work factors) within each body style.⁷³³

TABLE 74—PROJECTED TARGETS FOR PROPOSED MDV STANDARDS, BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Vans	393	379	345	309	276	243
Pickups	462	452	413	374	331	292
Total	438	427	389	352	312	275

TABLE 75—PROJECTED TARGETS FOR MD VEHICLES, NO-ACTION CASE, BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Vans	410	410	410	410	410	410
Pickups	517	517	517	518	518	518
Total	480	480	480	481	481	481

⁷³³ Note that these targets are projected based on both projected future sales in applicable MYs and

our proposed standards; the targets will change

each MY depending on each manufacturer's actual sales.

The modeled achieved CO₂ levels for the proposed standards are shown for both vans and pickups in Table 76.

These values were produced by the modeling analysis and represent the projected certification emissions values

for possible compliance approaches with the proposed standards, grouped by body style.

TABLE 76—PROPOSED STANDARDS FOR MD VEHICLES—PROJECTED ACHIEVED LEVELS BY BODY STYLE
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Vans	292	202	119	36	12	10
Pickups	515	546	534	512	466	410
Total	437	426	390	347	310	272

2. Compliance Costs per Vehicle for the Proposed Standards

i. Light-Duty Projected Compliance Costs

EPA has performed an assessment of the estimated per-vehicle costs for

manufacturers to meet the proposed MY 2027–2032 GHG and criteria air pollutant standards. The fleet average costs per vehicle, again grouped by both regulatory class and body style, are shown in Table 77 and Table 78. As shown, the combined cost for cars and

trucks increases gradually from MY 2027 through MY 2032. Incremental costs for pickups (shown in Table 78) decrease slightly in MY 2029 and 2030 before increasing again as the incentives in the IRA begin to phase out.

TABLE 77—AVERAGE INCREMENTAL VEHICLE COST BY REGULATORY CLASS, RELATIVE TO THE NO ACTION SCENARIO
[2020 dollars]

	2027	2028	2029	2030	2031	2032
Cars	\$249	\$102	\$32	\$100	\$527	\$844
Trucks	891	767	653	821	1,100	1,385
Total	633	497	401	526	866	1,164

TABLE 78—AVERAGE INCREMENTAL VEHICLE COST BY BODY STYLE, RELATIVE TO THE NO ACTION SCENARIO
[2020 dollars]

	2027	2028	2029	2030	2031	2032
Sedans	\$181	\$79	\$51	\$194	\$625	\$1,015
Crossovers/SUVs	657	448	332	487	804	962
Pickups	1,374	1,478	1,333	1,324	1,574	2,266
Total	633	497	401	526	866	1,164

Overall, EPA estimates the average costs of today's proposal at approximately \$1,200 per vehicle in MY 2032 relative to meeting the No Action scenario in MY 2032. However, these estimates represent the incremental costs to manufacturers; for consumers, these costs are offset by savings in the reduced fuel costs, maintenance and

repair costs, as discussed in Section VIII. Additionally, consumers may also benefit from IRA purchase incentives for PEVs.

ii. Medium-Duty Projected Compliance Costs

EPA's assessment of the estimated per-vehicle costs for manufacturers to

meet the proposed MY 2027–2032 GHG and criteria air pollutant standards for medium-duty vehicles is presented here. The fleet average costs per vehicle, grouped by body style, are shown in Table 79. As shown, the combined cost for vans and pickups generally increases from MY 2027 through MY 2032.

TABLE 79—AVERAGE INCREMENTAL VEHICLE COST BY BODY STYLE, MEDIUM-DUTY VEHICLES
[2020 dollars]

	2027	2028	2029	2030	2031	2032
Vans	\$322	\$658	\$711	\$1,184	\$1,592	\$1,932
Pickups	386	31	67	374	603	1,706
Total	364	249	290	654	944	1,784

Overall, EPA estimates the average costs of today's proposal at approximately \$1,800 per medium-duty

vehicle in MY 2032 relative to meeting the No Action scenario in MY 2032. Similar to our light-duty costs, these

estimates represent the incremental costs to manufacturers; for consumers, these costs are offset by savings in the

reduced fuel costs, maintenance and repair costs, as discussed in Section VIII. Additionally, consumers may also benefit from IRA purchase incentives for PEVs.

3. Technology Penetration Rates

i. Light-Duty Technology Penetrations

In this section, we discuss the projected new sales technology penetration rates from EPA's analysis for the proposed standards. Table 80 and Table 81 show the EPA projected penetration rates of BEV technology under the proposed standards and No Action case, respectively, by body style. It is important to note that this is a projection and represents one out of

many possible compliance pathways for the industry. The proposed standards are performance-based and do not mandate any specific technology for any manufacturer or any vehicle type. Each manufacturer is free to choose its own set of technologies with which it will demonstrate compliance with the standards. In our projection, as the proposed standards become more stringent over MYs 2027 to 2032, the penetration of BEVs increases by almost 30 percentage points over this 6-year period, from 36 percent in MY 2027 up to 67 percent of overall vehicle production in MY 2032.

It is important to note that EPA's current analysis does not include

PHEVs, though we recognize that many manufacturers' product plans include PHEVs. EPA recognizes that the inclusion of PHEVs could potentially increase the combined ZEV share projection beyond the BEV penetration levels shown in Table 81. EPA plans to incorporate PHEVs into our analysis for the final rule. In DRIA Chapter 2.6.4, we present information on the potential costs for PHEVs. We seek comment on this information and on any other data and information we should consider in developing the technical approach to incorporating PHEVs as a compliance technology option in our assessment for the final rule.

TABLE 80—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER THE PROPOSED STANDARDS

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	45	53	61	69	73	78
Crossovers/SUVs	38	46	56	59	61	62
Pickups	11	23	37	45	55	68
Total	36	45	55	60	63	67

TABLE 81—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER THE NO ACTION CASE

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	39	41	45	46	44	43
Crossovers/SUVs	26	32	37	40	39	39
Pickups	7	16	24	29	31	33
Total	27	32	37	40	40	39

Table 82 and Table 83 show the projected market penetrations for strong HEVs in the proposed standards and the No Action case. While a relatively small percentage of HEVs is projected in the early years of the proposed standards, HEVs were generally not projected in the compliance modeling for the No

Action case. While manufacturers may in fact choose HEVs, the modeling indicates they are less cost effective than the BEVs which have been subsidized by the IRA and emit 0 g/mi tailpipe CO₂. Moreover, in the No Action case, the modeling indicates that the industry is already overachieving

the standards, resulting in less need for HEVs. In the proposed standards case, the steady decline in projected HEVs is primarily a result of continued projected reductions in battery costs which make BEVs increasingly more cost effective relative to HEVs.

TABLE 82—FLEET STRONG HEV PENETRATION RATES UNDER THE PROPOSED STANDARDS

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	4	3	2	2	1	0
Crossovers/SUVs	2	2	2	1	1	0
Pickups	6	2	1	1	1	0
Total	3	2	2	1	1	0

TABLE 83—FLEET STRONG HEV PENETRATIONS RATES UNDER THE NO ACTION CASE

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	6	6	4	4	0	0
Crossovers/SUVs	3	3	3	1	0	0
Pickups	4	0	0	0	0	0

TABLE 83—FLEET STRONG HEV PENETRATIONS RATES UNDER THE NO ACTION CASE—Continued

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Total	4	3	3	2	0	0

Consistent with past rulemakings, EPA has evaluated a range of advanced technologies for ICE vehicles. Two of these technologies were noteworthy in the modeling results: Advanced turbocharged downsized engines (TURB12) and advanced Atkinson (ATK) engines.⁷³⁴ Further details on EPA's modeling of engine technologies can be found in DRIA Chapters 2.4.5.1

and 3.5.1. Turbocharged engines and Atkinson engines are some of the most cost-effective ICE technologies for GHG compliance, however, like HEVs, are still not as cost-effective as BEVs subsidized by the IRA. Similar to the trends in projected HEV penetration, the advanced ICE technologies are projected to decline as BEVs become more cost effective over the period of the proposed

standards; however, for the No Action case, penetrations of TURB12 and ATK increase. Table 84 and Table 85 show the projected market penetrations for downsized turbocharged engines in the proposed standards and the No Action case, while Table 86 and Table 87 show the projections for Atkinson engines.

TABLE 84—TURB12 PENETRATION RATES UNDER THE PROPOSED STANDARDS

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	22	20	17	16	18	14
Crossovers/SUVs	3	3	5	6	8	8
Pickups	6	0	0	0	0	0
Total	8	7	7	8	10	9

TABLE 85—TURB12 PENETRATIONS RATES UNDER THE NO ACTION CASE

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	28	29	29	31	39	40
Crossovers/SUVs	3	3	5	9	13	13
Pickups	6	0	0	0	0	0
Total	10	9	11	14	18	19

TABLE 86—ATK PENETRATION RATES UNDER THE PROPOSED STANDARDS

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	28	23	19	13	8	7
Crossovers/SUVs	55	49	37	34	30	29
Pickups	35	75	61	54	44	31
Total	45	46	36	31	26	23

TABLE 87—ATK PENETRATIONS RATES UNDER THE NO ACTION CASE

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	25	24	21	18	16	17
Crossovers/SUVs	68	63	54	49	48	48
Pickups	42	84	76	71	68	66
Total	53	55	49	44	42	42

⁷³⁴ As summarized in Table 86 and Table 87, the Atkinson engines also include a turbocharged

variant (Miller cycle), however this is a very small portion of the technology penetrations shown.

ii. Medium-Duty Technology Penetrations

In this section we discuss the projected new MDV ⁷³⁵ sales technology penetration rates from EPA's analysis for the proposed standards. Table 88 shows the EPA projected penetration rates of BEV technology under the

proposed standards by body style. It is important to note that this is a projection and represents one out of many possible compliance pathways for the industry. The proposed standards are performance-based and do not mandate any specific technology for any manufacturer or any vehicle type. Each manufacturer is free to choose its own

set of technologies with which it will demonstrate compliance with the standards. As the proposed standards become more stringent over MYs 2027 to 2032, the projected penetration of BEVs (driven mostly by electrification of vans) increases from 17 percent in MY 2027 up to 46 percent of overall vehicle production in MY 2032.

TABLE 88—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER THE PROPOSED STANDARDS FOR MDVs

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Vans	35	55	73	92	97	98
Pickups	7	1	3	4	15	19
Total	17	20	28	34	43	46

4. Alternative Light-Duty GHG Standards: Projected CO₂ Fleet Targets, Costs and Technology Penetrations

In Section III.E, we describe three alternative sets of standards that we considered in developing the level of stringency of the proposed program—Alternative 1 (more stringent than the proposed program), Alternative 2 (less stringent), and Alternative 3 (a slower phase-in of the 2032 MY stringency level in the proposed standards). All four potential programs would incorporate fairly linear year-over-year

increases in GHG stringency from MY 2027 through MY 2032, with stringencies that vary by (on average) 10 g/mi between the alternatives and the proposed standards. The alternatives are projected to result in reductions in average GHG emissions targets ranging from 51 percent to 67 percent from the MY 2026 standards, compared to a projected 56 percent reduction for the proposed standards.

Alternative 1 projected fleet-wide CO₂ targets are 10 g/mi lower on average than the proposed targets; Alternative 2 projected fleet-wide CO₂ targets

averaged 10 g/mi higher than the proposed targets.⁷³⁶ Alternative 3 projected targets in MY 2032 match those of the proposed standards. Table 89, Table 90 and Table 91 show the projected sales weighted averaged targets (MY 2027–2032) for cars, trucks, and the fleet total for the three alternatives. Similarly, Table 92, Table 93, and Table 94 show targets for sedans, crossovers/SUVs and pickups for the three alternatives. Table 95 provides a comparison for the projected industry-wide targets for the alternatives compared to the proposed standards.

TABLE 89—PROJECTED TARGETS BY REGULATORY CLASS [CO₂ grams/mile]—ALTERNATIVE 1
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	124	106	89	81	72	63
Trucks	153	131	110	100	90	78
Total	141	121	101	92	83	72

TABLE 90—PROJECTED TARGETS BY REGULATORY CLASS [CO₂ grams/mile]—ALTERNATIVE 2
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	144	126	108	100	92	83
Trucks	173	152	130	121	111	99
Total	162	141	122	112	103	92

TABLE 91—PROJECTED TARGETS BY REGULATORY CLASS [CO₂ grams/mile]—ALTERNATIVE 3
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Cars	139	126	112	99	86	73

⁷³⁵ MDVs were not broken down into separate Class 2b and Class 3 categories in the analysis for the proposal. The proposed GHG and criteria pollutant emissions standards regulate Class 2b and Class 3 as a single MDV class. The analysis did

include a breakdown between MDV vans and MDV pickups due to differences in use-case and applicable technologies between MDV vans and MDV pickups.

⁷³⁶ For reference, the targets at a footprint of 50 square feet were exactly 10 g/mi lower and greater for the alternatives.

TABLE 91—PROJECTED TARGETS BY REGULATORY CLASS [CO₂ grams/mile]—ALTERNATIVE 3—Continued
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Trucks	183	163	144	126	107	89
Total	165	148	132	115	99	82

TABLE 92—PROJECTED TARGETS BY BODY STYLE—ALTERNATIVE 1
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	124	107	89	81	73	63
Crossovers/SUVs	139	120	100	91	82	71
Pickups	182	154	129	117	105	91
Total	141	121	101	92	83	72

TABLE 93—PROJECTED TARGETS BY BODY STYLE—ALTERNATIVE 2
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	144	126	108	101	92	83
Crossovers/SUVs	158	139	120	111	101	91
Pickups	207	179	153	142	130	116
Total	162	141	122	112	103	92

TABLE 94—PROJECTED TARGETS BY BODY STYLE—ALTERNATIVE 3
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Sedans	139	126	112	99	87	73
Crossovers/SUVs	165	148	131	115	98	81
Pickups	216	190	169	148	126	104
Total	165	148	132	115	99	82

TABLE 95—COMPARISON OF PROPOSED COMBINED FLEET TARGETS TO ALTERNATIVES
[CO₂ grams/mile]

Model year	Proposed stds	Alternative 1	Alternative 2	Alternative 3
2026 adjusted	186	186	186	186
2027	152	141	162	165
2028	131	121	141	148
2029	111	101	122	132
2030	102	92	112	115
2031	93	83	103	99
2032 and later	82	72	92	82

Table 96, Table 97 and Table 98 provide the modeled fleet BEV penetration rates, by body style, for MY

2027–2032 for the three alternatives. Table 98 compares the projected BEV

penetration rates for the alternatives compared to the proposed standards.

TABLE 96—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER ALTERNATIVE 1

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	46	52	59	68	75	75
Crossovers/SUVs	39	49	57	65	65	71
Pickups	12	27	38	47	45	52

TABLE 96—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER ALTERNATIVE 1—Continued

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Total	37	46	54	63	65	69

TABLE 97—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER ALTERNATIVE 2

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	44	49	60	62	69	72
Crossovers/SUVs	34	41	53	54	56	63
Pickups	12	21	33	45	53	52
Total	33	40	52	55	59	64

TABLE 98—FLEET BEV PENETRATION RATES, BY BODY STYLE, UNDER ALTERNATIVE 3

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Sedans	43	49	52	60	69	75
Crossovers/SUVs	33	40	47	53	59	64
Pickups	10	20	32	43	55	68
Total	32	39	46	54	62	68

TABLE 99—COMPARISON OF PROJECTED BEV PENETRATIONS FOR ALTERNATIVES VS PROPOSED STANDARDS
[CO₂ grams/mile]

Model year (%)	Proposed stds (%)	Alternative 1 (%)	Alternative 2 (%)	Alternative 3 (%)
2027	36	37	33	32
2028	45	46	40	39
2029	55	54	52	46
2030	60	63	55	54
2031	63	65	59	62
2032	67	69	64	68

As shown in Table 100 for Alternative 1, Table 101 for Alternative 2, and Table 102 for Alternative 3, the 2032 MY

industry average vehicle cost increase (compared to the No Action case) ranges from approximately \$1,000 to \$1,800

per vehicle for the alternatives, compared to \$1,200 per vehicle for the proposed standards.

TABLE 100—FLEET AVERAGE COST PER VEHICLE RELATIVE TO THE NO ACTION SCENARIO [2020 dollars]—
ALTERNATIVE 1

	2027	2028	2029	2030	2031	2032
Sedans	\$204	\$276	\$480	\$601	\$1,143	\$1,301
Crossovers/SUVs	704	740	1,228	1,422	1,788	2,056
Pickups	1,382	2,033	1,871	1,866	1,469	1,544
Total	668	804	1,120	1,262	1,565	1,775

TABLE 101—FLEET AVERAGE COST PER VEHICLE RELATIVE TO THE NO ACTION SCENARIO [2020 dollars]—
ALTERNATIVE 2

	2027	2028	2029	2030	2031	2032
Sedans	\$106	–\$74	\$16	\$8	\$556	\$827
Crossovers/SUVs	391	233	263	250	599	1,029
Pickups	1,406	1,656	1,353	1,328	1,511	1,503
Total	462	355	353	337	718	1,041

TABLE 102—FLEET AVERAGE COST PER VEHICLE RELATIVE TO THE NO ACTION SCENARIO [2020 dollars]—
ALTERNATIVE 3

	2027	2028	2029	2030	2031	2032
Sedans	–\$21	–\$28	–\$208	–\$65	\$562	\$1,030
Crossovers/SUVs	251	122	58	288	786	1,142
Pickups	320	421	467	698	1,311	2,148
Total	189	125	45	250	800	1,256

TABLE 103—COMPARISON OF PROJECTED INCREMENTAL COSTS RELATIVE TO THE NO ACTION SCENARIO
[CO₂ grams/mile] [2020 Dollars]

Model year	Proposed stds	Alternative 1	Alternative 2	Alternative 3
2027	\$633	\$668	\$462	\$189
2028	497	804	355	125
2029	401	1,120	353	45
2030	526	1,262	337	250
2031	866	1,565	718	800
2032	1,164	1,775	1,041	1,256

E. Sensitivities—LD GHG Compliance Modeling

EPA often conducts sensitivity analyses to help assess key areas of uncertainty in both underlying data and modeling assumptions, consistent with OMB Circular No. A–94 which establishes guidelines for conducting benefit-cost analysis of Federal programs. In the analysis for this proposal, EPA has evaluated the feasibility and appropriateness of the proposed standards using the central case assumptions for technology, market acceptance, and various other assumptions described throughout this Preamble and DRIA. For a select number of these key assumptions, we have conducted sensitivity analyses for the proposed and alternative policies using alternative sets of assumptions. We

believe that together with the central case assumptions, these sensitivities span ranges of values that reasonably cover the uncertainty in the critical areas of battery costs and the market for BEVs.

1. State-Level ZEV Policies (ACC II)

We have provided an analysis that accounts for state-level zero-emissions vehicle (ZEV) policies as described by California's ACC II program and other participating states under CAA Section 177. At the time this analysis was conducted, California had not yet submitted to EPA a request for a waiver for its ACC II program and EPA is not prejudging the outcome of any waiver process or whether or not certain states are able to adopt California's regulations under the criteria of section 177.⁷³⁷ Nevertheless, it is an important question

to analyze what the potential effect of state adoption of ZEV policies might be in the context of the No Action case, particularly since manufacturers may be adjusting product plans to account for ACC II, and thus we are providing this sensitivity analysis to explore this question. As shown in Table 104, state adoption of ACC II is projected to amount to about 30 percent of total U.S. light-duty sales in 2027 and beyond. Within the states adopting ACC II, manufacturers are required to sell a certain portion of vehicles that meet the ZEV definition, which includes BEVs, FCEVs, and a limited number of PHEVs that satisfy a minimum requirement for charge depleting range. The required ZEV shares increase by model year, reaching 100 percent in 2035 as shown in Table 105.

TABLE 104—SALES SHARE OF U.S. NEW LIGHT-DUTY VEHICLES IN STATES ADOPTING ACC II, BY MODEL YEAR

Model years	Portion of U.S. new light-duty sales (%)	States adopting ACC II
2018 to 2025	12.6	CA.
2026	22.6	CA, MA, NY, OR, VT, WA.
2027 and later	30.4	CA, CO, CT, MA, MD, ME, NJ, NY, OR, RI, VT, WA.

TABLE 105—ZEV PERCENTAGE SALES REQUIREMENTS WITHIN STATES ADOPTING ACC II, BY MODEL YEAR

2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
14.5	17.0	19.5	22.0	35.0	43.0	51.0	59.0	68.0	76.0	82.0	88.0	94.0	100.0

EPA's analysis of state-level ZEV mandates was conducted by separating

the base year fleet into two regions. We applied a minimum BEV sales share

constraint to the portion of new vehicles in the ACC II-adopting states, using the

⁷³⁷ If California were to submit a waiver request for the ACC II program and EPA were to

subsequently grant the waiver, then it may be

appropriate to update the No Action case in the final rulemaking to reflect the ACC II program.

values in Table 105. For the remainder of new vehicles, a minimum BEV sales share value of zero was specified. In both ZEV and non-ZEV regions, the OMEGA modeling allowed manufacturers to exceed the minimum

BEV shares if it resulted in lower producer generalized cost, while still meeting other modeling constraints including compliance with the National GHG standards for the particular policy case and satisfying the consumer

demand for BEVs. The results of the analysis for this state-level ZEV mandate sensitivity are summarized in Table 106 through Table 109.

TABLE 106—PROJECTED TARGETS WITH ACC II, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	164	164	165	165	164	164
Proposed	151	131	111	102	93	82
Alternative 1	141	121	102	92	83	72
Alternative 2	161	141	121	112	103	92
Alternative 3	166	149	132	115	99	82

TABLE 107—PROJECTED ACHIEVED LEVELS WITH ACC II, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	146	123	104	100	103	99
Proposed	149	129	107	96	90	81
Alternative 1	145	122	99	83	73	66
Alternative 2	153	132	119	110	100	90
Alternative 3	154	133	122	113	96	81

TABLE 108—BEV PENETRATIONS WITH ACC II, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
No Action	32	42	49	52	52	54
Proposed	37	45	55	61	64	68
Alternative 1	38	47	55	63	68	72
Alternative 2	37	46	51	57	61	65
Alternative 3	36	45	50	55	62	68

TABLE 109—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE WITH ACC II, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Proposed	\$172	\$56	\$11	\$57	\$268	\$423	\$164
Alternative 1	454	639	1,130	1,050	1,212	1,186	945
Alternative 2	106	–\$29	–\$184	–\$188	73	235	2
Alternative 3	85	–43	–221	–182	214	483	56

2. Battery Costs

We have included sensitivities for battery pack costs that are (a) 25 percent higher and (b) 15 percent lower (on a \$/kWh basis) than the battery pack costs

in the central case. The high and low sensitivities were selected so as to bound what EPA considered to be a reasonable envelope for future nominal battery pack cost per kWh, as informed by the full range of forecasts in the

literature (see the discussion of battery cost forecasts we considered in Preamble Section IV.C.2 and DRIA Chapter 2.5.2.1.3).

i. Low Battery Costs

TABLE 110—PROJECTED TARGETS WITH LOW BATTERY COSTS FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	162	162	164	164	164	163
Proposed	152	132	111	102	93	82
Alternative 1	141	122	102	93	83	72
Alternative 2	161	141	121	113	103	92
Alternative 3	165	148	131	115	99	82

TABLE 111—PROJECTED ACHIEVED LEVELS WITH LOW BATTERY COSTS, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	152	138	108	106	99	111
Proposed	154	130	110	100	83	80
Alternative 1	154	125	102	83	70	65
Alternative 2	157	136	119	96	98	90
Alternative 3	161	141	124	109	95	80

TABLE 112—BEV PENETRATIONS WITH LOW BATTERY COSTS, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
No Action	34	39	51	52	55	51
Proposed	38	46	54	59	66	68
Alternative 1	38	46	54	63	68	71
Alternative 2	37	46	53	63	62	66
Alternative 3	36	44	51	58	63	69

TABLE 113—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR LOW BATTERY COSTS, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Proposed	\$623	\$553	\$303	\$313	\$365	\$490	\$441
Alternative 1	623	1,441	1,690	1,568	1,392	1,443	1,360
Alternative 2	319	213	– 13	112	7	286	154
Alternative 3	161	128	– 81	– 22	64	446	116

ii. High Battery Costs

TABLE 114—PROJECTED TARGETS WITH HIGH BATTERY COSTS FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	166	165	164	163	161	161
Proposed	153	132	112	102	93	82
Alternative 1	143	122	102	92	83	72
Alternative 2	163	142	122	112	103	92
Alternative 3	167	150	133	116	99	82

TABLE 115—PROJECTED ACHIEVED LEVELS WITH HIGH BATTERY COSTS, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	162	153	152	155	160	159
Proposed	151	130	110	100	92	81
Alternative 1	144	121	100	90	82	71
Alternative 2	159	139	119	110	101	92
Alternative 3	164	147	131	115	98	83

TABLE 116—BEV PENETRATIONS WITH HIGH BATTERY COSTS, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
No Action	21	26	28	29	29	29
Proposed	33	41	51	55	60	65
Alternative 1	36	44	54	60	63	69
Alternative 2	29	36	47	52	56	60
Alternative 3	27	33	42	50	58	64

TABLE 117—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR HIGH BATTERY COSTS, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Proposed	\$1,246	\$1,057	\$1,329	\$1,553	\$2,103	\$2,505	\$1,632
Alternative 1	1,884	1,676	1,768	1,885	2,430	2,750	2,066
Alternative 2	888	874	1,227	1,347	1,938	2,340	1,436
Alternative 3	820	785	1,138	1,484	2,242	2,803	1,545

3. Consumer Acceptance

We have included sensitivities on the rate of BEV acceptance as well. Given the prevalence of automaker announcements in the media, we estimate results assuming a faster rate of BEV acceptance for all body styles. We

also acknowledge that, though unlikely given available data and current trends, BEV acceptance may be slower than we estimate in our central case, possibly due to use cases such as towing or populations in remote locations. For information on what these BEV acceptance rates are, refer to DRIA

Chapter 4.1.3. Results assuming a faster rate of BEV acceptance are provided in Table 118 through Table 121. Results assuming a slower rate of BEV acceptance are shown in Table 122 through Table 125.

i. Faster BEV Acceptance

TABLE 118—PROJECTED TARGETS WITH FASTER BEV ACCEPTANCE FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	163	163	164	165	165	166
Proposed	151	132	112	103	93	83
Alternative 1	141	122	102	93	83	72
Alternative 2	161	141	121	113	103	93
Alternative 3	165	148	132	116	99	82

TABLE 119—PROJECTED ACHIEVED LEVELS WITH FASTER BEV ACCEPTANCE, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	147	131	100	76	79	71
Proposed	157	129	107	86	73	59
Alternative 1	156	128	104	80	66	53
Alternative 2	157	136	116	100	80	71
Alternative 3	159	140	118	96	90	76

TABLE 120—BEV PENETRATIONS WITH FASTER BEV ACCEPTANCE, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
No Action	36	42	54	63	63	66
Proposed	38	46	55	63	69	75
Alternative 1	38	46	55	63	69	76
Alternative 2	38	46	54	61	69	73
Alternative 3	38	46	54	63	66	71

TABLE 121—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR FASTER BEV ACCEPTANCE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Proposed	\$287	\$982	\$809	\$602	\$746	\$712	\$690
Alternative 1	317	1,001	1,209	1,533	1,675	1,445	1,196
Alternative 2	212	214	–34	–194	179	163	90
Alternative 3	54	33	–176	–235	–66	53	–56

ii. Slower BEV Acceptance

TABLE 122—PROJECTED TARGETS WITH SLOWER BEV ACCEPTANCE FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	164	162	162	161	161	160
Proposed	153	133	112	103	93	82
Alternative 1	143	122	102	92	83	72
Alternative 2	163	142	122	112	103	92
Alternative 3	167	149	132	115	99	82

TABLE 123—PROJECTED ACHIEVED LEVELS WITH SLOWER BEV ACCEPTANCE, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
No Action	161	160	154	159	152	158
Proposed	150	131	110	101	92	82
Alternative 1	144	118	99	90	81	74
Alternative 2	160	140	119	111	101	90
Alternative 3	164	148	128	113	97	80

TABLE 124—BEV PENETRATIONS WITH SLOWER BEV ACCEPTANCE, FOR NO ACTION CASE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
No Action	22	23	28	27	33	31
Proposed	34	42	53	59	63	68
Alternative 1	36	47	55	61	66	69
Alternative 2	29	39	50	55	59	64
Alternative 3	28	35	45	53	61	68

TABLE 125—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR SLOWER BEV ACCEPTANCE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED
[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Proposed	\$877	\$1,135	\$755	\$898	\$995	\$1,498	\$1,026

TABLE 125—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR SLOWER BEV ACCEPTANCE, PROPOSED AND ALTERNATIVES—CARS AND TRUCKS COMBINED—Continued
[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Alternative 1	1,336	1,470	1,143	1,244	1,393	1,731	1,386
Alternative 2	695	853	560	689	888	1,344	838
Alternative 3	508	734	473	702	1,005	1,621	841

4. Impact of Sensitivities on Proposed LD GHG Standards

The following is a summary of the sensitivities conducted and a comparison on resulting BEV penetrations and incremental technology costs for the proposed standards compared to the respective No Action case.

As can be seen, the projected targets for the proposed standards are not affected by the range of sensitivities discussed in this section. It is important to note that manufacturers are able to meet the targets for the proposed standards in every year for the range of sensitivities analyzed here. However, the achieved levels do vary in each sensitivity: in some cases, there is greater level of overcompliance (most

notably in the High BEV acceptance case).

Table 126 and Table 127 give a comparison for the projected targets and achieved levels for the proposed standards, based on the various identified sensitivities. While BEV penetrations projected to meet the proposed standards (shown in Table 128) do not vary much across the sensitivity cases, BEV penetrations in the No Action case do vary significantly: projected MY 2032 BEV penetrations range from 31 percent to 61 percent based on different input assumptions which affect either required BEV share (in the case of the State-level Policies scenario) or consumer demand for electric vehicles. The range of BEV penetrations in the No Action case is provided in Table 129.

Of the metrics considered, the range of sensitivities have the greatest impact on incremental vehicle cost compared to the No Action case. Compared to a 6-year average incremental costs of about \$1100 for the Central Case, these sensitivities result in a range of 6-year average incremental costs from \$200 per vehicle to about \$1600. The two sensitivity cases which result in less BEV penetrations in the No Action case—High Battery Costs and the Slower BEV Acceptance cases—result in the highest incremental costs, while the lower incremental costs are for the three sensitivity cases that result in more BEVs in the No Action case: The Low Battery Costs, Faster BEV Acceptance, and the State-Level Policies scenario.

TABLE 126—RANGE OF TARGETS FOR PROPOSED STANDARDS—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Central Case	152	131	111	102	93	82
State-level Policies	151	131	111	102	93	82
Low Battery Costs	152	132	111	102	93	82
High Battery Costs	153	132	112	102	93	82
Faster BEV Acceptance	151	132	112	103	93	83
Slower BEV Acceptance	153	133	112	103	93	82

TABLE 127—RANGE OF ACHIEVED LEVELS FOR PROPOSED STANDARDS—CARS AND TRUCKS COMBINED
[CO₂ grams/mile]

	2027	2028	2029	2030	2031	2032
Central Case	151	129	107	97	91	81
State-level Policies	149	129	107	96	90	81
Low Battery Costs	154	130	110	100	83	80
High Battery Costs	151	130	110	100	92	81
Faster BEV Acceptance	157	129	107	86	73	59
Slower BEV Acceptance	150	131	110	101	92	82

TABLE 128—RANGE OF BEV PENETRATIONS FOR PROPOSED STANDARDS—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Central Case	36	45	55	60	63	67
State-level Policies	38	46	54	59	66	68
Low Battery Costs	38	46	54	59	66	68
High Battery Costs	33	41	51	55	60	65
Faster BEV Acceptance	38	46	55	63	69	75
Slower BEV Acceptance	34	42	53	59	63	68

TABLE 129—RANGE OF BEV PENETRATIONS FOR NO ACTION CASE—CARS AND TRUCKS COMBINED

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Central Case	27	32	37	40	40	39
State-level Policies	32	42	49	52	52	54
Low Battery Costs	34	39	51	52	55	51
High Battery Costs	21	26	28	29	29	29
Faster BEV Acceptance	36	42	54	63	63	66
Slower BEV Acceptance	22	23	28	27	33	31

TABLE 130—RANGE OF INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR PROPOSED STANDARDS—CARS AND TRUCKS COMBINED

[2020 Dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Central Case	\$633	\$497	\$401	\$526	\$866	\$1,164	\$681
State-level Policies	172	56	11	57	268	423	164
Low Battery Costs	623	553	303	313	365	490	441
High Battery Costs	1,246	1,057	1,329	1,553	2,103	2,505	1,632
Faster BEV Acceptance	287	982	809	602	746	712	690
Slower BEV Acceptance	877	1,135	755	898	995	1,498	1,026

F. Sensitivities—MD GHG Compliance Modeling

1. Battery Costs (Low and High)

For medium duty vehicles, we have carried over the high and low battery pack cost sensitivities, similar to those conducted for the light-duty GHG analysis (for more information refer to Section IV.E.2). The low and high battery pack cost sensitivities have been

combined into the summary tables in this section.

Table 131 and Table 132 gives a comparison for the targets and the projected achieved levels for the proposed standards, based on battery costs assumed for the central case and the low and high cost sensitivity cases.

The range of BEV penetrations for the proposed MD standards are provided in Table 133.

Battery costs have the greatest impact on incremental vehicle cost compared to the No Action case. Compared to a 6-year average incremental costs of about \$700 for the Central Case, these sensitivities result in a range of incremental costs from \$300 per vehicle to about \$1500. Incremental vehicle costs for the proposed standards for the three sensitivities are provided in Table 134.

TABLE 131—PROJECTED TARGETS FOR PROPOSED STANDARDS: CENTRAL CASE, LOW AND HIGH BATTERY SENSITIVITIES—MEDIUM DUTY VEHICLES

	2027	2028	2029	2030	2031	2032
Central Case	438	427	389	352	312	275
Low Battery Costs	437	423	386	349	312	275
High Battery Costs	439	428	390	355	316	276

TABLE 132—PROJECTED ACHIEVED LEVELS FOR PROPOSED STANDARDS: CENTRAL CASE, LOW AND HIGH BATTERY SENSITIVITIES—MEDIUM DUTY VEHICLES

	2027	2028	2029	2030	2031	2032
Central Case	437	426	390	347	310	272
Low Battery Costs	436	423	385	350	307	273
High Battery Costs	439	428	389	352	313	273

TABLE 133—BEV PENETRATIONS FOR PROPOSED STANDARDS: CENTRAL CASE, LOW AND HIGH BATTERY SENSITIVITIES—MEDIUM DUTY VEHICLES

	2027 (%)	2028 (%)	2029 (%)	2030 (%)	2031 (%)	2032 (%)
Central Case	17	20	28	34	43	46
Low Battery Costs	17	18	26	33	38	44
High Battery Costs	14	17	25	27	36	43

TABLE 134—AVERAGE INCREMENTAL VEHICLE COST VS. NO ACTION CASE FOR PROPOSED STANDARDS: CENTRAL CASE, LOW AND HIGH BATTERY SENSITIVITIES—MEDIUM DUTY VEHICLES
[2020 dollars]

	2027	2028	2029	2030	2031	2032	6-yr avg
Central Case	\$364	\$249	\$290	\$654	\$944	\$1,784	\$714
Low Battery Costs	118	4	– 142	5	564	1,094	274
High Battery Costs	810	640	919	1,648	2,191	3,072	1,547

V. EPA's Basis That the Proposed Standards Are Feasible and Appropriate Under the Clean Air Act

A. Overview

As discussed in Section II of this preamble, there is a critical need for further criteria pollutant and GHG reductions to address the adverse impacts of air pollution from light and medium duty vehicles on public health and welfare. With continued advances in internal combustion emissions controls and vehicle electrification technologies coming into the mainstream as primary vehicle emissions controls, EPA believes substantial further emissions reductions are feasible and appropriate under the Clean Air Act.

The Clean Air Act authorizes EPA to establish emissions standards for motor vehicles to regulate emissions of air pollutants that contribute to air pollution which, in the Administrator's judgment, may reasonably be anticipated to endanger public health or welfare. As discussed in Section II, emissions from motor vehicles contribute to ambient levels of pollutants for which EPA has established health-based NAAQS. These pollutants are linked with respiratory and/or cardiovascular problems and other adverse health impacts leading to increased medication use, hospital admissions, emergency department visits, and premature mortality.

In addition, light and medium-duty vehicles are significant contributors to the U.S. GHG emissions inventories, and additional reductions in GHGs from vehicles are needed to avoid the worst consequences of climate change as discussed in Section II.

This proposed rule also considers the large potential impact that the Inflation Reduction Act (IRA) will have on facilitating production and adoption of PEV technology, which is highly effective technology for controlling tailpipe emissions of criteria pollutants and GHGs. Prior to the passage of the IRA, EPA received input from auto manufacturers that increasing the market share of PEVs is now technologically feasible but that it is important to address consumer issues

such as charging infrastructure and the cost to purchase a PEV, as well as manufacturing issues such as battery supply and manufacturing costs. The IRA provides powerful incentives in all of these areas that will help facilitate increased market penetration of PEV technology in the time frame considered in this rulemaking. Thus, it is an important element of EPA's cost and feasibility assessment, and EPA has considered the impacts of the IRA in our assessment of the appropriate proposed standards.⁷³⁸

B. Consideration of Technological Feasibility, Compliance Costs and Lead Time

The technological readiness of the auto industry to meet the proposed standards for model years 2027–2032 is best understood in the context of over a decade of light-duty vehicle emissions reduction programs in which the auto industry has introduced emissions-reducing technologies in a wide lineup of ever more cost effective, efficient, and high-volume vehicle applications. Among the range of technologies that have been demonstrated over the past decade, electrification technologies have seen particularly rapid development and lower costs, and as a result the number of PEVs projected across all the policy alternatives considered here is much higher than in any of EPA's prior rulemaking analyses. In particular, BEVs have zero tailpipe emissions and so are capable of supporting rates of annual stringency increases that are much greater than were typical in earlier rulemakings.

In this rulemaking, unlike some prior vehicle emissions standards, the technology necessary to achieve significantly more stringent standards has already been developed and demonstrated in production vehicles. PEVs are now being produced in large

numbers in every segment and size of the current light-duty fleet, ranging from small cars such as GM's Bolt EV to light trucks such as Ford's F150 Lightning, and their production for the U.S. market is roughly doubling every year.⁷³⁹ Large fleet owners have also begun fulfilling fleet electrification commitments by taking delivery of rapidly growing numbers of BEV medium-duty delivery vans.⁷⁴⁰ In setting standards, EPA considers the extent of further deployment that is warranted in light of the benefits to public health and welfare, and potential constraints, such as costs, raw material availability, component supplies, redesign cycles, infrastructure, and consumer acceptance. The extent of these potential constraints has diminished significantly, even since the 2021 rule, in light of increased investment by automakers, increased acceptance by consumers, and significant support from Congress to address such areas as upfront purchase price, charging infrastructure, critical mineral supplies, and domestic supply chain manufacturing.

At the same time, in response to the increased stringency of the proposed standards, automakers would be expected to adopt advanced technologies at an increasing pace across more of their vehicle fleets. EPA has carefully considered potential constraints on further deployment of these advanced technologies. For example, in addition to considering the breadth of current product offerings, EPA has also considered vehicle redesign cycles. Based on previous public comments and industry trends, manufacturers generally require about five years to design, develop, and produce a new vehicle model.⁷⁴¹ EPA's technical assessment for this proposal

⁷³⁹ Estimated at 8.4 percent of production in MY 2022, up from 4.4 percent in MY 2021 and 2.2 percent in MY 2020. See also the discussion of U.S. PEV penetration in I.A.2.ii.

⁷⁴⁰ See the discussion of fleet electrification commitments in I.A.2.ii.

⁷⁴¹ For example, in its comments on the 2012 rule, Ford stated that manufacturers typically begin to firm up their product plans roughly five years in advance of actual production. (Docket OAR–2009–0472–7082.1, p. 10.)

⁷³⁸ It is important to note that, although E.O. 14037 identified a goal for 50 percent of U.S. new vehicle sales to be zero-emission vehicles by 2030, the E.O. only directed EPA to consider beginning work on a new rulemaking and to do so consistent with applicable law. EPA exercised its technical judgment based on the record before it in developing this proposal consistent with the authority of section 202 of the Clean Air Act.

accounts for these redesign limits.⁷⁴² Within the modeling that EPA conducted to support this proposal, we have assumed limits to the rate at which a manufacturer can choose to ramp in the transition from an ICE vehicle to a BEV. We have also applied limits to the ramp up of battery production, considering the time needed to increase the availability of raw materials and construct or expand battery production facilities. Constraints for redesign and battery production in our compliance modeling are described in more detail in Chapter 2.6 of the DRIA. Our modeling also incorporates constraints related to consumer acceptance. Under our central case analysis assumptions, the model anticipates that consumers will in the near term tend to favor ICE vehicles over PEVs when two vehicles are comparable in cost and capability.⁷⁴³ Taking into account individual consumer preferences, we anticipate that PEV acceptance and adoption will continue to accelerate as consumer familiarity with PEVs grows, as demonstrated in the scientific literature on PEV acceptance and consistent with typical diffusion of innovation. Adoption of PEVs is expected to be further supported by expansion of key enablers of PEV acceptance, namely increasing market presence of PEV, more model choices, expanding infrastructure, and decreasing costs to consumers.⁷⁴⁴ See also Preamble Section IV.C.5 and DRIA Chapter 4. Overall, given the number and breadth of current low- or zero-emission vehicles and the assumptions we have made to limit the rate at which new vehicle technologies are adopted, our assessment shows that there is sufficient lead time for the industry to more broadly deploy existing technologies and successfully comply with the proposed standards.

Our analysis projects that for the industry overall, 65 percent of new vehicles in MY 2032 would be BEVs.

EPA believes that this is an achievable level based on our technical assessment for this proposal that includes consideration of the feasibility and lead time required for BEVs and acceptance of BEVs in the market. Our assessment of the appropriateness of the level of BEVs in our analysis is also informed by public announcements by manufacturers about their plans to transition fleets to electrified vehicles, as described in Section I.A.2 of this Preamble and further developed in DRIA 3.1.3.1. More detail about our technical assessment, and the assumptions for the production feasibility and consumer acceptance of BEVs is provided in Section IV of this Preamble, and Chapters 2, 3, 4, and 6 of the DRIA.

At the same time, we note that the proposed standards are performance-based and do not mandate any specific technology for any manufacturer or any vehicle. Moreover, the overall industry does not necessarily need to reach this level of BEVs in order to comply—the projection in our analysis is one of many possible compliance pathways that manufacturers could choose to take under the performance-based standards. For example, manufacturers that choose to increase their sales of HEV and PHEV technologies or apply more advanced technology to non-hybrid ICE vehicles would require a smaller number of BEVs than we have projected in our assessment to comply with the proposed standards.

In considering feasibility of the proposed standards, EPA also considers the impact of available compliance flexibilities on automakers' compliance options.⁷⁴⁵ The advanced technologies that automakers are continuing to incorporate in vehicle models today directly contribute to each company's compliance plan (*i.e.*, these vehicle models have lower criteria pollutant and GHG emissions), and manufacturers can choose to comply with the proposed standards outright through their choice of emissions reducing technologies. In addition, automakers typically have widely utilized the program's established averaging, banking, and trading (ABT) provisions which provide a variety of flexible paths to plan compliance. We have discussed this dynamic at length in past rules, and we anticipate that this same dynamic will support compliance with this

rulemaking. Although the ABT program for GHG and criteria pollutants have some differences (as discussed in detail in Sections III.B.4 and III.C.9), they fundamentally operate in a similar fashion. The credit program was designed to recognize that automakers typically have compliance opportunities and strategies that differ across their fleet, as well as a multi-year redesign cycle, so not every vehicle will be redesigned every year to add emissions-reducing technology. Moreover, when technology is added, it will generally not achieve emissions reductions corresponding exactly to a single year-over-year change in stringency of the standards. Instead, in any given model year, some vehicles will be "credit generators," over-performing compared to their criteria pollutant standards or footprint-based CO₂ emissions targets in that model year, while other vehicles will be "debit generators" and under-performing against their standards or targets. As the proposed standards reach increasingly lower numerical emissions levels, some vehicle designs that had generated credits in earlier model years may instead generate debits in later model years. In MY 2032 when the proposed standards reach the lowest level, it is possible that only BEVs and PHEVs are generating positive credits, and all ICE vehicles generate varying levels of deficits. Even in this case, the application of ICE technologies can remain an important part of a manufacturer's compliance strategy by reducing the amount of debits generated by these vehicles. A greater application of ICE technologies (*e.g.*, strong hybrids) can enable compliance with fewer BEVs than if less ICE technology was adopted, and therefore enable the tailoring of a compliance strategy to the manufacturer's specific market and product offerings. Together, an automaker's mix of credit-generating and debit-generating vehicles determine its compliance with both criteria pollutant and GHG standards for that year.

Moreover, the trading provisions of the program allow manufacturers to design a compliance strategy relying not only on overcompliance and undercompliance by different vehicles or in different years, but even by different manufacturers. Credit trading is a compliance flexibility provision that allows one vehicle manufacturer to purchase credits from another, accommodating the ability of manufacturers to make strategic choices in planning for and reacting to normal fluctuations in an automotive business cycle. When credits are available for less

⁷⁴² In our compliance modeling, we have limited vehicle redesign opportunities through MY 2029 in our compliance modeling to every 7 years for light- and medium-duty pickup trucks and medium-duty vans, and 5 years for all other vehicles. We are assuming that manufacturers have sufficient lead time to adjust product redesign years after MY 2029, so we do not continue to apply redesign constraints for MYs 2030 and beyond.

⁷⁴³ EPA's compliance modeling estimates the consumer demand for BEV and ICE vehicles using a consumer "generalized cost" that includes elements of the purchase cost (including any purchase incentives), vehicle maintenance and repair costs, and fuel operating costs as described in DRIA Chapter 4.1.

⁷⁴⁴ Jackman, D K, K S Fujita, H C Yang, and M Taylor. 2023. Literature Review of U.S. Consumer Acceptance of New Personally Owned Light Duty Plug-in Electric Vehicles. Washington, DC: U.S. Environmental Protection Agency.

⁷⁴⁵ While EPA is considering these compliance flexibilities in assessing the feasibility of the proposed standards, EPA is not reopening such flexibilities, except to the extent that we are proposing or soliciting comment on a specific flexibility as in Section III of this preamble. Specifically, EPA is not reopening ABT.

than the marginal cost of compliance, EPA would anticipate that an automaker might choose to adopt a compliance strategy relying on purchasing credits.

The proposed performance-based standards with ABT provisions give manufacturers a degree of flexibility in the design of specific vehicles and their fleet offerings, while allowing industry overall to meet the standards and thus achieve the health and environmental benefits projected for this rulemaking at a lower cost. EPA has considered ABT in the feasibility assessments for many previous rulemakings since EPA first began incorporating ABT credits provisions in mobile source rulemakings in the 1980s (see Section III.B.4 for further information on the history of ABT) and continues that practice here. First, by fully averaging across vehicles in the car and truck regulatory classes and by allowing for credit banking across years, manufacturers have the flexibility to adopt emissions-reducing technologies in the manner that best suits their particular market and business circumstances. Similarly, with the opportunity to trade credits with other firms, each manufacturer can, in effect, average credits among a pool of vehicles that extends beyond their own fleet. EPA's annual Automotive Trends Report illustrates how different automakers have chosen to make use of the GHG program's various credit features.⁷⁴⁶ It is clear that manufacturers are widely utilizing the various credit programs available, and we have every expectation that manufacturers will continue to take advantage of the compliance flexibilities and crediting programs to their fullest extent, thereby providing them with additional tools in finding the lowest cost compliance solutions in light of the proposed revised standards.

While the potential value of credit trading as a means of reducing costs to automakers was always clear, there is increasing evidence that automakers have successfully adopted credit trading as an important compliance strategy that reduces costs. The market for trading credits is now well established. As shown in the most recent EPA Trends Report, 19 vehicle firms collectively have participated in nearly 100 credit trading transactions totaling 169 Tg of credits since the inception of the EPA program through Model Year 2021. These firms include many of the largest

automotive firms.⁷⁴⁷ Several of these manufacturers have publicly acknowledged the importance of considering credit purchase or sales as part of their business plans to improve their competitive position.^{748 749} For firms with new vehicle production made up entirely or primarily of credit-generating vehicles, the revenue generated from credit sales can help to fund the development of GHG-reducing technologies and offset production costs. Other firms have the option of purchasing credits if they choose to make a fleet that is overall deficit-generating. This can be a cost-effective compliance strategy, especially for companies that make lower-volume vehicles where the incremental development costs for GHG-reducing technologies would be higher on a per-vehicle basis than for another company. The opportunity to purchase credits can also enable a company to continue specializing in vehicle applications where the application of advanced GHG-reducing technologies may be more costly than purchasing credits. For example, manufacturers of light- and medium-duty pickups might choose to purchase credits rather than apply BEV technology to some of those vehicles used frequently for long distance towing applications, at least in the shorter term when higher capacity batteries might be used to accommodate the existing charging infrastructure.

In light of the evidence of increased adoption of trading as a compliance strategy, EPA has included the ability of manufacturers to trade credits as part of our central case compliance modeling for this proposal, rather than as a sensitivity analysis as we did in the modeling for the 2021 rule. We anticipate that the economic efficiencies of credit trading will generally be

⁷⁴⁷ EPA 2020 Trends Report, page 110 and Figure 5.15.

⁷⁴⁸ "FCA historically pursued compliance with fuel economy and greenhouse gas regulations in the markets where it operated through the most cost effective combination of developing, manufacturing and selling vehicles with better fuel economy and lower GHG emissions, purchasing compliance credits, and, as allowed by the U.S. federal Corporate Average Fuel Economy ("CAFE") program, paying regulatory penalties." Stellantis N.V. (2020). "Annual Report and Form 20-F for the year ended December 31, 2020."

⁷⁴⁹ "We have several options to comply with existing and potential new global regulations. Such options include increasing production and sale of certain vehicles, such as EVs, and curtailing production of less fuel efficient ICE vehicles; technology changes, including fuel consumption efficiency and engine upgrades; payment of penalties; and/or purchase of credits from third parties. We regularly evaluate our current and future product plans and strategies for compliance with fuel economy and GHG regulations" General Motors Company (2022). "Annual Report and Form 10-K for the fiscal year ended December 31, 2021."

attractive to automakers, and thus we consider it appropriate to take trading into account in estimating the costs of the standards. However, trading is an optional compliance flexibility, and we recognize that automakers may choose to use it in their compliance strategies to varying degrees. If a manufacturer chooses not to participate in credit trading for whatever reason, additional compliance strategies can be used to supplement the adoption of emissions-reducing technologies. For example, such manufacturers also could elect to shift market segments and sales volumes as a strategy for increasing the proportion of credit-generating vehicles relative to debit-generating vehicles. Thus, reduced use of credit trading may result in somewhat higher costs for the program, but we do not believe it would alter our conclusion that the standards are feasible.

As part of its assessment of technological feasibility and lead time, EPA has considered the cost for the auto industry to comply with the proposed revised standards. See Section VI.B and Chapter 10 of the DRIA for our analysis of compliance costs.

The estimated average costs to manufacturers to meet the proposed standards are approximately \$1,200 (2020 dollars) per vehicle in MY 2032, which is within the range of costs projected in prior rules, which EPA estimated at about \$1,800 (2010 dollars) and \$1,000 (2018 dollars) per vehicle for the 2012 and 2021 rules respectively. Across the range of sensitivities, the projected costs are approximately \$200 to \$1,600 per vehicle in MY 2032, which is a range EPA believes is reasonable and within the range of cost estimates in prior rules. The estimated MY 2032 costs of \$1,200 represent under 3 percent of the average cost of a new vehicle today (about \$46,000 in 2022).⁷⁵⁰

As also discussed in Section I.A.2.ii of this Preamble, EPA has observed a shift toward electrification both in vehicle sales and across the automotive industry at large, and that these changes are being driven to a large degree by the technological innovation of the automotive industry and the significant funds, estimated at \$1.2 trillion by at

⁷⁵⁰ Note that these values are averages across all body styles, powertrains, makes, models, and trims, and there will be differences for each individual vehicle. Also note that, as discussed in DRIA Chapter 4.2, the price of a new vehicle has been increasing over time due to factors not associated with our rules. If the average price of a MY 2032 vehicle is higher than that of a MY 2022 vehicle, this estimated increase in cost could well be smaller than 3 percent compared to the cost of a new MY 2032 vehicle.

⁷⁴⁶ "The 2022 EPA Automotive Trends Report, Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," EPA-420-R-22-029 December 2022.

least one analysis,^{751 752} those firms intend to spend by 2030 on developing and deploying electrification technologies. EPA believes its standards will support this very significant investment and, particularly in light of the available compliance flexibilities and multiple paths for compliance, are feasible and will not cause economic disruption in the automotive industry. We do not believe the estimated increase in marginal vehicle cost will lead to detrimental effects to automakers for multiple reasons, including the fact that macroeconomic effects are a much larger factor in OEM revenues (for example, the chip shortage), and that automakers regularly adjust product plans and choose the mix of vehicles they produce to maximize profits. We also note that through the third quarter of 2022, domestic automakers reported their highest profits since 2016, even though domestic vehicle sales fell from the previous year. In addition, the significant investments by industry and Congress (e.g., BIL and IRA) in supporting technology which eliminates both criteria and GHG tailpipe emissions, presents an opportunity for a significant step forward in achieving the goals of the Clean Air Act. The compliance costs per vehicle in this proposal are reasonable and consistent with those in past GHG rules while the standards would achieve substantially greater emissions reductions of GHGs and substantial emissions reductions for criteria pollutants as well.

For this proposal, EPA finds that the expected compliance costs for automakers are reasonable in light of the emissions reductions in air pollutants and the resulting benefits for public health and welfare.

C. Consideration of Emissions of GHGs and Criteria Air Pollutants

An essential factor that EPA considered in determining the appropriate level of the proposed standards is the reductions in air pollutant emissions that would result from the program, including emissions of GHGs, criteria pollutants and air toxics and associated public health and welfare impacts.

The cumulative GHG emissions reductions through 2055 are projected to be 7,400 MMT of CO₂, 0.12 MMT of CH₄ and 0.13 MMT of N₂O, as the fleet turns over year-by-year to new vehicles that meet the proposed light- and medium-duty standards. This represents a 26 percent reduction in CO₂ over that time period relative to the no-action case. See Section VI and Chapter 9 of the DRIA. We also project, in calendar year 2055, 35 percent to 40 percent reductions in PM_{2.5}, NO_x, and SO_x emissions. Further, we project over 40 percent reduction in VOC emissions in the year 2055. See Section VII and Chapter 9 of the DRIA. EPA finds that the additional emissions reductions that would be achieved under these proposed standards are important in reducing the public health and welfare impacts of air pollution.

As discussed in Section VIII, we monetize benefits of the proposed standards and evaluate other costs in part to enable a comparison of costs and benefits pursuant to E.O. 12866, but we recognize there are benefits that we are currently unable to fully quantify. EPA's practice has been to set standards to achieve improved air quality consistent with CAA section 202, and not to rely on cost-benefit calculations, with their uncertainties and limitations, as identifying the appropriate standards. Nonetheless, our conclusion that the estimated benefits considerably exceed the estimated costs of the proposed program reinforces our view that the proposed standards are appropriate under section 202(a).

The present value of climate benefits attributable to the proposed standards are estimated at \$83 billion to \$1.0 trillion across a range of discount rates and values for the social cost of carbon (present values in 2027 for GHG reductions through 2055). See Section VIII and Chapter 10 of the DRIA for a full discussion of the SC-GHG estimates used to monetize climate benefits and the data and modeling limitations that naturally restrain the ability of SC-GHG estimates to include all the important physical, ecological, and economic impacts of climate change, such that the estimates are a partial accounting of climate change impacts and will therefore, tend to be underestimates of the marginal benefits of abatement. The present value of PM_{2.5}-related health benefits attributable to the proposed standards through 2055 are estimated to total \$64 billion to \$290 billion (assuming a 7 percent and 3 percent discount rate, respectively, as well as

different long-term PM-related mortality risk studies; see Section VIII.E).⁷⁵³

D. Consideration of Impacts on Consumers, Energy, Safety and Other Factors

EPA also considered the impact of the proposed light- and medium-duty standards on consumers as well as on energy and safety. EPA concludes that the proposed standards would be beneficial for consumers because the lower operating costs would offset increases in vehicle technology costs, irrespective of BEV purchase incentives in the IRA. Vehicle technology cost increases for light- and medium-duty vehicles through 2055 are estimated at \$260 billion to \$380 billion (7 and 3 percent discount rates.) Total fuel savings, net of reduced liquid fuel and increased electricity, for consumers through 2055 are estimated at \$560 billion to \$1.1 trillion (7 percent and 3 percent discount rates.) Reduced maintenance and repair costs through 2055 are estimated at \$280 billion to \$580 billion (7 percent and 3 percent discount rates) (See Sections VIII.B and VIII.F and Chapter 10 of the DRIA). Thus, the proposal would result in significant savings for consumers.

EPA also carefully considered the consumer impacts of these proposed standards. We recognize that increases in upfront purchase costs are likely to be of particular concern to low-income households, but we anticipate that automakers will continue to offer a variety of models at different price points (see Chapter 4 of the DRIA). Moreover, because lower-income households spend more of their income on fuel than other households, the effects of reduced fuel costs may be especially important for these households. Similarly, low-income households are more likely to buy used vehicles and own older vehicles, and thus would benefit from significant savings in repair and maintenance costs if they purchase electric vehicles. Furthermore, for used BEVs, there is evidence that the original purchase incentive is passed on to the next buyer (i.e., reduces the used price of BEVs). In addition, BEV purchase incentives for used vehicles are provided for the first time ever through the IRA.

⁷⁵¹ Reuters, "A Reuters analysis of 37 global automakers found that they plan to invest nearly \$1.2 trillion in electric vehicles and batteries through 2030," October 21, 2022. Accessed on November 4, 2022 at <https://graphics.reuters.com/AUTOS-INVESTMENT/ELECTRIC/akpeqgzypr/>.

⁷⁵² Reuters, "Exclusive: Automakers to double spending on EVs, batteries to \$1.2 trillion by 2030," October 25, 2022. Accessed on November 4, 2022 at <https://www.reuters.com/technology/exclusive-automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/>.

⁷⁵³ The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits (such as the benefits associated with reductions in human exposure to ambient concentrations of ozone). See Section VIII.E and DRIA Chapter 7 for more information about benefits we are not currently able to fully quantify.

EPA also evaluated the impacts of the proposed light- and medium-duty standards on energy, in terms of fuel consumption and energy security. This proposal is projected to reduce U.S. gasoline consumption by 950 billion gallons through 2055 (see DRIA Chapter 9). EPA considered the impacts of this projected reduction in fuel consumption on energy security, specifically the avoided costs of macroeconomic disruption (See Section VIII.G). A reduction of U.S. net petroleum imports reduces both financial and strategic risks caused by potential sudden disruptions in the supply of petroleum to the U.S., thus increasing U.S. energy security. We estimate the energy security benefits of the proposal through 2055 at \$21 billion to \$42 billion (7 percent and 3 percent discount rate, see Chapter 10 of the DRIA). EPA considers this proposal to be beneficial from an energy security perspective.

Section 202(a)(4)(A) of the CAA specifically prohibits the use of an emission control device, system or element of design that will cause or contribute to an unreasonable risk to public health, welfare, or safety. EPA has a long history of considering the safety implications of its emission standards,⁷⁵⁴ up to and including the more recent light-duty GHG regulations: The 2010 rule which established the MY 2012–2016 light-duty vehicle GHG standards, the 2012 rule which first established MY 2017–2025 light-duty vehicle GHG standards, and the 2020 and 2021 rules. The relationship between GHG emissions standards and safety is multi-faceted, and can be influenced not only by control technologies, but also by consumer decisions about vehicle ownership and use. EPA has estimated the impacts of this proposal on safety by accounting for changes in new vehicle purchase, fleet turnover and VMT, changes in vehicle footprint, and vehicle weight changes that are in some cases lower (as an emissions control strategy) and in other cases higher (with the additional weight often associated with electrified vehicles). EPA finds that under this proposal, there is no statistically significant change in the estimated risk of fatalities per distance traveled. EPA is presenting non-statistically significant values here in part to enable comparison with prior rules. We have found virtually no change in fatality risk as a result of the proposed standards, with an estimated increase of 0.2 percent per

distance traveled (see Section VIII.F). However, as the costs of driving decline due to the improvement in fuel economy, consumers overall will choose to drive more miles (this is the “VMT rebound” effect). As a result of this personal decision by consumers to drive more due to the reduced cost of driving, EPA projects this will result in an increase in accidents, injuries, and fatalities (*i.e.*, although the rate of injury per mile stays virtually unchanged, an increase in miles driven results in an increase in total number of injuries). EPA’s goal in setting motor vehicle standards is to protect public health and welfare while recognizing the importance of the mobility choices of Americans. Because the only statistically significant projected increase in accidents, injuries, and fatalities would be the result of consumers’ voluntary choices to drive more when operating costs are reduced, EPA believes it is appropriate to place emphasis on the level of risk of injury per mile traveled, and to consider the projected change in injuries in that context.

The increase in fatalities per distance traveled is not statistically significant, and the only statistically significant increase in fatalities is due to consumers’ voluntary choices to drive more. As with the 2021 rule, EPA considers safety impacts in the context of all projected health impacts from the rule including public health benefits from the projected reductions in air pollution. In considering these estimates in the context of anticipated public health benefits, EPA notes that the estimated present value of monetized benefits of reduced PM_{2.5} through 2055 is between \$63 billion and \$280 billion (depending on study and discount rate), and that the illustrative air quality modeling which, as discussed further in Chapter 8 of the DRIA assesses a regulatory scenario with lower rates of PEV penetration than EPA is projecting in this proposal, estimates that in 2055 such a scenario would prevent between 730 and 1,400 premature deaths associated with exposure to PM_{2.5} and prevent between 15 and 330 premature deaths associated with exposure to ozone. We expect that the cumulative number of premature deaths avoided that would occur during the entire period of 2027–2055 as a result of the proposed rule would be much larger than the 2055 estimate.

E. Selection of Proposed Standards Under CAA 202(a)

Under section 202(a) EPA has a statutory obligation to set standards to reduce air pollution from classes of

motor vehicles that the Administrator has found contribute to air pollution that may be expected to endanger public health and welfare. Consistent with our longstanding approach to setting motor vehicle standards, the Administrator has considered a number of factors in proposing these vehicles standards. In setting such standards, the Administrator must provide adequate lead time for the development and application of technology to meet the standards, taking into consideration the cost of compliance. Furthermore, in setting standards for NMOG+NO_x, PM and CO for heavy duty vehicles (including MDVs and light trucks over 6,000 pounds GVWR), standards shall reflect the greatest degree of emissions reduction that the Administrator determines is achievable for the model year, giving appropriate consideration to cost, energy and safety factors. EPA’s proposed standards properly implement these statutory provisions. As discussed in Sections II, VI, and VII, the proposed standards will achieve significant and important reductions in emissions of a wide range of air pollutants that endanger public health and welfare. Furthermore, as discussed throughout this preamble, the emission reduction technologies needed to meet the proposed standards have already been developed and are feasible and available for manufacturers to utilize in their fleets at reasonable cost in the timeframe of these proposed standards, even after considering key constraints including battery manufacturing capacity, critical materials availability, and vehicle redesign cadence.

Moreover, the flexibilities already available under EPA’s existing regulations, including fleet average standards and the ABT program—in effect enabling manufacturers to spread the compliance requirement for any particular model year across multiple model years—support EPA’s conclusion that the proposed standards provide sufficient time for the development and application of technology, giving appropriate consideration to cost.

Section 202(a)(3) is explicit that, for certain pollutants for certain vehicles, the Administrator shall establish standards that achieve the greatest degree of emissions reduction achievable, although the provision identifies other factors to consider and requires the Administrator to exercise judgment in weighing those factors. Section 202(a)(1)–(2) provides greater discretion to the Administrator to weigh various factors but, as with the 2021 rule, the Administrator notes that the purpose of adopting standards under that provision of the Clean Air Act is to

⁷⁵⁴ See, *e.g.*, 45 FR 14496, 14503 (1980) (“EPA would not require a particulate control technology that was known to involve serious safety problems.”).

address air pollution that may reasonably be anticipated to endanger public health and welfare and that reducing air pollution has traditionally been the focus of such standards. Thus, for this proposal the agency's focus in identifying proposed standards, and a range of alternative standards, is on achieving significant emissions reductions, within the constraints identified by CAA section 202.

There have been very significant developments in the adoption of PEVs since EPA promulgated the 2021 rule. While at the time of the 2021 rule, estimates of financial commitments to electric vehicles by the automotive industry were in the range of \$500–600 billion, more recent estimates are \$1.2 trillion, approximately twice that of only two years ago.^{755 756} The European Union has given preliminary approval to a requirement to end tailpipe GHG emissions by 2035 (with a 55% reduction for cars by 2030), to complement other countries' decisions to phase out ICE engines. In the United States, sales of PEVs have continued to follow an accelerated rate of growth, reaching 8.4 percent of U.S. light-duty vehicle production in 2022, up from 4.4 percent in MY 2021 and 2.2 percent in MY 2020.⁷⁵⁷ In 2022, BEVs alone accounted for about 807,000 U.S. new car sales, or about 5.8 percent of the new light-duty passenger vehicle market, up from 3.2 percent BEVs the year before.⁷⁵⁸ The year-over-year growth in U.S. BEV sales suggests that an increasing share of new vehicle buyers are concluding that a PEV is the best vehicle to meet their needs. Waiting lists for BEVs, as well as recent published studies, indicate that consumer demand for PEVs is strong, and that limited availability is likely a greater constraint than consumer acceptance.⁷⁵⁹

One of the most significant developments for U.S. automakers and consumers is Congressional passage of the IRA, which takes a comprehensive approach to addressing many of the potential barriers to wider adoption of PEVs in the United States. The IRA provides tens of billions of dollars in tax credits and direct Federal funding to reduce the upfront cost to consumers of purchasing PEVs, to increase the number of charging stations across the country, to reduce the cost of manufacturing batteries, and to promote domestic sources of critical minerals and other important elements of the PEV supply chain. By addressing all of these potential obstacles to wider PEV adoption in a coordinated, well-financed, strategy, Congress significantly advanced the potential for PEV adoption in the near term.

In developing this proposal, EPA has recognized that these significant developments in automaker investment, PEV market growth, and Congressional support through the BIL and IRA represent a significant opportunity to ensure that the emissions reductions these developments make possible will be realized as fully as possible and at a reasonable cost over the time frame of the rule. It is clear that these prior developments have already led to PEVs being increasingly employed across the fleet in both light-duty and medium-duty applications, largely independent of EPA's prior standards. Although the 2021 rule projected a PEV penetration rate of 17 percent for 2026, our updated modeling of the No Action case for this rule suggests a PEV penetration rate for 2027 of 27 percent, even with no change in the standards. This projection is consistent with, if not more conservative than, the projections of third-party analysts.^{760 761} This proposal seeks to build on the trends that these

developments and projections indicate, and accelerate the continued deployment of these technologies to achieve further emissions reductions in 2027 and beyond.

In developing our PEV penetration estimates, EPA considered a variety of constraints which have to date limited PEV adoption and/or could limit it in the future, including: Cost to manufacturers and consumers; refresh and redesign cycles for manufacturers; availability of raw materials, batteries, and other necessary supply chain elements; adequate electricity supply and distribution; and barriers to consumer acceptance such as adequate charging infrastructure and a wide range of vehicle model choices that meet a diverse set of consumer needs.⁷⁶² EPA has consulted with analysts from other agencies, including the Federal Energy Regulatory Commission, DOE, DOT, and the Joint Office for Energy and Transportation, extensively reviewed published literature and other data, and, as discussed thoroughly in this preamble and the accompanying DRIA, has incorporated limitations into our modeling to address these potential constraints, as appropriate.

We also developed further analyses, recognizing that there are uncertainties in our projections. For example, battery costs may turn out to be higher, or lower, than we project, and consumers may adopt PEVs faster or slower than we anticipate. Overall, we identified a range of potential costs and PEV penetrations which we view as representing a wider range of possible, and still feasible and reasonable, compliance pathways under the proposed standards.

Taking both the significant developments in the automotive market and all of these potential constraints and uncertainties into account, EPA's analyses found that it would be feasible to reduce net emissions (compared to the No Action case) by 46 percent for CO₂, 35 percent for PM_{2.5}, 40 percent for NO_x, and 47 percent for VOCs by the final year analyzed. EPA also analyzed a range of standards which are somewhat more stringent and somewhat less stringent than the proposed standards. EPA anticipates that the appropriate choice of final standards within this range will reflect the Administrator's judgments about the uncertainties in EPA's analyses as well

⁷⁵⁵ Reuters, "A Reuters analysis of 37 global automakers found that they plan to invest nearly \$1.2 trillion in electric vehicles and batteries through 2030," October 21, 2022. Accessed on November 4, 2022 at <https://graphics.reuters.com/AUTOS-INVESTMENT/ELECTRIC/akpeqgzqypr/>.

⁷⁵⁶ Reuters, "Exclusive: Automakers to double spending on EVs, batteries to \$1.2 trillion by 2030," October 25, 2022. Accessed on November 4, 2022 at <https://www.reuters.com/technology/exclusive-automakers-double-spending-evs-batteries-12-trillion-by-2030-2022-10-21/>.

⁷⁵⁷ Environmental Protection Agency, "The 2022 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975," (forthcoming).

⁷⁵⁸ Colias, M., "U.S. EV Sales Jolted Higher in 2022 as Newcomers Target Tesla," Wall Street Journal, January 6, 2023.

⁷⁵⁹ Gillingham, K., A van Benthem, S Weber, D Saafi, and X He. 2023. "Has Consumer Acceptance of Electric Vehicles Been Increasing: Evidence from Microdata on Every New Vehicle Sale in the United States." American Economics Association: Papers &

Proceedings, forthcoming, Bartlett, Jeff. 2022. More Americans Would Buy and Electric Vehicle, and Some Consumers Would Use Low-Carbon Fuels, Survey Shows. Consumer Reports. July 7. Accessed March 2, 2023. <https://www.consumerreports.org/hybrids-evs/interest-in-electric-vehicles-and-low-carbon-fuels-survey-a8457332578/>.

⁷⁶⁰ In 2021, IHS Markit projected 27.8 percent BEV, PHEV, and range-extended electric vehicle (REX) for 2027. "US EPA Proposed Greenhouse Gas Emissions Standards for Model Years 2023–2026; What to Expect," August 9, 2021. Accessed on October 28, 2021 at <https://www.spglobal.com/mobility/en/research-analysis/us-epa-proposed-greenhouse-gas-emissions-standards-my2023-26.html>.

⁷⁶¹ In early 2023 ICCT projected 39 percent PEVs for 2027 under the moderate IRA impact scenario. See International Council on Clean Transportation, "Analyzing the Impact of the Inflation Reduction Act on Electric Vehicle Uptake in the US," ICCT White Paper, January 2023. Available at <https://theicct.org/wp-content/uploads/2023/01/ira-impact-evs-us-jan23.pdf>.

⁷⁶² Although has considered consumer acceptance (including consumer costs) in exercising our discretion under the statute based on the record before us, to assess the feasibility and appropriateness of the proposed standards, we note that it is not a statutorily-enumerated factor under section 202(a)(1)–(3).

as consideration of public comment and updated information where available. However, EPA proposes to find that standards substantially more stringent than Alternative 1 would not be appropriate because of uncertainties concerning the cost and feasibility of such standards. EPA proposes to find that standards substantially less stringent than Alternative 2 or 3 would not be appropriate because they would forgo feasible emissions reductions that would improve the protection of public health and welfare.

Taking into consideration the importance of reducing criteria pollutant and GHG emissions and the primary purpose of CAA section 202 to reduce the threat posed to human health and the environment by air pollution, the Administrator finds it is appropriate and consistent with the text and purpose of section 202 to adopt standard that, when implemented, would result in significant reductions of light-duty vehicle emissions both in the near term and over the longer term, taking into consideration the cost of compliance within the available lead time. Likewise, the Administrator concludes that these standards are consistent with the text and purpose of section 202 for heavy-duty vehicles by achieving significant reductions of GHGs, taking into consideration the cost of compliance within the available lead time, and by achieving the greatest degree of emissions reduction achievable for certain other pollutants, taking into consideration cost, lead-time, energy and safety factors.

Finally, EPA notes that the estimated benefits of the proposed standards exceed the estimated costs, and estimates net benefits of this proposal through 2055 at \$850 billion to \$1.6 trillion (7 percent and 3 percent discount rates, with 3 percent SC-GHG) (see Section VIII and Chapter 10 of the DRIA). We recognize the uncertainties and limitations in these estimates (including unquantified benefits), and the Administrator has not relied on these estimates in identifying the appropriate standards under section 202. Nonetheless, our conclusion that the estimated benefits considerably exceed the estimated costs of the proposed program reinforces our view that the proposed standards are appropriate.

In summary, after consideration of the very significant reductions in criteria pollutant and GHG emissions, given the technical feasibility of the proposed standards and the moderate costs per vehicle in the available lead time, and taking into account a number of other factors such as the savings to consumers in operating costs over the lifetime of the vehicle, safety, the benefits for energy security, and the significantly greater quantified benefits compared to quantified costs, EPA believes that the proposed standards are appropriate under EPA's section 202(a) authority.

VI. How would this proposal reduce GHG emissions and their associated effects?

A. Estimating Emission Inventories in OMEGA

To estimate emission inventory effects due to a potential policy, OMEGA uses as inputs a set of vehicle, refinery and electricity generating unit (EGU) emission rates. In an iterative process, we first generate emission inventories using very detailed emissions models that estimate inventories from vehicles (EPA's MOVES model) and EGUs (EPA's Power Sector Modeling Platform, v.6.21⁷⁶³ 764). The generation of those inventories is described in Chapters 8 and 5, respectively, of the DRIA. However, upstream EGU inventories used a set of bounding runs that looked at two possible futures—one with a low level of fleet electrification and another with a higher level of electrification. These bounding runs represented our best estimate of these two possible futures—the continuation of the 2021 rule (lower) and our proposal (upper)—at the time that those model runs were conducted. With those bounded sets of inventories, and the associated electricity demands within them, we can calculate emission rates for the two ends of these bounds. Using those rates, we can interpolate, using the given OMEGA policy scenario's fuel demands, to generate a unique set of emission rates for that OMEGA policy scenario. Using those unique rates, OMEGA then generates emission inventories for any future OMEGA policy scenario depending on the liquid fuel and

electricity demands of that specific policy. This is explained in greater detail in Chapter 9 of the DRIA.

For vehicle criteria pollutant emissions (which are discussed further in Preamble Section VII), CH₄ and N₂O emissions, EPA used two sets of MOVES emission inventory runs—one assuming no future use of gasoline particulate filters and one assuming such use. Using the miles traveled (for tailpipe, tire wear, and brake wear emissions) and liquid fuel consumed (for evaporative and fuel spillage emissions), we can then generate sets of emission rates for use in OMEGA. Using those rates, which are specific to fuel types and vehicle types (car vs. truck, etc.), we can then generate unique emission inventories for the given OMEGA policy scenario. This is important given the changing nature of the transportation fleet (BEV vs ICE, car vs CUV vs pickup) and the way those change for any possible policy scenario and the many factors within OMEGA that impact the future fleet composition and the very different vehicle emission rates for BEVs vs ICE vehicles. This is especially true given the consumer choice elements within OMEGA and the wide variety of input parameters that can have significant impacts on the projected future fleet. This is explained in greater detail in Chapter 9 of the DRIA. Note that OMEGA estimates CO₂ emissions based on the policy scenario.

Regarding refinery emissions, EPA did not have GHG refinery emissions from which to generate GHG emission rates associated with refineries. We did estimate refinery emissions in OMEGA for some criteria air pollutants and describe that in Section VII.

B. Impact on GHG Emissions

Using OMEGA as described in Section VI.A, we estimated annual GHG emissions impacts (accounting for vehicles and EGUs) associated with the proposed program for the calendar years 2027 through 2055, as shown in Table 135. The table shows that the proposed program would result in significant net GHG reductions compared to the No Action scenario. The cumulative CO₂, CH₄ and N₂O emissions reductions from the proposed program total 7,300 MMT, 0.12 MMT, and 0.13 MMT, respectively, through 2055. Table 136, Table 137 and Table 138 show the analogous results for alternatives 1, 2 and 3, respectively.

⁷⁶³ <https://www.epa.gov/power-sector-modeling>.

⁷⁶⁴ <https://www.epa.gov/power-sector-modeling/epas-power-sector-modeling-platform-v6-using-ipm-summer-2021-reference-case>.

TABLE 135—ESTIMATED GHG IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY *

Calendar year	Emission impacts relative to no action (million metric tons per year)			Percent change from no action		
	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
2027	–5.8	–0.000025	–0.00013	–0.4	–0.1	–0.6
2028	–15	–0.000076	–0.00029	–1.2	–0.2	–1.3
2029	–27	–0.00017	–0.00052	–2.3	–0.4	–2.4
2030	–42	–0.00028	–0.00078	–3.6	–0.8	–3.8
2031	–60	–0.00043	–0.0011	–5.4	–1.2	–5.7
2032	–82	–0.00062	–0.0015	–7.6	–1.9	–7.9
2033	–110	–0.00087	–0.002	–10.1	–2.9	–10.4
2034	–130	–0.0012	–0.0024	–13	–4.1	–13
2035	–150	–0.0015	–0.0028	–16	–5.6	–16
2036	–170	–0.0018	–0.0032	–18	–7.1	–18
2037	–200	–0.0022	–0.0036	–21	–9.0	–20
2038	–220	–0.0027	–0.004	–24	–11	–23
2039	–240	–0.0031	–0.0044	–26	–14	–25
2040	–260	–0.0036	–0.0048	–29	–16	–27
2041	–280	–0.0041	–0.0052	–31	–19	–29
2042	–300	–0.0045	–0.0055	–34	–21	–31
2043	–320	–0.005	–0.0058	–36	–24	–33
2044	–330	–0.0054	–0.006	–38	–27	–34
2045	–350	–0.0059	–0.0063	–39	–30	–35
2046	–360	–0.0063	–0.0065	–41	–32	–37
2047	–370	–0.0067	–0.0067	–42	–35	–38
2048	–390	–0.0072	–0.0069	–44	–38	–39
2049	–400	–0.0076	–0.0071	–45	–40	–39
2050	–410	–0.008	–0.0073	–46	–43	–40
2051	–410	–0.0081	–0.0074	–46	–44	–40
2052	–420	–0.0082	–0.0075	–47	–44	–41
2053	–420	–0.0083	–0.0076	–47	–45	–41
2054	–420	–0.0084	–0.0077	–47	–45	–41
2055	–420	–0.0084	–0.0077	–47	–45	–41
Sum	–7,300	–0.12	–0.13	–26	–17	–25

* GHG emission rates were not available for calculating GHG inventories from refineries.

TABLE 136—ESTIMATED GHG IMPACTS OF ALTERNATIVE 1 RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY *

Calendar year	Emission impacts relative to no action (million metric tons per year)			Percent change from no action		
	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
2027	–6.1	–0.000027	–0.00014	–0.5	–0.1	–0.6
2028	–17	–0.000073	–0.00031	–1.3	–0.2	–1.4
2029	–31	–0.00015	–0.00053	–2.5	–0.4	–2.5
2030	–49	–0.00026	–0.00084	–4.2	–0.7	–4.1
2031	–69	–0.00042	–0.0012	–6.2	–1.2	–6.0
2032	–93	–0.00062	–0.0016	–8.6	–1.9	–8.3
2033	–120	–0.00089	–0.0021	–11.5	–2.9	–11.0
2034	–150	–0.0012	–0.0026	–14	–4.2	–14
2035	–170	–0.0016	–0.003	–17	–5.8	–17
2036	–200	–0.002	–0.0034	–20	–7.5	–19
2037	–220	–0.0024	–0.0039	–23	–9.6	–22
2038	–250	–0.0028	–0.0043	–26	–12	–24
2039	–270	–0.0033	–0.0048	–29	–14	–27
2040	–290	–0.0038	–0.0052	–32	–17	–29
2041	–320	–0.0043	–0.0056	–35	–20	–32
2042	–330	–0.0048	–0.0059	–37	–23	–33
2043	–360	–0.0054	–0.0062	–40	–26	–35
2044	–370	–0.0059	–0.0065	–42	–29	–37
2045	–390	–0.0064	–0.0068	–43	–32	–38
2046	–400	–0.0069	–0.0071	–45	–35	–40
2047	–410	–0.0073	–0.0073	–47	–38	–41
2048	–430	–0.0078	–0.0075	–48	–41	–42
2049	–440	–0.0083	–0.0077	–50	–44	–43
2050	–450	–0.0088	–0.0079	–51	–47	–43
2051	–450	–0.0089	–0.008	–51	–48	–44
2052	–460	–0.009	–0.0081	–51	–48	–44
2053	–460	–0.0091	–0.0082	–52	–49	–44

TABLE 136—ESTIMATED GHG IMPACTS OF ALTERNATIVE 1 RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY *—Continued

Calendar year	Emission impacts relative to no action (million metric tons per year)			Percent change from no action		
	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
2054	–460	–0.0091	–0.0083	–52	–49	–44
2055	–460	–0.0092	–0.0083	–52	–49	–44
Sum	–8,100	–0.13	–0.14	–29	–18	–27

*GHG emission rates were not available for calculating GHG inventories from refineries.

TABLE 137—ESTIMATED GHG IMPACTS OF ALTERNATIVE 2 RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY *

Calendar year	Emission impacts relative to no action (million metric tons per year)			Percent change from no action		
	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
2027	–4.2	–0.000021	–0.0001	–0.3	0.0	–0.4
2028	–11	–0.000058	–0.00021	–0.9	–0.1	–1.0
2029	–22	–0.00014	–0.00042	–1.8	–0.4	–2.0
2030	–34	–0.00023	–0.00064	–2.9	–0.6	–3.1
2031	–49	–0.00036	–0.00094	–4.4	–1.0	–4.8
2032	–69	–0.00054	–0.0013	–6.4	–1.7	–6.8
2033	–92	–0.00077	–0.0017	–8.8	–2.5	–9.2
2034	–120	–0.0011	–0.0022	–11	–3.7	–12
2035	–140	–0.0014	–0.0026	–14	–5.0	–14
2036	–150	–0.0017	–0.0029	–16	–6.4	–16
2037	–180	–0.002	–0.0033	–19	–8.2	–19
2038	–200	–0.0024	–0.0037	–21	–10	–21
2039	–220	–0.0028	–0.0041	–24	–12	–23
2040	–240	–0.0033	–0.0044	–26	–15	–25
2041	–260	–0.0037	–0.0048	–28	–17	–27
2042	–270	–0.0041	–0.0051	–30	–20	–29
2043	–290	–0.0046	–0.0054	–32	–22	–31
2044	–300	–0.005	–0.0056	–34	–25	–32
2045	–310	–0.0054	–0.0058	–35	–27	–33
2046	–330	–0.0059	–0.0061	–37	–30	–34
2047	–340	–0.0063	–0.0063	–38	–32	–35
2048	–350	–0.0067	–0.0065	–40	–35	–36
2049	–360	–0.0071	–0.0066	–41	–38	–37
2050	–370	–0.0075	–0.0068	–42	–40	–37
2051	–370	–0.0076	–0.0069	–42	–40	–38
2052	–380	–0.0076	–0.007	–42	–41	–38
2053	–380	–0.0077	–0.0071	–42	–41	–38
2054	–380	–0.0077	–0.0071	–43	–41	–38
2055	–380	–0.0078	–0.0072	–43	–42	–38
Sum	–6,600	–0.11	–0.12	–23	–15	–23

*GHG emission rates were not available for calculating GHG inventories from refineries.

TABLE 138—ESTIMATED GHG IMPACTS OF ALTERNATIVE 3 RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY *

Calendar year	Emission impacts relative to no action (million metric tons per year)			Percent change from no action		
	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
2027	–3.4	–0.000023	–0.00009	–0.3	–0.1	–0.4
2028	–8.9	–0.000062	–0.00019	–0.7	–0.1	–0.9
2029	–16	–0.00012	–0.00033	–1.3	–0.3	–1.6
2030	–27	–0.0002	–0.00054	–2.3	–0.5	–2.6
2031	–44	–0.00033	–0.00088	–4.0	–1.0	–4.4
2032	–66	–0.00051	–0.0013	–6.2	–1.6	–6.7
2033	–91	–0.00075	–0.0017	–8.7	–2.5	–9.2
2034	–120	–0.001	–0.0022	–11	–3.7	–12
2035	–140	–0.0014	–0.0027	–14	–5.1	–15
2036	–160	–0.0017	–0.003	–17	–6.6	–17
2037	–190	–0.0021	–0.0035	–20	–8.5	–19
2038	–210	–0.0026	–0.0039	–22	–11	–22
2039	–230	–0.003	–0.0043	–25	–13	–24

TABLE 138—ESTIMATED GHG IMPACTS OF ALTERNATIVE 3 RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY*—Continued

Calendar year	Emission impacts relative to no action (million metric tons per year)			Percent change from no action		
	CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
2040	–250	–0.0035	–0.0047	–28	–15	–27
2041	–280	–0.0039	–0.0051	–31	–18	–29
2042	–290	–0.0044	–0.0054	–33	–21	–31
2043	–310	–0.0049	–0.0057	–35	–24	–32
2044	–330	–0.0053	–0.006	–37	–26	–34
2045	–340	–0.0058	–0.0062	–39	–29	–35
2046	–360	–0.0063	–0.0065	–41	–32	–37
2047	–370	–0.0067	–0.0067	–42	–35	–38
2048	–390	–0.0072	–0.0069	–43	–38	–39
2049	–400	–0.0076	–0.0071	–45	–40	–39
2050	–410	–0.0081	–0.0073	–46	–43	–40
2051	–410	–0.0082	–0.0074	–46	–44	–41
2052	–420	–0.0083	–0.0075	–47	–44	–41
2053	–420	–0.0083	–0.0076	–47	–45	–41
2054	–420	–0.0084	–0.0077	–47	–45	–41
2055	–420	–0.0084	–0.0077	–47	–45	–41
Sum	–7,100	–0.12	–0.13	–25	–16	–24

*GHG emission rates were not available for calculating GHG inventories from refineries.

C. Global Climate Impacts Associated With the Proposal's GHG Emissions Reductions

The transportation sector is the largest U.S. source of GHG emissions, representing 27.2 percent of total GHG emissions.⁷⁶⁵ Within the transportation sector, light-duty vehicles are the largest contributor, at 57.1 percent, and thus comprise 15.5 percent of total U.S. GHG emissions,⁷⁶⁶ even before considering the contribution of medium-duty Class 2b and 3 vehicles which are also included under this rule. Reducing GHG emissions, including the three GHGs (CO₂, CH₄, and N₂O) affected by this program, will contribute toward the goal of holding the increase in the global average temperature to well below 2 °C above pre-industrial levels, and subsequently reducing the probability of severe climate change related impacts including heat waves, drought, sea level rise, extreme climate and weather events, coastal flooding, and wildfires. While EPA did not conduct modeling to specifically quantify changes in climate impacts resulting from this rule in terms of avoided temperature change or sea-level rise, we did quantify the climate benefits by monetizing the emission reductions through the application of the social cost of greenhouse gases (SC-GHGs), as described in Section VIII.D of this preamble.

⁷⁶⁵ *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2020* (EPA–430–R–22–003, published April 2022).

⁷⁶⁶ *Ibid.*

VII. How would the proposal impact criteria and air toxics emissions and their associated effects?

As described in Section VI.A (and in more detail in Chapter 9 of the DRIA), EPA has used OMEGA to estimate criteria air pollutant and air toxic emission inventories associated with the proposed standards and with Alternatives 1 and 2. These estimates are presented in Section VII.A. OMEGA's emissions estimates include emissions from vehicles (using MOVES), electricity generation (using IPM, as described in Section IV.B.3), and refineries.⁷⁶⁷

Section VII.B discusses the air quality impacts of these emissions changes.

A. Impact on Emissions of Criteria and Air Toxics Pollutants

Table 139 through Table 142 present changes in emissions of criteria air pollutants from vehicles for the light-duty proposal and each of the light-duty alternatives. Each of these tables also includes changes in emissions of criteria air pollutants from vehicles due to the medium-duty proposal.

Table 143 through Table 146 present changes in emissions from EGUs and refineries for the light-duty proposal and each of the light-duty alternatives. Each of these tables also includes changes in emissions from EGUs and refineries due to the medium-duty proposal.

⁷⁶⁷ Illustrative Air Quality Analysis for the Light and Medium Duty Vehicle Multipollutant Proposed Rule Technical Support Document (TSD) contained in the docket.

Table 147 through Table 150 present net changes in emissions of criteria air pollutants from vehicles, EGUs and refineries due to the light-duty proposal and each of the light-duty alternatives. Each of these tables also include changes due to the medium-duty proposal.

Table 151 presents net changes in emissions of criteria air pollutants from vehicles and EGUs without any impacts associated with refinery emissions. This table shows results for the proposal and includes changes due to the medium-duty proposal. We present these results as a sensitivity given the uncertainty surrounding how changes in domestic demand for liquid fuel may or may not impact domestic refining of liquid fuel.

Table 152 through Table 155 present changes in emissions of air toxic pollutants from vehicles due to the light-duty proposal and each of the light-duty alternatives. Each of these tables also includes changes in air toxic emissions from vehicles due to the medium-duty proposal.

The vehicle reductions in PM_{2.5}, NO_x, NMOG, and CO emissions shown in Table 139 through Table 142 are related to the proposed standards for these pollutants and the technologies we project that manufacturers will choose to use to comply with them, including both BEV technologies and, for gasoline-powered vehicles, gasoline particulate filters. Vehicle SO_x emissions are a function of the sulfur content of gasoline and diesel fuel. Therefore, the reductions in SO_x emissions from vehicles result from the decrease in

gasoline and diesel fuel consumption
associated with the GHG standards.

TABLE 139—OMEGA ESTIMATED VEHICLE CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	PM _{2.5}	NO _x	NMOG	SO _x	CO
2027	–68	–720	–1,100	–50	–24,000
2028	–170	–1,700	–3,400	–130	–61,000
2029	–310	–3,200	–7,200	–230	–110,000
2030	–790	–4,800	–12,000	–350	–180,000
2031	–1,300	–6,800	–18,000	–490	–250,000
2032	–1,800	–9,100	–25,000	–650	–330,000
2033	–2,300	–12,000	–33,000	–830	–430,000
2034	–2,900	–14,000	–42,000	–1,000	–530,000
2035	–3,400	–17,000	–52,000	–1,200	–640,000
2036	–4,000	–19,000	–62,000	–1,300	–720,000
2037	–4,500	–21,000	–73,000	–1,500	–820,000
2038	–5,100	–24,000	–85,000	–1,600	–930,000
2039	–5,600	–26,000	–96,000	–1,800	–1,000,000
2040	–6,100	–28,000	–110,000	–1,900	–1,100,000
2041	–6,600	–30,000	–120,000	–2,000	–1,200,000
2042	–7,000	–32,000	–130,000	–2,100	–1,300,000
2043	–7,500	–33,000	–140,000	–2,300	–1,400,000
2044	–7,900	–35,000	–150,000	–2,300	–1,400,000
2045	–8,200	–36,000	–160,000	–2,400	–1,500,000
2046	–8,500	–37,000	–170,000	–2,500	–1,600,000
2047	–8,800	–38,000	–180,000	–2,500	–1,600,000
2048	–9,000	–39,000	–180,000	–2,600	–1,700,000
2049	–9,200	–40,000	–190,000	–2,600	–1,700,000
2050	–9,400	–41,000	–190,000	–2,700	–1,700,000
2051	–9,500	–42,000	–200,000	–2,700	–1,800,000
2052	–9,600	–43,000	–200,000	–2,700	–1,800,000
2053	–9,700	–43,000	–200,000	–2,700	–1,800,000
2054	–9,800	–44,000	–200,000	–2,800	–1,800,000
2055	–9,800	–44,000	–200,000	–2,800	–1,800,000

TABLE 140—OMEGA ESTIMATED VEHICLE CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	PM _{2.5}	NO _x	NMOG	SO _x	CO
2027	–70	–750	–1,200	–53	–25,000
2028	–180	–1,800	–3,600	–140	–65,000
2029	–320	–3,100	–7,200	–250	–110,000
2030	–790	–4,900	–12,000	–400	–180,000
2031	–1,300	–6,900	–19,000	–550	–260,000
2032	–1,800	–9,300	–26,000	–730	–350,000
2033	–2,300	–12,000	–35,000	–940	–450,000
2034	–2,900	–15,000	–46,000	–1,100	–570,000
2035	–3,400	–18,000	–57,000	–1,300	–680,000
2036	–4,000	–20,000	–69,000	–1,500	–780,000
2037	–4,500	–23,000	–81,000	–1,700	–900,000
2038	–5,100	–25,000	–94,000	–1,800	–1,000,000
2039	–5,600	–27,000	–110,000	–2,000	–1,100,000
2040	–6,100	–30,000	–120,000	–2,100	–1,200,000
2041	–6,600	–32,000	–130,000	–2,300	–1,300,000
2042	–7,100	–34,000	–140,000	–2,400	–1,400,000
2043	–7,500	–36,000	–160,000	–2,500	–1,500,000
2044	–7,900	–37,000	–170,000	–2,600	–1,600,000
2045	–8,200	–39,000	–180,000	–2,700	–1,700,000
2046	–8,600	–40,000	–190,000	–2,800	–1,700,000
2047	–8,800	–41,000	–190,000	–2,800	–1,800,000
2048	–9,100	–42,000	–200,000	–2,900	–1,800,000
2049	–9,300	–43,000	–210,000	–2,900	–1,900,000
2050	–9,500	–44,000	–210,000	–3,000	–1,900,000
2051	–9,600	–45,000	–220,000	–3,000	–1,900,000
2052	–9,700	–46,000	–220,000	–3,000	–2,000,000
2053	–9,700	–46,000	–220,000	–3,000	–2,000,000
2054	–9,800	–47,000	–220,000	–3,000	–2,000,000
2055	–9,800	–47,000	–230,000	–3,000	–2,000,000

TABLE 141—OMEGA ESTIMATED VEHICLE CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	PM _{2.5}	NO _x	NMOG	SO _x	CO
2027	–49	–570	–810	–36	–17,000
2028	–120	–1,300	–2,400	–91	–42,000
2029	–250	–2,600	–5,600	–180	–88,000
2030	–730	–3,900	–9,400	–280	–140,000
2031	–1,200	–5,800	–14,000	–400	–200,000
2032	–1,700	–7,900	–20,000	–540	–270,000
2033	–2,300	–10,000	–28,000	–720	–360,000
2034	–2,800	–13,000	–36,000	–890	–460,000
2035	–3,400	–15,000	–45,000	–1,000	–560,000
2036	–3,900	–17,000	–54,000	–1,200	–640,000
2037	–4,500	–20,000	–64,000	–1,300	–730,000
2038	–5,000	–22,000	–74,000	–1,500	–830,000
2039	–5,500	–24,000	–85,000	–1,600	–920,000
2040	–6,100	–26,000	–96,000	–1,700	–1,000,000
2041	–6,500	–28,000	–110,000	–1,800	–1,100,000
2042	–7,000	–29,000	–120,000	–1,900	–1,200,000
2043	–7,400	–31,000	–130,000	–2,000	–1,300,000
2044	–7,800	–32,000	–130,000	–2,100	–1,300,000
2045	–8,200	–34,000	–140,000	–2,200	–1,400,000
2046	–8,500	–35,000	–150,000	–2,200	–1,400,000
2047	–8,800	–36,000	–160,000	–2,300	–1,500,000
2048	–9,000	–37,000	–160,000	–2,300	–1,500,000
2049	–9,200	–38,000	–170,000	–2,400	–1,600,000
2050	–9,400	–39,000	–170,000	–2,400	–1,600,000
2051	–9,500	–39,000	–180,000	–2,500	–1,600,000
2052	–9,600	–40,000	–180,000	–2,500	–1,600,000
2053	–9,700	–40,000	–180,000	–2,500	–1,600,000
2054	–9,700	–41,000	–180,000	–2,500	–1,600,000
2055	–9,800	–41,000	–190,000	–2,500	–1,600,000

TABLE 142—OMEGA ESTIMATED VEHICLE CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	PM _{2.5}	NO _x	NMOG	SO _x	CO
2027	–43	–550	–800	–30	–15,000
2028	–110	–1,200	–2,300	–75	–39,000
2029	–190	–2,100	–4,500	–130	–68,000
2030	–670	–3,400	–7,800	–220	–110,000
2031	–1,200	–5,400	–12,000	–360	–180,000
2032	–1,600	–7,700	–19,000	–530	–260,000
2033	–2,200	–10,000	–26,000	–710	–360,000
2034	–2,800	–13,000	–35,000	–910	–470,000
2035	–3,300	–16,000	–44,000	–1,100	–570,000
2036	–3,800	–18,000	–54,000	–1,200	–660,000
2037	–4,400	–20,000	–65,000	–1,400	–770,000
2038	–5,000	–23,000	–76,000	–1,600	–870,000
2039	–5,500	–25,000	–88,000	–1,700	–980,000
2040	–6,000	–27,000	–100,000	–1,900	–1,100,000
2041	–6,500	–29,000	–110,000	–2,000	–1,200,000
2042	–7,000	–31,000	–120,000	–2,100	–1,300,000
2043	–7,400	–33,000	–130,000	–2,200	–1,400,000
2044	–7,800	–34,000	–140,000	–2,300	–1,400,000
2045	–8,100	–36,000	–150,000	–2,400	–1,500,000
2046	–8,500	–37,000	–160,000	–2,500	–1,600,000
2047	–8,700	–38,000	–170,000	–2,500	–1,600,000
2048	–9,000	–39,000	–180,000	–2,600	–1,700,000
2049	–9,200	–40,000	–190,000	–2,600	–1,700,000
2050	–9,400	–41,000	–190,000	–2,700	–1,700,000
2051	–9,500	–42,000	–200,000	–2,700	–1,800,000
2052	–9,600	–43,000	–200,000	–2,700	–1,800,000
2053	–9,700	–43,000	–200,000	–2,700	–1,800,000
2054	–9,800	–44,000	–200,000	–2,800	–1,800,000
2055	–9,800	–44,000	–200,000	–2,800	–1,800,000

Table 143 through Table 146 show the “upstream” emissions impacts from EGUs and refineries. As explained in Section IV.B.3, our power sector modeling predicts that EGU emissions will decrease between 2028 and 2055 due to increasing use of renewables. As

a result, the increase in EGU emissions associated with the proposal’s increased electricity generation would peak in the late 2030’s/early 2040’s (depending on the pollutant) and then generally decrease or level off through 2055. Section VI.A provides more detail on

the estimation of refinery emissions, which we predict would decrease as a result of the decreased demand for liquid fuel associated with the proposed GHG standards.

TABLE 143—OMEGA ESTIMATED UPSTREAM CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

	EGU				Refinery			
	PM _{2.5}	NO _x	NMOG	SO _x	PM _{2.5}	NO _x	NMOG	SO _x
2027	140	800	68	660	– 130	– 510	– 440	– 200
2028	310	1,800	150	1,500	– 330	– 1,200	– 1,100	– 490
2029	540	3,100	260	2,500	– 590	– 2,300	– 1,900	– 890
2030	790	4,400	380	3,600	– 900	– 3,400	– 2,900	– 1,400
2031	1,100	5,900	510	4,800	– 1,300	– 4,800	– 4,100	– 1,900
2032	1,300	7,500	660	6,000	– 1,700	– 6,400	– 5,500	– 2,600
2033	1,600	9,000	800	7,100	– 2,100	– 8,100	– 7,000	– 3,300
2034	1,900	10,000	940	8,100	– 2,600	– 9,900	– 8,500	– 4,000
2035	2,100	11,000	1,100	8,800	– 3,100	– 12,000	– 9,900	– 4,700
2036	2,300	12,000	1,100	9,000	– 3,400	– 13,000	– 11,000	– 5,200
2037	2,400	12,000	1,200	9,300	– 3,800	– 14,000	– 12,000	– 5,800
2038	2,500	13,000	1,300	9,300	– 4,200	– 16,000	– 13,000	– 6,400
2039	2,600	13,000	1,300	9,100	– 4,500	– 17,000	– 14,000	– 6,900
2040	2,600	13,000	1,400	8,700	– 4,900	– 18,000	– 16,000	– 7,400
2041	2,600	12,000	1,400	8,100	– 5,200	– 19,000	– 16,000	– 7,900
2042	2,600	12,000	1,400	7,300	– 5,500	– 20,000	– 17,000	– 8,300
2043	2,600	11,000	1,400	6,500	– 5,700	– 21,000	– 18,000	– 8,700
2044	2,400	10,000	1,400	5,400	– 5,900	– 22,000	– 19,000	– 9,000
2045	2,300	9,200	1,300	4,200	– 6,100	– 22,000	– 19,000	– 9,300
2046	2,200	8,100	1,300	2,900	– 6,300	– 23,000	– 20,000	– 9,600
2047	2,000	6,700	1,200	1,900	– 6,400	– 23,000	– 20,000	– 9,700
2048	1,900	5,400	1,100	1,500	– 6,500	– 24,000	– 20,000	– 10,000
2049	1,700	4,000	1,100	1,600	– 6,600	– 24,000	– 21,000	– 10,000
2050	1,500	2,500	1,000	1,600	– 6,700	– 24,000	– 21,000	– 10,000
2051	1,500	2,500	1,000	1,600	– 6,800	– 25,000	– 21,000	– 10,000
2052	1,500	2,500	1,000	1,600	– 6,800	– 25,000	– 21,000	– 10,000
2053	1,500	2,600	1,000	1,600	– 6,900	– 25,000	– 21,000	– 10,000
2054	1,500	2,600	1,000	1,600	– 6,900	– 25,000	– 21,000	– 11,000
2055	1,500	2,600	1,000	1,600	– 6,900	– 25,000	– 21,000	– 11,000

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

TABLE 144—OMEGA ESTIMATED UPSTREAM CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

	EGU				Refinery			
	PM _{2.5}	NO _x	NMOG	SO _x	PM _{2.5}	NO _x	NMOG	SO _x
2027	140	830	71	680	– 140	– 530	– 450	– 210
2028	350	2,000	170	1,600	– 370	– 1,400	– 1,200	– 560
2029	570	3,300	280	2,700	– 660	– 2,500	– 2,200	– 990
2030	860	4,900	420	4,000	– 1,000	– 3,900	– 3,400	– 1,600
2031	1,100	6,300	550	5,100	– 1,400	– 5,400	– 4,700	– 2,200
2032	1,400	7,900	700	6,300	– 1,900	– 7,200	– 6,200	– 2,900
2033	1,800	9,700	860	7,700	– 2,400	– 9,200	– 7,900	– 3,700
2034	2,100	11,000	1,000	8,800	– 2,900	– 11,000	– 9,500	– 4,500
2035	2,300	12,000	1,100	9,500	– 3,400	– 13,000	– 11,000	– 5,200
2036	2,500	13,000	1,200	9,900	– 3,800	– 14,000	– 12,000	– 5,800
2037	2,600	14,000	1,300	10,000	– 4,300	– 16,000	– 14,000	– 6,500
2038	2,800	14,000	1,400	10,000	– 4,700	– 17,000	– 15,000	– 7,100
2039	2,800	14,000	1,500	10,000	– 5,100	– 19,000	– 16,000	– 7,700
2040	2,900	14,000	1,500	9,600	– 5,400	– 20,000	– 17,000	– 8,300
2041	2,900	14,000	1,500	9,000	– 5,800	– 21,000	– 18,000	– 8,800
2042	2,900	13,000	1,500	8,100	– 6,100	– 22,000	– 19,000	– 9,200
2043	2,800	12,000	1,500	7,200	– 6,400	– 23,000	– 20,000	– 9,700
2044	2,700	11,000	1,500	6,000	– 6,600	– 24,000	– 21,000	– 10,000
2045	2,600	10,000	1,500	4,600	– 6,700	– 25,000	– 21,000	– 10,000

TABLE 144—OMEGA ESTIMATED UPSTREAM CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[U.S. tons per year]

	EGU				Refinery			
	PM _{2.5}	NO _x	NMOG	SO _x	PM _{2.5}	NO _x	NMOG	SO _x
2046	2,400	8,900	1,400	3,200	–7,000	–25,000	–22,000	–11,000
2047	2,200	7,500	1,300	1,700	–7,100	–26,000	–22,000	–11,000
2048	2,100	6,000	1,300	1,700	–7,200	–26,000	–22,000	–11,000
2049	1,900	4,400	1,200	1,800	–7,300	–27,000	–23,000	–11,000
2050	1,600	2,800	1,100	1,800	–7,400	–27,000	–23,000	–11,000
2051	1,700	2,800	1,100	1,800	–7,500	–27,000	–23,000	–11,000
2052	1,700	2,800	1,100	1,800	–7,500	–27,000	–23,000	–12,000
2053	1,700	2,800	1,100	1,800	–7,500	–27,000	–23,000	–12,000
2054	1,700	2,800	1,100	1,800	–7,600	–27,000	–23,000	–12,000
2055	1,700	2,800	1,100	1,900	–7,600	–27,000	–23,000	–12,000

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

TABLE 145—OMEGA ESTIMATED UPSTREAM CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

	EGU				Refinery			
	PM _{2.5}	NO _x	NMOG	SO _x	PM _{2.5}	NO _x	NMOG	SO _x
2027	100	580	49	470	–96	–370	–320	–150
2028	220	1,300	110	1,000	–240	–900	–780	–360
2029	420	2,400	210	2,000	–470	–1,800	–1,500	–710
2030	620	3,500	300	2,800	–710	–2,700	–2,300	–1,100
2031	860	4,800	420	3,900	–1,000	–3,900	–3,400	–1,600
2032	1,100	6,200	540	4,900	–1,400	–5,300	–4,600	–2,100
2033	1,400	7,800	700	6,100	–1,900	–7,100	–6,100	–2,800
2034	1,700	9,100	830	7,100	–2,300	–8,700	–7,500	–3,500
2035	1,900	10,000	940	7,800	–2,700	–10,000	–8,700	–4,100
2036	2,000	11,000	1,000	8,000	–3,000	–11,000	–9,700	–4,600
2037	2,200	11,000	1,100	8,400	–3,400	–13,000	–11,000	–5,200
2038	2,300	12,000	1,200	8,400	–3,800	–14,000	–12,000	–5,700
2039	2,400	12,000	1,200	8,300	–4,100	–15,000	–13,000	–6,200
2040	2,400	12,000	1,300	8,000	–4,400	–16,000	–14,000	–6,700
2041	2,400	12,000	1,300	7,500	–4,700	–17,000	–15,000	–7,200
2042	2,400	11,000	1,300	6,800	–4,900	–18,000	–16,000	–7,500
2043	2,400	10,000	1,300	6,000	–5,200	–19,000	–16,000	–7,900
2044	2,300	9,500	1,300	4,900	–5,300	–20,000	–17,000	–8,100
2045	2,100	8,500	1,200	3,800	–5,500	–20,000	–17,000	–8,400
2046	2,000	7,400	1,200	2,700	–5,700	–21,000	–18,000	–8,700
2047	1,900	6,200	1,100	1,400	–5,800	–21,000	–18,000	–8,800
2048	1,700	5,000	1,100	1,400	–5,900	–22,000	–18,000	–9,000
2049	1,500	3,700	1,000	1,400	–6,000	–22,000	–19,000	–9,200
2050	1,400	2,300	930	1,500	–6,100	–22,000	–19,000	–9,300
2051	1,400	2,300	940	1,500	–6,200	–22,000	–19,000	–9,400
2052	1,400	2,300	940	1,500	–6,200	–22,000	–19,000	–9,500
2053	1,400	2,300	950	1,500	–6,200	–22,000	–19,000	–9,500
2054	1,400	2,400	950	1,500	–6,200	–22,000	–19,000	–9,500
2055	1,400	2,400	950	1,500	–6,200	–22,000	–19,000	–9,500

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

TABLE 146—OMEGA ESTIMATED UPSTREAM CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

	EGU				Refinery			
	PM _{2.5}	NO _x	NMOG	SO _x	PM _{2.5}	NO _x	NMOG	SO _x
2027	84	490	42	400	–78	–300	–260	–120
2028	190	1,100	95	910	–200	–750	–650	–300
2029	320	1,800	160	1,500	–350	–1,300	–1,100	–520
2030	500	2,900	250	2,300	–570	–2,200	–1,900	–870
2031	780	4,400	380	3,500	–930	–3,500	–3,000	–1,400
2032	1,100	6,100	540	4,900	–1,400	–5,200	–4,500	–2,100

TABLE 146—OMEGA ESTIMATED UPSTREAM CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[U.S. tons per year]

	EGU				Refinery			
	PM _{2.5}	NO _x	NMOG	SO _x	PM _{2.5}	NO _x	NMOG	SO _x
2033	1,400	7,700	690	6,100	–1,800	–7,000	–6,000	–2,800
2034	1,700	9,300	850	7,300	–2,400	–8,900	–7,600	–3,600
2035	2,000	10,000	970	8,100	–2,800	–11,000	–9,100	–4,300
2036	2,100	11,000	1,100	8,400	–3,200	–12,000	–10,000	–4,800
2037	2,300	12,000	1,200	8,800	–3,600	–13,000	–12,000	–5,500
2038	2,400	12,000	1,200	8,900	–4,000	–15,000	–13,000	–6,100
2039	2,500	12,000	1,300	8,800	–4,400	–16,000	–14,000	–6,600
2040	2,600	12,000	1,300	8,500	–4,700	–18,000	–15,000	–7,200
2041	2,600	12,000	1,400	8,000	–5,100	–19,000	–16,000	–7,700
2042	2,600	12,000	1,400	7,200	–5,300	–20,000	–17,000	–8,100
2043	2,500	11,000	1,400	6,400	–5,600	–21,000	–18,000	–8,600
2044	2,400	10,000	1,300	5,300	–5,800	–21,000	–18,000	–8,900
2045	2,300	9,200	1,300	4,100	–6,000	–22,000	–19,000	–9,200
2046	2,200	8,100	1,300	2,900	–6,200	–23,000	–19,000	–9,500
2047	2,000	6,800	1,200	1,500	–6,300	–23,000	–20,000	–9,700
2048	1,900	5,400	1,200	1,600	–6,500	–24,000	–20,000	–9,900
2049	1,700	4,000	1,100	1,600	–6,600	–24,000	–20,000	–10,000
2050	1,500	2,500	1,000	1,600	–6,700	–24,000	–21,000	–10,000
2051	1,500	2,500	1,000	1,600	–6,800	–25,000	–21,000	–10,000
2052	1,500	2,600	1,000	1,600	–6,800	–25,000	–21,000	–10,000
2053	1,500	2,600	1,000	1,600	–6,900	–25,000	–21,000	–10,000
2054	1,500	2,600	1,000	1,700	–6,900	–25,000	–21,000	–11,000
2055	1,500	2,600	1,000	1,700	–6,900	–25,000	–21,000	–11,000

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

Table 147 through Table 150 show the net impact of the proposed standards and alternatives on emissions of criteria pollutants, accounting for vehicle, EGU, and refinery emissions. In 2055, when the fleet will be largely comprised of vehicle meeting the proposed standards,

there would be a net decrease in emissions of PM_{2.5}, NO_x, and SO_x (i.e., all of the pollutants for which we have emissions estimates from all three source sectors). The proposal would result in net reductions of PM_{2.5}, NO_x, NMOG, and CO emissions for all years

between 2028 and 2055. Net SO_x emissions would be reduced beginning in 2040. Until then, the increased electricity generation associated with the proposed standards would result in net increases in SO_x emissions, which would peak in the mid-2030's.

TABLE 147—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES, EGUS AND REFINERIES
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2027	–62	–430	–1,500	410	–24,000	–0.11	–0.070	–0.13	0.89	–0.22
2028	–180	–1,100	–4,300	860	–61,000	–0.33	–0.21	–0.42	1.9	–0.60
2029	–360	–2,300	–8,900	1,400	–110,000	–0.68	–0.49	–0.91	3.1	–1.2
2030	–900	–3,700	–15,000	1,900	–180,000	–1.8	–0.9	–1.6	4.2	–2.0
2031	–1,500	–5,700	–21,000	2,400	–250,000	–3.0	–1.5	–2.5	5.3	–3.1
2032	–2,100	–8,100	–30,000	2,800	–330,000	–4.4	–2.4	–3.6	6.3	–4.5
2033	–2,800	–11,000	–39,000	3,000	–430,000	–6.0	–3.5	–5.1	7.0	–6.2
2034	–3,600	–14,000	–50,000	3,100	–530,000	–7.7	–4.9	–6.9	7.3	–8.3
2035	–4,400	–17,000	–61,000	3,000	–640,000	–9.5	–6.5	–8.9	7.2	–11
2036	–5,100	–20,000	–72,000	2,600	–720,000	–11	–8.2	–11	6.3	–13
2037	–5,900	–23,000	–84,000	2,000	–820,000	–13	–10	–14	5.1	–16
2038	–6,700	–26,000	–97,000	1,300	–930,000	–15	–13	–17	3.4	–19
2039	–7,500	–30,000	–110,000	400	–1,000,000	–17	–15	–20	1.1	–22
2040	–8,400	–33,000	–120,000	–650	–1,100,000	–19	–17	–23	–1.8	–25
2041	–9,200	–37,000	–130,000	–1,800	–1,200,000	–21	–20	–26	–5.2	–28
2042	–9,900	–40,000	–150,000	–3,100	–1,300,000	–23	–22	–29	–9	–31
2043	–11,000	–43,000	–160,000	–4,500	–1,400,000	–25	–25	–32	–14	–34
2044	–11,000	–46,000	–170,000	–6,000	–1,400,000	–26	–27	–35	–19	–37
2045	–12,000	–49,000	–180,000	–7,500	–1,500,000	–28	–29	–37	–25	–39
2046	–13,000	–52,000	–190,000	–9,200	–1,600,000	–30	–31	–40	–32	–41
2047	–13,000	–55,000	–190,000	–11,000	–1,600,000	–31	–34	–42	–39	–43
2048	–14,000	–58,000	–200,000	–11,000	–1,700,000	–32	–36	–44	–40	–44
2049	–14,000	–61,000	–210,000	–11,000	–1,700,000	–33	–38	–45	–40	–46

TABLE 147—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES, EGUS AND REFINERIES—Continued
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2050	–15,000	–63,000	–210,000	–11,000	–1,700,000	–34	–40	–46	–41	–47
2051	–15,000	–64,000	–220,000	–11,000	–1,800,000	–35	–40	–47	–41	–47
2052	–15,000	–65,000	–220,000	–12,000	–1,800,000	–35	–40	–48	–41	–48
2053	–15,000	–65,000	–220,000	–12,000	–1,800,000	–35	–41	–49	–42	–49
2054	–15,000	–66,000	–220,000	–12,000	–1,800,000	–35	–41	–49	–42	–49
2055	–15,000	–66,000	–220,000	–12,000	–1,800,000	–35	–41	–50	–42	–49

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

TABLE 148—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE ALTERNATIVE 1 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES, EGUS AND REFINERIES
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2027	–65	–440	–1,500	420	–25,000	–0.11	–0.072	–0.14	0.92	–0.23
2028	–200	–1,200	–4,600	940	–65,000	–0.37	–0.22	–0.45	2.1	–0.65
2029	–400	–2,400	–9,000	1,400	–110,000	–0.76	–0.49	–0.93	3.1	–1.2
2030	–970	–3,900	–15,000	2,000	–180,000	–1.9	–0.9	–1.7	4.4	–2.1
2031	–1,600	–6,000	–23,000	2,400	–260,000	–3.2	–1.6	–2.6	5.3	–3.2
2032	–2,200	–8,600	–32,000	2,700	–350,000	–4.6	–2.5	–3.9	6.2	–4.7
2033	–3,000	–12,000	–42,000	3,100	–450,000	–6.2	–3.8	–5.5	7.0	–6.6
2034	–3,800	–15,000	–54,000	3,100	–570,000	–8.0	–5.3	–7.5	7.4	–8.8
2035	–4,500	–18,000	–67,000	3,000	–680,000	–9.9	–7.0	–9.8	7.2	–11
2036	–5,300	–21,000	–80,000	2,600	–780,000	–12	–8.9	–12	6.4	–14
2037	–6,100	–25,000	–93,000	2,100	–900,000	–14	–11	–15	5.2	–17
2038	–7,000	–29,000	–110,000	1,300	–1,000,000	–16	–14	–18	3.4	–20
2039	–7,800	–32,000	–120,000	340	–1,100,000	–18	–16	–22	0.9	–24
2040	–8,700	–36,000	–140,000	–780	–1,200,000	–20	–19	–25	–2.2	–27
2041	–9,500	–40,000	–150,000	–2,100	–1,300,000	–22	–21	–29	–5.9	–31
2042	–10,000	–43,000	–160,000	–3,500	–1,400,000	–24	–24	–32	–10	–34
2043	–11,000	–47,000	–180,000	–5,000	–1,500,000	–26	–27	–35	–15	–37
2044	–12,000	–50,000	–190,000	–6,600	–1,600,000	–27	–29	–38	–21	–40
2045	–12,000	–53,000	–200,000	–8,300	–1,700,000	–29	–32	–41	–28	–43
2046	–13,000	–57,000	–210,000	–10,000	–1,700,000	–31	–34	–44	–35	–45
2047	–14,000	–59,000	–210,000	–12,000	–1,800,000	–32	–36	–46	–43	–47
2048	–14,000	–63,000	–220,000	–12,000	–1,800,000	–33	–39	–48	–44	–49
2049	–15,000	–66,000	–230,000	–12,000	–1,900,000	–35	–41	–50	–45	–50
2050	–15,000	–69,000	–230,000	–13,000	–1,900,000	–36	–43	–51	–45	–52
2051	–15,000	–69,000	–240,000	–13,000	–1,900,000	–36	–43	–52	–45	–52
2052	–16,000	–70,000	–240,000	–13,000	–2,000,000	–36	–44	–53	–45	–53
2053	–16,000	–71,000	–240,000	–13,000	–2,000,000	–37	–44	–54	–46	–54
2054	–16,000	–71,000	–250,000	–13,000	–2,000,000	–37	–44	–54	–46	–54
2055	–16,000	–71,000	–250,000	–13,000	–2,000,000	–37	–44	–55	–46	–55

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

TABLE 149—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE ALTERNATIVE 2 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES, EGUS AND REFINERIES
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2027	–45	–360	–1,100	290	–17,000	–0.08	–0.058	–0.10	0.64	–0.16
2028	–130	–910	–3,100	600	–42,000	–0.25	–0.17	–0.30	1.3	–0.42
2029	–290	–2,000	–6,900	1,100	–88,000	–0.55	–0.41	–0.71	2.4	–0.9
2030	–820	–3,100	–11,000	1,500	–140,000	–1.6	–0.7	–1.2	3.3	–1.6
2031	–1,400	–4,900	–17,000	1,900	–200,000	–2.8	–1.3	–2.0	4.2	–2.5
2032	–2,000	–7,000	–24,000	2,200	–270,000	–4.1	–2.1	–3.0	5.1	–3.7
2033	–2,700	–9,600	–33,000	2,600	–360,000	–5.7	–3.2	–4.3	5.9	–5.3

TABLE 149—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE ALTERNATIVE 2 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES, EGUS AND REFINERIES—Continued
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2034	–3,400	–12,000	–43,000	2,700	–460,000	–7.4	–4.5	–5.9	6.3	–7.2
2035	–4,200	–15,000	–53,000	2,600	–560,000	–9.1	–5.9	–7.7	6.3	–9
2036	–4,900	–18,000	–63,000	2,300	–640,000	–11	–7.5	–10	5.6	–11
2037	–5,700	–21,000	–74,000	1,900	–730,000	–13	–9	–12	4.8	–14
2038	–6,500	–24,000	–85,000	1,300	–830,000	–15	–11	–15	3.3	–17
2039	–7,300	–27,000	–97,000	500	–920,000	–17	–14	–17	1.3	–20
2040	–8,000	–31,000	–110,000	–430	–1,000,000	–18	–16	–20	–1.2	–23
2041	–8,800	–34,000	–120,000	–1,500	–1,100,000	–20	–18	–23	–4.3	–25
2042	–9,500	–37,000	–130,000	–2,700	–1,200,000	–22	–21	–26	–8	–28
2043	–10,000	–40,000	–140,000	–4,000	–1,300,000	–24	–23	–29	–12	–31
2044	–11,000	–43,000	–150,000	–5,300	–1,300,000	–25	–25	–31	–17	–33
2045	–12,000	–45,000	–160,000	–6,700	–1,400,000	–27	–27	–33	–22	–35
2046	–12,000	–48,000	–170,000	–8,300	–1,400,000	–28	–29	–36	–29	–37
2047	–13,000	–51,000	–170,000	–9,700	–1,500,000	–30	–31	–38	–35	–39
2048	–13,000	–54,000	–180,000	–10,000	–1,500,000	–31	–33	–39	–36	–40
2049	–14,000	–56,000	–190,000	–10,000	–1,600,000	–32	–35	–41	–37	–42
2050	–14,000	–59,000	–190,000	–10,000	–1,600,000	–33	–37	–42	–37	–43
2051	–14,000	–59,000	–200,000	–10,000	–1,600,000	–34	–37	–43	–37	–43
2052	–14,000	–60,000	–200,000	–10,000	–1,600,000	–34	–37	–44	–38	–44
2053	–15,000	–60,000	–200,000	–11,000	–1,600,000	–34	–38	–44	–38	–44
2054	–15,000	–61,000	–200,000	–11,000	–1,600,000	–34	–38	–45	–38	–45
2055	–15,000	–61,000	–200,000	–11,000	–1,600,000	–34	–38	–45	–38	–45

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

TABLE 150—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE ALTERNATIVE 3 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES, EGUS AND REFINERIES
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2027	–37	–360	–1,000	250	–15,000	–0.07	–0.058	–0.09	0.55	–0.14
2028	–110	–870	–2,900	530	–39,000	–0.21	–0.16	–0.28	1.2	–0.39
2029	–220	–1,600	–5,500	830	–68,000	–0.42	–0.34	–0.56	1.8	–0.7
2030	–740	–2,700	–9,400	1,200	–110,000	–1.4	–0.6	–1.0	2.7	–1.3
2031	–1,300	–4,500	–15,000	1,700	–180,000	–2.6	–1.2	–1.7	3.9	–2.2
2032	–1,900	–6,800	–23,000	2,300	–260,000	–4.0	–2.0	–2.8	5.1	–3.6
2033	–2,600	–9,500	–31,000	2,600	–360,000	–5.5	–3.1	–4.1	6.0	–5.2
2034	–3,400	–13,000	–41,000	2,800	–470,000	–7.2	–4.5	–5.7	6.5	–7.3
2035	–4,200	–16,000	–52,000	2,700	–570,000	–9.0	–6.1	–7.7	6.5	–10
2036	–4,900	–19,000	–63,000	2,400	–660,000	–11	–7.8	–10	5.9	–12
2037	–5,700	–22,000	–75,000	1,900	–770,000	–13	–10	–12	4.9	–15
2038	–6,500	–25,000	–88,000	1,300	–870,000	–15	–12	–15	3.3	–18
2039	–7,300	–29,000	–100,000	440	–980,000	–17	–14	–18	1.2	–21
2040	–8,200	–32,000	–110,000	–550	–1,100,000	–19	–17	–21	–1.5	–24
2041	–9,000	–36,000	–130,000	–1,700	–1,200,000	–21	–19	–24	–4.9	–27
2042	–9,700	–39,000	–140,000	–3,000	–1,300,000	–23	–22	–27	–9	–30
2043	–11,000	–43,000	–150,000	–4,400	–1,400,000	–24	–24	–31	–13	–33
2044	–11,000	–46,000	–160,000	–5,800	–1,400,000	–26	–27	–33	–19	–36
2045	–12,000	–49,000	–170,000	–7,400	–1,500,000	–28	–29	–36	–25	–38
2046	–13,000	–52,000	–180,000	–9,100	–1,600,000	–29	–31	–39	–31	–41
2047	–13,000	–55,000	–190,000	–11,000	–1,600,000	–31	–33	–41	–39	–42
2048	–14,000	–58,000	–200,000	–11,000	–1,700,000	–32	–36	–43	–40	–44
2049	–14,000	–60,000	–210,000	–11,000	–1,700,000	–33	–38	–45	–40	–45
2050	–15,000	–63,000	–210,000	–11,000	–1,700,000	–34	–40	–46	–41	–47
2051	–15,000	–64,000	–210,000	–11,000	–1,800,000	–35	–40	–47	–41	–47
2052	–15,000	–65,000	–220,000	–12,000	–1,800,000	–35	–40	–48	–41	–48
2053	–15,000	–65,000	–220,000	–12,000	–1,800,000	–35	–41	–49	–42	–49
2054	–15,000	–66,000	–220,000	–12,000	–1,800,000	–35	–41	–49	–42	–49
2055	–15,000	–66,000	–220,000	–12,000	–1,800,000	–35	–41	–50	–42	–50

* CO emission rates were not available for calculating CO inventories from EGUs or refineries.

The estimated refinery emission impacts include consideration of the impact on reduced liquid fuel demand on domestic refining. Our central analysis estimates that impact at 93 percent. In other words, 93 percent of the reduced liquid fuel demand results in reduced domestic refining. There is

the possibility that reduced domestic demand for liquid fuel would have no impact on domestic refining. In other words, excess domestic refined liquid fuel would be exported for use elsewhere. In that event, there would be no decrease in domestic refinery emissions and the net criteria air

pollutant impacts for the proposed standards would be as shown in Table 151. We request comment on the correct portion of reduced liquid fuel demand that would result in reduced domestic refining.

TABLE 151—OMEGA ESTIMATED NET CRITERIA EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY VEHICLES AND EGUS AND NO IMPACTS FROM REFINERIES
[U.S. tons per year]

Calendar year	Emission impacts relative to no action (thousand U.S. tons)					Percent change from no action				
	PM _{2.5}	NO _x	NMOG	SO _x	CO	PM _{2.5} (%)	NO _x (%)	NMOG (%)	SO _x (%)	CO (%)
2027	70	79	−1,000	610	−24,000	0.20	0.015	−0.1	4.5	−0.22
2028	150	100	−3,300	1,400	−61,000	0.43	0.02	−0.34	9.3	−0.6
2029	230	−61	−6,900	2,300	−110,000	0.70	−0.02	−0.76	15	−1.2
2030	−8	−320	−12,000	3,300	−180,000	0.0	−0.1	−1.3	19	−2
2031	−230	−900	−17,000	4,300	−250,000	−0.7	−0.3	−2.1	24	−3.1
2032	−430	−1,700	−24,000	5,300	−330,000	−1.4	−0.6	−3.2	29	−4.5
2033	−680	−2,600	−32,000	6,300	−430,000	−2.2	−1.1	−4.5	34	−6.2
2034	−960	−3,800	−41,000	7,100	−530,000	−3.1	−1.7	−6.1	39	−8.3
2035	−1,300	−5,200	−51,000	7,600	−640,000	−4.2	−2.6	−8.1	42	−11
2036	−1,700	−6,900	−61,000	7,700	−720,000	−6	−3.8	−10	43	−13
2037	−2,100	−8,700	−72,000	7,800	−820,000	−7	−5	−13	45	−16
2038	−2,500	−11,000	−83,000	7,700	−930,000	−9	−7	−16	47	−19
2039	−3,000	−13,000	−95,000	7,300	−1,000,000	−10	−9	−19	47	−22
2040	−3,500	−15,000	−110,000	6,800	−1,100,000	−12	−11	−22	47	−25
2041	−4,000	−17,000	−120,000	6,100	−1,200,000	−13	−13	−25	45	−28
2042	−4,400	−20,000	−130,000	5,200	−1,300,000	−15	−15	−28	42	−31
2043	−4,900	−22,000	−140,000	4,200	−1,400,000	−17	−18	−31	37	−34
2044	−5,400	−24,000	−150,000	3,000	−1,400,000	−19	−20	−34	30	−37
2045	−5,900	−27,000	−160,000	1,800	−1,500,000	−20	−23	−37	19	−39
2046	−6,400	−29,000	−170,000	410	−1,600,000	−22	−25	−39	5	−41
2047	−6,800	−31,000	−170,000	−1,000	−1,600,000	−23	−28	−41	−16	−43
2048	−7,200	−34,000	−180,000	−1,000	−1,700,000	−25	−30	−43	−16	−44
2049	−7,600	−36,000	−190,000	−1,100	−1,700,000	−26	−33	−45	−16	−46
2050	−8,000	−39,000	−190,000	−1,100	−1,700,000	−28	−35	−46	−16	−47
2051	−8,000	−39,000	−200,000	−1,100	−1,800,000	−28	−36	−47	−16	−47
2052	−8,100	−40,000	−200,000	−1,100	−1,800,000	−28	−36	−48	−17	−48
2053	−8,200	−41,000	−200,000	−1,100	−1,800,000	−28	−37	−49	−17	−49
2054	−8,200	−41,000	−200,000	−1,100	−1,800,000	−29	−37	−49	−17	−49
2055	−8,300	−41,000	−200,000	−1,100	−1,800,000	−29	−37	−50	−17	−49

Table 152 through Table 155 show reductions in vehicle emissions of air toxics. We expect this proposal would reduce emissions of air toxics from light- and medium-duty vehicles in three ways: The GPF technology that we project manufacturers would choose to use in meeting the proposed PM standards would decrease particle-phase pollutants, the NMOG+NO_x standards would decrease gas-phase toxics, and the projected increase in BEVs we project manufacturers would choose to

produce in complying with the GHG standards would result in lower air toxic emissions overall from the light- and medium-duty fleet.

For most air toxic emissions, we rely on estimates from EPA's MOVES emissions model. In MOVES, emissions of most gaseous toxic compounds are estimated as fractions of the emissions of VOC. Toxic species in the particulate phase (e.g., polycyclic aromatic hydrocarbons (PAHs)) are estimated as fractions of total organic carbon smaller

than 2.5 µm (OC2.5). Thus, reductions in air toxic emissions are proportional to modelled reductions in total VOCs and/or OC2.5.⁷⁶⁸ Emission measurements of PAHs in EPA's recent GPF test program (see Section III.C.2 and DRIA Chapter 3.2.2) suggest this is a conservative estimate indicate reduction in emissions of particle-phase PAH compounds of over 99 percent, compared to about 95 percent for total PM.

⁷⁶⁸ U.S. EPA (2020) Air Toxic Emissions from Onroad Vehicles in MOVES3. Assessment and

Standards Division, Office of Transportation and Air Quality. Report No. EPA-420-R-20-022.

November 2020. <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1010TJM.pdf>.

TABLE 152—OMEGA ESTIMATED VEHICLE AIR TOXIC EMISSION IMPACTS OF THE PROPOSED STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	Formaldehyde	Naphthalene	1,3 Butadiene	15 PAH
2027	-16	-1	-44	-17	-9.1	-1.9	-6.5	-0.044
2028	-38	-2.4	-110	-53	-22	-4.7	-16	-0.11
2029	-69	-4.4	-200	-110	-40	-8.5	-29	-0.21
2030	-100	-6.6	-310	-190	-60	-13	-43	-0.43
2031	-140	-9.2	-430	-290	-83	-18	-59	-0.66
2032	-190	-12	-570	-400	-110	-23	-78	-0.9
2033	-240	-15	-730	-530	-140	-29	-98	-1.2
2034	-290	-19	-900	-680	-170	-36	-120	-1.4
2035	-350	-22	-1100	-850	-200	-42	-140	-1.7
2036	-390	-25	-1200	-1000	-230	-47	-160	-1.9
2037	-430	-28	-1400	-1200	-250	-53	-180	-2.2
2038	-480	-31	-1500	-1400	-280	-59	-200	-2.5
2039	-520	-34	-1700	-1600	-310	-64	-210	-2.7
2040	-560	-37	-1800	-1800	-330	-69	-230	-2.9
2041	-610	-39	-2000	-2000	-360	-74	-250	-3.2
2042	-640	-41	-2100	-2200	-380	-78	-260	-3.4
2043	-670	-44	-2200	-2300	-400	-82	-270	-3.6
2044	-700	-45	-2300	-2500	-410	-85	-280	-3.7
2045	-720	-47	-2400	-2600	-430	-88	-290	-3.9
2046	-750	-48	-2500	-2800	-440	-91	-300	-4.1
2047	-760	-49	-2600	-2900	-450	-93	-310	-4.2
2048	-780	-51	-2600	-3000	-470	-96	-310	-4.3
2049	-800	-52	-2700	-3100	-480	-98	-320	-4.4
2050	-810	-53	-2800	-3200	-490	-100	-330	-4.5
2051	-820	-54	-2800	-3300	-490	-100	-330	-4.5
2052	-830	-54	-2800	-3300	-500	-100	-330	-4.6
2053	-840	-55	-2900	-3300	-500	-100	-330	-4.6
2054	-840	-55	-2900	-3400	-510	-100	-340	-4.7
2055	-840	-55	-2900	-3400	-510	-100	-340	-4.7

TABLE 153—ESTIMATED VEHICLE AIR TOXIC EMISSION IMPACTS OF THE ALTERNATIVE 1 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	Formaldehyde	Naphthalene	1,3 Butadiene	15 PAH
2027	-17	-1.1	-46	-18	-9.5	-2	-6.8	-0.046
2028	-41	-2.6	-120	-56	-23	-5	-17	-0.12
2029	-70	-4.5	-210	-110	-41	-8.6	-29	-0.21
2030	-110	-7	-330	-200	-63	-13	-45	-0.44
2031	-150	-9.7	-450	-300	-87	-18	-62	-0.67
2032	-200	-13	-600	-420	-110	-24	-81	-0.91
2033	-260	-16	-780	-570	-150	-31	-100	-1.2
2034	-310	-20	-970	-740	-180	-38	-130	-1.5
2035	-370	-24	-1100	-930	-210	-45	-150	-1.7
2036	-410	-27	-1300	-1100	-240	-51	-170	-2
2037	-470	-30	-1500	-1300	-270	-57	-190	-2.3
2038	-520	-34	-1700	-1500	-300	-64	-210	-2.5
2039	-570	-37	-1800	-1800	-330	-69	-230	-2.8
2040	-610	-40	-2000	-2000	-360	-75	-250	-3
2041	-660	-42	-2200	-2200	-390	-81	-270	-3.2
2042	-690	-45	-2300	-2400	-410	-85	-280	-3.5
2043	-730	-47	-2400	-2600	-430	-90	-300	-3.7
2044	-760	-49	-2500	-2800	-450	-93	-310	-3.8
2045	-790	-51	-2600	-2900	-470	-97	-320	-4
2046	-810	-53	-2800	-3100	-480	-100	-330	-4.2
2047	-830	-54	-2800	-3200	-490	-100	-340	-4.3
2048	-850	-56	-2900	-3300	-510	-110	-350	-4.4
2049	-870	-57	-3000	-3400	-520	-110	-350	-4.5
2050	-890	-58	-3000	-3500	-530	-110	-360	-4.6
2051	-900	-59	-3100	-3600	-540	-110	-360	-4.7
2052	-910	-59	-3100	-3600	-540	-110	-370	-4.7
2053	-910	-60	-3100	-3700	-550	-110	-370	-4.8
2054	-920	-60	-3100	-3700	-550	-110	-370	-4.8
2055	-920	-60	-3200	-3700	-550	-110	-370	-4.8

TABLE 154—ESTIMATED VEHICLE AIR TOXIC EMISSION IMPACTS OF THE ALTERNATIVE 2 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	Formaldehyde	Naphthalene	1,3 Butadiene	15 PAH
2027	-12	-0.76	-32	-12	-6.7	-1.4	-4.7	-0.032
2028	-27	-1.8	-78	-38	-16	-3.3	-11	-0.08
2029	-55	-3.5	-160	-88	-32	-6.7	-22	-0.16
2030	-82	-5.3	-240	-150	-48	-10	-34	-0.38
2031	-120	-7.6	-350	-230	-68	-14	-48	-0.6
2032	-160	-10	-480	-320	-93	-19	-64	-0.83
2033	-210	-14	-630	-440	-120	-25	-85	-1.1
2034	-260	-17	-790	-580	-150	-32	-110	-1.4
2035	-310	-20	-940	-730	-180	-37	-120	-1.6
2036	-340	-22	-1100	-880	-200	-42	-140	-1.9
2037	-390	-25	-1200	-1000	-230	-48	-160	-2.1
2038	-440	-28	-1400	-1200	-260	-53	-180	-2.4
2039	-480	-31	-1500	-1400	-280	-58	-190	-2.6
2040	-520	-34	-1700	-1600	-310	-63	-210	-2.9
2041	-550	-36	-1800	-1700	-330	-68	-220	-3.1
2042	-590	-38	-1900	-1900	-350	-72	-240	-3.3
2043	-620	-40	-2000	-2100	-370	-76	-250	-3.5
2044	-640	-42	-2100	-2200	-380	-79	-260	-3.7
2045	-660	-43	-2200	-2400	-400	-81	-270	-3.8
2046	-690	-45	-2300	-2500	-410	-84	-280	-4
2047	-700	-46	-2400	-2600	-420	-86	-280	-4.1
2048	-720	-47	-2400	-2700	-430	-88	-290	-4.2
2049	-740	-48	-2500	-2800	-440	-90	-300	-4.3
2050	-750	-49	-2500	-2900	-450	-92	-300	-4.4
2051	-760	-50	-2600	-2900	-460	-93	-300	-4.5
2052	-770	-50	-2600	-3000	-460	-94	-310	-4.5
2053	-770	-51	-2600	-3000	-460	-94	-310	-4.5
2054	-780	-51	-2600	-3100	-470	-95	-310	-4.6
2055	-780	-51	-2600	-3100	-470	-95	-310	-4.6

TABLE 155—ESTIMATED VEHICLE AIR TOXIC EMISSION IMPACTS OF THE ALTERNATIVE 3 STANDARDS RELATIVE TO THE NO ACTION SCENARIO, LIGHT-DUTY AND MEDIUM-DUTY
[U.S. tons per year]

Calendar year	Acetaldehyde	Acrolein	Benzene	Ethylbenzene	Formaldehyde	Naphthalene	1,3 Butadiene	15 PAH
2027	-10	-0.67	-28	-12	-6	-1.2	-4.1	-0.028
2028	-25	-1.6	-71	-36	-14	-3	-10	-0.073
2029	-42	-2.7	-120	-71	-25	-5.2	-17	-0.13
2030	-68	-4.4	-200	-120	-40	-8.3	-28	-0.34
2031	-110	-6.9	-320	-200	-63	-13	-43	-0.57
2032	-150	-10	-460	-300	-90	-19	-63	-0.81
2033	-210	-13	-620	-410	-120	-25	-84	-1.1
2034	-260	-17	-800	-560	-150	-32	-110	-1.3
2035	-320	-20	-970	-710	-180	-39	-130	-1.6
2036	-360	-23	-1100	-880	-210	-44	-150	-1.9
2037	-410	-27	-1300	-1100	-240	-50	-170	-2.1
2038	-460	-30	-1400	-1200	-270	-56	-190	-2.4
2039	-510	-33	-1600	-1400	-300	-62	-210	-2.6
2040	-550	-36	-1800	-1600	-320	-67	-220	-2.9
2041	-590	-38	-1900	-1800	-350	-72	-240	-3.1
2042	-630	-41	-2000	-2000	-370	-77	-250	-3.3
2043	-660	-43	-2200	-2200	-390	-81	-270	-3.5
2044	-690	-45	-2300	-2400	-410	-84	-280	-3.7
2045	-710	-46	-2400	-2600	-420	-88	-290	-3.9
2046	-740	-48	-2500	-2700	-440	-91	-300	-4
2047	-760	-49	-2600	-2800	-450	-93	-310	-4.2
2048	-780	-51	-2600	-3000	-470	-96	-310	-4.3
2049	-800	-52	-2700	-3100	-480	-98	-320	-4.4
2050	-810	-53	-2800	-3200	-490	-100	-330	-4.5
2051	-820	-54	-2800	-3200	-490	-100	-330	-4.5
2052	-830	-54	-2800	-3300	-500	-100	-330	-4.6
2053	-840	-55	-2900	-3300	-500	-100	-340	-4.6
2054	-840	-55	-2900	-3400	-510	-100	-340	-4.7
2055	-850	-55	-2900	-3400	-510	-100	-340	-4.7

B. How would the proposal affect air quality?

In the very localized area in close proximity to roadways (*i.e.*, within 300–600 meters of the roadway), the decreases in vehicle emissions resulting from the proposal would decrease ambient levels of PM_{2.5}, NO₂, and other traffic-related pollutants described in Section II.C.8.

The changes in emissions that are presented in Section VII.A would also impact ambient levels of ozone, PM_{2.5}, NO₂, SO₂, CO, and air toxics over a larger geographic scale. Photochemical air quality modeling is necessary to predict these air quality impacts of the proposal's emissions changes, because many of these pollutants form in the atmosphere and their concentrations depend on many complex factors (including the spatial and temporal distribution of the emissions changes, atmospheric chemistry, and meteorology). EPA conducted an illustrative air quality modeling analysis of a regulatory scenario involving light- and medium-duty vehicle emission reductions and corresponding changes in “upstream” emission sources like EGU (electric generating unit) emissions and refinery emissions. Decisions about the emissions and other elements used in the air quality modeling were made early in the analytical process for the proposed rulemaking. Accordingly, the air quality analysis does not represent the proposal's regulatory scenario, nor does it reflect the expected impacts of the Inflation Reduction Act (IRA). Based on updated power sector modeling that incorporated expected generation mix impacts of the IRA, we are projecting the IRA will lead to a significantly cleaner power grid; nevertheless, the analysis provides some insights into potential air quality impacts associated with emissions increases and decreases from these multiple sectors. Chapter 8 of the DRIA provides details on the methodology, emissions inputs, and results of this illustrative air quality modeling.

On the basis of the exploratory air quality modeling, we conclude that in 2055 the proposal would result in widespread decreases in ozone, PM_{2.5}, NO₂, CO, and some air toxics, even when accounting for the impacts of increased electricity generation. While the results of the illustrative analysis

include some increases in ambient pollutant concentrations, as the power sector becomes cleaner over time as a result of the IRA and future policies, these impacts would decrease. Although the specific locations of increased air pollution are uncertain, we expect them to be in more limited geographic areas, compared to the widespread decreases that we predict to result from the reductions in vehicle emissions.

VIII. Estimated Costs and Benefits and Associated Considerations

This section presents a summary of costs, benefits, and net benefits plus additional considerations associated with these costs and benefits. We begin with a high-level summary in Section VIII.A. of this preamble, followed by more detailed content and discussion in subsequent subsections.

A. Summary of Costs and Benefits

This section presents a high-level summary of monetized costs, benefits, and net benefits of the standards. Using the 3 percent average SC–GHG value for climate benefits, the net benefits for the proposal are \$200 billion to \$220 billion for calendar year (CY) 2055. The present value (PV) of net benefits for calendar years 2027 through 2055, with discounting to 2027, is \$1.6 trillion using a 3 percent discount rate and \$850 billion using a 7 percent discount rate. The equivalent annualized values (EAV) of those present values are \$85 billion and \$60 billion, respectively.⁷⁶⁹

Costs and benefits are categorized into non-emission costs, fueling impacts, non-emissions benefits, climate benefits, and criteria air pollutant benefits. Table 156 breaks down net benefits into costs and benefits for CY 2055, as well as present values (PV) and equivalent annualized values (EAV) using both 3 percent and 7 percent discount rates for all costs and benefits except for climate benefits. Table 156 shows the climate benefits using the central SC–GHG values at 5, 3 and 2.5 percent discount rate, as well as the 95th percentile values at 3 percent discount rate, and

⁷⁶⁹ The equivalent annualized value (EAV) of benefits, costs, and net benefits represent a flow of constant annual values that, had they occurred in each year from 2027 to 2055, would yield an equivalent present value to those in each of the summary tables (using either a 3 percent or 7 percent discount rate).

the associated net benefits.⁷⁷⁰ The same discount rate used to discount the value of SC–GHGs (at 5, 3, and 2.5 percent) is used to calculate the present and equivalent annualized values of SC–GHGs for internal consistency, we discuss each of these categories in more depth in the following sections. We seek comment on the benefit-cost analysis.

Note that some non-emission costs are shown as negative values in Table 156. Those entries represent savings but are included as costs because, traditionally, things like repair and maintenance have been viewed as costs of vehicle operation. Where negative values are shown, we are estimating that those costs are lower in the proposal than in the no-action case. Congestion and noise costs are attributable to increased congestion and roadway noise resulting from our assumption that drivers may choose to drive more under the proposal versus the no action case. Those increased miles are known as rebound miles and are discussed in Section VIII.F.1 and Chapter 4 of the DRIA.

Similarly, some of the traditional benefits of rulemakings that result in lower fuel consumption by the transportation fleet, *i.e.*, the non-emission benefits, are shown as negative values. Our past GHG rules have estimated that time spent refueling vehicles would be reduced due to the lower fuel consumption of new vehicles; hence, a benefit. However, in this analysis, we are estimating that refueling time would increase somewhat due to our assumptions for mid-trip recharging events for electric vehicles. Therefore, the increased refueling time represents a disbenefit (a negative benefit) as shown. As noted in Section VIII.B.2, we consider our refueling time estimate to be dated considering the rapid changes taking place in electric vehicle charging infrastructure driven in no small part by the Inflation Reduction Act, and we request comment and data on how our estimates could be improved.

Table 157 through Table 159 show the same summary of benefits and costs for each of the three alternatives.

⁷⁷⁰ The 3 percent 95th percentile estimates are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate.

TABLE 156—SUMMARY OF COSTS, FUEL SAVINGS AND BENEFITS OF THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	10	280	180	15	15
Repair Costs	-24	-170	-79	-8.9	-6.5
Maintenance Costs	-51	-410	-200	-21	-16
Congestion Costs	0.16	2.3	1.3	0.12	0.11
Noise Costs	0.0025	0.037	0.021	0.0019	0.0017
Sum of Non-Emission Costs	-65	-290	-96	-15	-7.8
Fueling Impacts					
Pre-tax Fuel Savings	93	890	450	46	37
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	86	770	380	40	31
Non-Emission Benefits					
Drive Value Benefits	0.31	4.8	2.7	0.25	0.22
Refueling Time Benefits	-8.2	-85	-45	-4.4	-3.6
Energy Security Benefits	4.4	41	21	2.2	1.7
Sum of Non-Emission Benefits	-3.6	-39	-21	-2	-1.7
Climate Benefits					
5% Average	15	82	82	5.4	5.4
3% Average	38	330	330	17	17
2.5% Average	52	500	500	25	25
3% 95th Percentile	110	1,000	1,000	52	52
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	16–18	140	63	7.5	5.1
PM _{2.5} Health Benefits—Pope III et al., 2019	31–34	280	130	15	10
Net Benefits					
With Climate 5% Average	180–200	1,400	610	74	48
With Climate 3% Average	200–220	1,600	850	85	60
With Climate 2.5% Average	210–230	1,800	1,000	93	67
With Climate 3% 95th Percentile	280–290	2,300	1,500	120	95

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu et al. (2020) range and the high end of the Pope III et al. (2019) range. The present and equivalent annualized value of net benefits for a 3 percent discount rate reflect benefits based on the Pope III et al. (2019) study while the present and equivalent annualized values of net benefits for a 7 percent discount rate reflect benefits based on the Wu et al. (2020) study.

TABLE 157—SUMMARY OF COSTS, FUEL SAVINGS AND BENEFITS OF THE ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	11	330	220	17	18
Repair Costs	-26	-180	-82	-9.3	-6.7
Maintenance Costs	-57	-450	-220	-24	-18
Congestion Costs	0.11	3.5	2.2	0.18	0.18
Noise Costs	0.0017	0.055	0.034	0.0028	0.0027
Sum of Non-Emission Costs	-71	-300	-82	-15	-6.7
Fueling Impacts					
Pre-tax Fuel Savings	100	990	510	51	41
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	95	870	440	45	36
Non-Emission Benefits					
Drive Value Benefits	0.22	6.5	3.9	0.34	0.32
Refueling Time Benefits	-8.8	-90	-47	-4.7	-3.8
Energy Security Benefits	4.8	46	23	2.4	1.9
Sum of Non-Emission Benefits	-3.8	-38	-20	-2	-1.6
Climate Benefits					
5% Average	16	91	91	6	6
3% Average	41	360	360	19	19

TABLE 157—SUMMARY OF COSTS, FUEL SAVINGS AND BENEFITS OF THE ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
2.5% Average	57	560	560	27	27
3% 95th Percentile	120	1,100	1,100	58	58
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	16–18	150	66	7.7	5.3
PM _{2.5} Health Benefits—Pope III et al., 2019	32–35	290	130	15	11
Net Benefits					
With Climate 5% Average	200–210	1,500	660	80	52
With Climate 3% Average	220–240	1,800	930	93	65
With Climate 2.5% Average	240–260	2,000	1,100	100	73
With Climate 3% 95th Percentile	300–320	2,500	1,700	130	100

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu et al. (2020) range and the high end of the Pope III et al. (2019) range. The present and equivalent annualized value of net benefits for a 3 percent discount rate reflect benefits based on the Pope III et al. (2019) study while the present and equivalent annualized values of net benefits for a 7 percent discount rate reflect benefits based on the Wu et al. (2020) study.

TABLE 158—SUMMARY OF COSTS, FUEL SAVINGS AND BENEFITS OF THE ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	8.8	230	140	12	12
Repair Costs	–22	–160	–74	–8.3	–6
Maintenance Costs	–47	–370	–180	–19	–14
Congestion Costs	0.064	0.74	0.48	0.039	0.039
Noise Costs	0.001	0.012	0.0078	0.00064	0.00064
Sum of Non-Emission Costs	–60	–300	–110	–16	–8.7
Fueling Impacts					
Pre-tax Fuel Savings	84	790	400	41	33
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	77	680	330	35	27
Non-Emission Benefits					
Drive Value Benefits	0.17	2.4	1.5	0.12	0.12
Refueling Time Benefits	–7.6	–79	–41	–4.1	–3.3
Energy Security Benefits	3.9	37	19	1.9	1.5
Sum of Non-Emission Benefits	–3.5	–39	–21	–2	–1.7
Climate Benefits					
5% Average	13	74	74	4.9	4.9
3% Average	34	290	290	15	15
2.5% Average	47	450	450	22	22
3% 95th Percentile	100	900	900	47	47
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	15–17	140	61	7.2	4.9
PM _{2.5} Health Benefits—Pope III et al., 2019	30–33	270	120	14	10
Net Benefits					
With Climate 5% Average	160–180	1,300	550	68	44
With Climate 3% Average	180–200	1,500	780	78	54
With Climate 2.5% Average	200–210	1,700	930	85	61
With Climate 3% 95th Percentile	250–270	2,100	1,400	110	86

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu et al. (2020) range and the high end of the Pope III et al. (2019) range. The present and equivalent annualized value of net benefits for a 3 percent discount rate reflect benefits based on the Pope III et al. (2019) study while the present and equivalent annualized values of net benefits for a 7 percent discount rate reflect benefits based on the Wu et al. (2020) study.

TABLE 159—SUMMARY OF COSTS, FUEL SAVINGS AND BENEFITS OF THE ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]^{a b c}

	CY 2055	PV, 3%	PV, 7%	EAV, 3%	EAV, 7%
Non-Emission Costs					
Vehicle Technology Costs	11	270	170	14	14
Repair Costs	–24	–170	–77	–8.6	–6.3
Maintenance Costs	–51	–390	–190	–20	–15
Congestion Costs	0.11	1.5	0.82	0.078	0.066
Noise Costs	0.0016	0.024	0.013	0.0012	0.0011
Sum of Non-Emission Costs	–64	–290	–95	–15	–7.8
Fueling Impacts					
Pre-tax Fuel Savings	93	850	430	45	35
EVSE Port Costs	7.1	120	68	6.2	5.6
Sum of Fuel Savings less EVSE Port Costs	86	740	360	38	29
Non-Emission Benefits					
Drive Value Benefits	0.21	3.2	1.8	0.17	0.15
Refueling Time Benefits	–8.2	–83	–43	–4.3	–3.5
Energy Security Benefits	4.4	40	20	2.1	1.6
Sum of Non-Emission Benefits	–3.6	–39	–21	–2.1	–1.7
Climate Benefits					
5% Average	15	80	80	5.3	5.3
3% Average	38	320	320	17	17
2.5% Average	52	490	490	24	24
3% 95th Percentile	110	970	970	51	51
Criteria Air Pollutant Benefits					
PM _{2.5} Health Benefits—Wu et al., 2020	16–18	140	62	7.3	5.0
PM _{2.5} Health Benefits—Pope III et al., 2019	31–34	280	120	14	10
Net Benefits					
With Climate 5% Average	180–190	1,300	580	71	46
With Climate 3% Average	200–220	1,600	820	82	57
With Climate 2.5% Average	210–230	1,800	990	90	64
With Climate 3% 95th Percentile	270–290	2,200	1,500	120	91

^a The same discount rate used to discount the value of damages from future emissions (SC–GHG at 5, 3, 2.5 percent) is used to calculate present and equivalent annualized values of SC–GHGs for internal consistency, while all other costs and benefits are discounted at either 3 percent or 7 percent.

^b PM_{2.5}-related health benefits are presented based on two different long-term exposure studies of mortality risk: a Medicare study (Wu et al., 2020) and a National Health Interview Survey study (Pope III et al., 2019). The criteria pollutant benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

^c For net benefits, the range in 2055 uses the low end of the Wu et al. (2020) range and the high end of the Pope III et al. (2019) range. The present and equivalent annualized value of net benefits for a 3 percent discount rate reflect benefits based on the Pope III et al. (2019) study while the present and equivalent annualized values of net benefits for a 7 percent discount rate reflect benefits based on the Wu et al. (2020) study.

B. Vehicle Cost and Fueling Impacts

1. Vehicle Technology and Purchase Price Impacts

Table 160 shows the estimated annual vehicle technology costs of the program for the indicated calendar years (CY). The table also shows the present-values (PV) of those costs and the equivalent annualized values (EAV) for the calendar years 2027–2055 using both 3 percent and 7 percent discount rates.⁷⁷¹

We expect the technology costs of the program will result in a rise in the average purchase price for consumers, for both new and used vehicles. While we expect that vehicle manufacturers will strategically price vehicles (*e.g.*, subsidizing a lower price for some vehicles with a higher price for others), we assume in our modeling that increased vehicle technology costs will fully impact purchase prices paid by consumers. These projected vehicle

technology costs represent the incremental costs to manufacturers. For consumers, projected vehicle technology costs are offset by savings in reduced operating costs, including fuel savings and reduced maintenance and repair costs, as discussed in Section VIII.B.3 and in Chapter 4 of the DRIA. Additionally, consumers may also benefit from IRA purchase incentives for PEVs.

TABLE 160—VEHICLE TECHNOLOGY COSTS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

Calendar year	Vehicle technology costs, proposal	Vehicle technology costs, alternative 1	Vehicle technology costs, alternative 2	Vehicle technology costs, alternative 3
2027	7.5	7.9	5.5	2.6

⁷⁷¹ For the estimation of the stream of costs and benefits, we assume that after implementation of

the MY 2027 and later standards, the MY 2032 standards apply to each year thereafter.

TABLE 160—VEHICLE TECHNOLOGY COSTS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Vehicle technology costs, proposal	Vehicle technology costs, alternative 1	Vehicle technology costs, alternative 2	Vehicle technology costs, alternative 3
2028	6.8	10	5	2.3
2029	6.6	14	5.8	1.8
2030	8.7	17	6.1	4.9
2031	13	20	11	12
2032	17	23	15	18
2035	22	24	17	24
2040	19	20	15	18
2045	13	13	10	13
2050	12	13	10	12
2055	10	11	8.8	11
PV3	280	330	230	270
PV7	180	220	140	170
EAV3	15	17	12	14
EAV7	15	18	12	14

2. Fueling Impacts

i. Fuel Savings

The proposed standards are projected to reduce liquid fuel consumption (gasoline and diesel) while simultaneously increasing electricity consumption. The net effect of these changes in consumption for consumers is decreased fuel expenditures or fuel savings. Electric Vehicle Supply Equipment (EVSE) port costs, which

reflect capital costs for procuring and installing PEV charging infrastructure, are also shown. For more information regarding fuel consumption, including other considerations like rebound driving, see DRIA Chapter 4. See Section IV of this Preamble and Chapter 5 of the DRIA for more detail on EVSE port costs.

Fuel savings arise from reduced expenditures on liquid-fuel due to reduced consumption of those fuels.

Electricity consumption is expected to increase, with a corresponding increase in expenditures, due to electric vehicles replacing liquid-fueled vehicles. We describe how we calculate reduced fuel consumption and increased electricity consumption in Chapter 9 of the DRIA. Table 161 presents liquid-fuel consumption impacts and Table 162 presents electricity consumption impacts.

TABLE 161—LIQUID-FUEL CONSUMPTION IMPACTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of gallons of liquid fuel]

Calendar year	Liquid-fuel impacts, proposal	Liquid-fuel impacts, alternative 1	Liquid-fuel impacts, alternative 2	Liquid-Fuel impacts, alternative 3
2027	−0.89	−0.93	−0.65	−0.53
2028	−2.2	−2.5	−1.6	−1.3
2029	−4	−4.4	−3.2	−2.3
2030	−6.1	−7	−4.9	−3.9
2031	−8.6	−9.8	−7	−6.3
2032	−12	−13	−9.6	−9.3
2035	−21	−23	−19	−19
2040	−34	−38	−31	−33
2045	−42	−47	−38	−42
2050	−48	−52	−43	−48
2055	−49	−54	−44	−49
sum	−900	−1,000	−810	−870

TABLE 162—ELECTRICITY CONSUMPTION IMPACTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY
[Terawatt hours]

Calendar year	Electricity impacts, proposal	Electricity impacts, alternative 1	Electricity impacts, alternative 2	Electricity impacts, alternative 3
2027	8.9	9.3	6.4	5.4
2028	21	23	15	13
2029	38	39	29	22
2030	56	61	44	36
2031	78	84	64	58
2032	100	110	86	85
2035	190	200	170	170

TABLE 162—ELECTRICITY CONSUMPTION IMPACTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Terawatt hours]

Calendar year	Electricity impacts, proposal	Electricity impacts, alternative 1	Electricity impacts, alternative 2	Electricity impacts, alternative 3
2040	300	330	280	290
2045	380	420	350	380
2050	430	470	390	430
2055	440	490	400	440
sum	8,100	8,900	7,400	7,900

Table 163 presents the retail fuel savings, net of savings in liquid fuel expenditures and increases in electricity expenditures. These represent savings that consumers would realize. Table 164 presents the pretax fuel savings, net of savings in liquid fuel expenditures and increases in electricity expenditures. These represent the savings included in

the net benefit calculation since fuel taxes do not contribute to the value of the fuel. We present fuel tax impacts along with other transfers in Section VIII.B.4. The net benefits calculation also includes the EVSE costs presented in Table 165.

The estimated present value pre-tax fuel savings associated with the proposed standards are \$450 billion and

\$890 billion using 7 and 3 percent discount rates, respectively. Table 163 and Table 164 also show the undiscounted annual monetized fuel savings and the present value (PV) of those costs and equivalent annualized value (EAV) for the calendar years 2027–2055 using both 3 percent and 7 percent discount rates.

TABLE 163—RETAIL FUEL SAVINGS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars] *

Calendar year	Retail fuel savings, proposal	Retail fuel savings, alternative 1	Retail fuel savings, alternative 2	Retail fuel savings, alternative 3
2027	1.2	1.3	0.9	0.7
2028	3.2	3.7	2.4	1.9
2029	6	7	4.8	3.5
2030	10	12	8.1	6.5
2031	14	17	12	11
2032	20	23	17	16
2035	39	44	34	35
2040	69	77	61	66
2045	89	98	80	87
2050	100	110	93	100
2055	110	120	98	110
PV3	1,100	1,200	950	1,000
PV7	550	610	490	520
EAV3	56	62	50	54
EAV7	45	50	40	42

* Positive values represent monetary savings.

TABLE 164—PRETAX FUEL SAVINGS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars] *

Calendar year	Pretax fuel savings, proposal	Pretax fuel savings, alternative 1	Pretax fuel savings, alternative 2	Pretax fuel savings, alternative 3
2027	0.9	0.9	0.7	0.5
2028	2.4	2.8	1.8	1.5
2029	4.7	5.4	3.7	2.7
2030	7.7	9.2	6.2	5
2031	11	13	9.2	8.2
2032	16	18	13	13
2035	31	35	27	28
2040	56	63	50	54
2045	74	82	66	73
2050	88	97	79	87
2055	93	100	84	93
PV3	890	990	790	850
PV7	450	510	400	430
EAV3	46	51	41	45

TABLE 164—PRETAX FUEL SAVINGS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]*

Calendar year	Pretax fuel savings, proposal	Pretax fuel savings, alternative 1	Pretax fuel savings, alternative 2	Pretax fuel savings, alternative 3
EAV7	37	41	33	35

* Positive values represent monetary savings.

TABLE 165—EVSE COSTS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]*

Calendar year	EVSE costs, proposal and each alternative
2027	1.3
2028	0.66
2029	1.1
2030	1.1
2031	8.3
2032	8.3
2035	6.7
2040	7.1
2045	7.3
2050	7.1
2055	7.1
PV3	120
PV7	68
EAV3	6.2
EAV7	5.6

* Positive values represent costs.

ii. Refueling Time

In our analyses, we take into account refueling differences among liquid fuel vehicles, BEVs, and PHEVs. Stringent GHG standards have traditionally resulted in lower fuel consumption by liquid fueled vehicles. Provided fuel tanks on liquid fueled vehicles retain their capacity, lower fuel consumption is expected to reduce the frequency of refueling events and therefore reduce the time spent refueling resulting from less time spent seeking a refueling opportunity. OEMs may also elect to package smaller fuel tanks, leveraging lower fuel consumption to meet vehicle range, which would also lower the time spent refueling resulting from less time spent at the fuel pump. Consistent with

past analyses, we have estimated the former of these possibilities with respect to liquid fueled vehicles.

Electric vehicles are fueled via charging events. Many charging events are expected to occur at an owner's residence via a personally owned charge point or during work hours using an employer owned charge point, both of which impose very little time burden on the driver. However, charging events will also occur in public places where the burden on the driver's time may be relatively long (e.g., when drivers are in the midst of an extended road trip). Thus, liquid fueling events and mid-trip charging events are the focus of our refueling time analysis. See DRIA Chapter 4 for a more detailed discussion

of this analysis. We request comment on our approach, specifically regarding the charging time for PEVs.

Note that the benefits associated with reduced refueling time are shown in Table 166 as negative values. In other words, we have estimated disbenefits associated with refueling time. The disbenefit arises from the time associated with BEV mid-trip refueling, which is estimated to result in more time spent refueling relative to our no-action scenario. As noted, we request comment on our approach which, in its current form is taken from the 2021 rule and given the pace of change in the BEV charging infrastructure and the presence of the IRA, can already be considered somewhat dated.

TABLE 166—REFUELING BENEFITS FROM TIME SAVED ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]*

Calendar year	Benefits associated with reduced refueling time, proposal	Benefits associated with reduced refueling time, alternative 1	Benefits associated with reduced refueling time, alternative 2	Benefits associated with reduced refueling time, alternative 3
2027	–0.1	–0.2	–0.1	–0.1
2028	–0.36	–0.38	–0.27	–0.25
2029	–0.67	–0.67	–0.55	–0.47
2030	–1	–1.1	–0.88	–0.78
2031	–1.5	–1.5	–1.2	–1.2
2032	–1.9	–1.9	–1.6	–1.6

TABLE 166—REFUELING BENEFITS FROM TIME SAVED ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY—Continued

[Billions of 2020 dollars]*

Calendar year	Benefits associated with reduced refueling time, proposal	Benefits associated with reduced refueling time, alternative 1	Benefits associated with reduced refueling time, alternative 2	Benefits associated with reduced refueling time, alternative 3
2035	−3.4	−3.5	−3.1	−3.2
2040	−5.5	−5.8	−5.1	−5.4
2045	−6.9	−7.4	−6.5	−6.9
2050	−7.9	−8.4	−7.3	−7.8
2055	−8.2	−8.8	−7.6	−8.2
PV3	−85	−90	−79	−83
PV7	−45	−47	−41	−43
EAV3	−4.4	−4.7	−4.1	−4.3
EAV7	−3.6	−3.8	−3.3	−3.5

* Negative values represent disbenefits.

3. Other Purchase Price and Fueling Considerations Affecting Consumers

The analysis monetizes vehicle technology costs and fueling impacts and informs net benefits associated with the standards. It also reflects impacts on consumers. In addition to the effects that we monetize, we look more closely into, but do not monetize, the effects of the standards on low-income households and on consumers of low-priced new vehicles and used vehicles. These effects depend, in large part, on two elements of vehicle ownership, namely (a) the purchase prices of vehicles and (b) fueling expenditures. Typically, the introduction of more stringent standards leads to higher purchase prices and lower fuel expenditures. The net effect varies across households. However, the reduction in fuel expenditures may be especially relevant for low-income households and consumers in the used and low-priced new vehicle markets. First, fuel expenditures are a larger portion of expenses for low-income households compared to higher income households. Second, lower-priced new vehicles have historically been more fuel efficient. Third, fuel economy and therefore fuel savings do not decline as vehicles age even though the price paid for vehicles typically declines as vehicles age and are resold. Fourth, low-income households are more likely to purchase lower-priced new vehicles and used vehicles (Hutchens et al. 2021), capturing their associated fuel savings.

Furthermore, for many vehicle consumers, access to credit for vehicle purchases is essential and may be of particular concern for low-income households. The effects of the standards on access to credit is influenced by the potentially countervailing forces of vehicle purchase costs and fuel costs. However, the degree of influence and

the net effect is not clear (see Chapter 8.4.3 of the 2021 rule). Increased purchase prices and presumably higher loan principal may, in some cases, discourage lending, while reduced fuel expenditures may, in some cases, improve lenders' perceptions of borrowers' repayment reliability.

Finally, while access to conventional fuels can be assumed for the most part, the number and density of charging stations varies considerably.⁷⁷² Public and private charging infrastructure has been expanding alongside PEV adoption and is generally expected to continue to grow, particularly in light of public and private investments and consistent with local level priorities.^{773 774} This includes home charging events, which are likely to continue to grow with PEV adoption but are also expected to represent a declining proportion of charging events as PEV share increases and more drivers without easy access to home charging adopt PEVs and therefore use public charging.⁷⁷⁵ Thus, publicly accessible charging is an important consideration, especially among renters and residents of multi-family housing and persons

⁷⁷² https://afdc.energy.gov/fuels/electricity_locations.html, accessed 3/8/2022.

⁷⁷³ Bui, Anh, Peter Slowik, and Nic Lutsey. 2020. Update on electric vehicle adoption across U.S. cities. International Council on Clean Transportation. <https://theicct.org/wp-content/uploads/2021/06/EV-cities-update-aug2020.pdf>.

⁷⁷⁴ Greschak, Tressa, Matilda Kreider, and Nathan Legault. 2022. "Consumer Adoption of Electric Vehicles: An Evaluation of Local Programs in the United States." School for Environment and Sustainability, University of Michigan, Ann Arbor, MI. <https://deepblue.lib.umich.edu/handle/2027.42/172221>.

⁷⁷⁵ Ge, Yanbo, Christina Simeone, Andrew Duvall, and Andrew Wood. 2021. There's No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure. NREL/TP-5400-81065, Golden, CO: National Renewable Energy Laboratory. <https://www.nrel.gov/docs/fy22osti/81065.pdf>.

who charge away from home.⁷⁷⁶ Households without access to charging at home or the workplace may incur additional charging costs, though there is ongoing interest in and development of alternative charging solutions (e.g., curbside charging or use of mobile charging units) and business models (e.g., providing charging as an amenity or as a subscription service for multi-family housing).⁷⁷⁷ Though, especially among consumers who rely upon public charging, the higher price of public charging is important, improvements in access and availability to both public and private charging are expected, bolstered by private and public investment in charging infrastructure, including the recent Federal investments provided by the CHIPS Act, the BIL and the IRA, which will allow for increased investment along the vehicle supply chain, including charging infrastructure.⁷⁷⁸ Please see Section IV.C.4 and Chapter 5 of the DRIA for a more detailed discussion of public and private investments in charging infrastructure, and our assessment of infrastructure needs and costs under this proposal.

⁷⁷⁶ <https://advocacy.consumerreports.org/wp-content/uploads/2022/09/EV-Demographic-Survey-English-final.pdf>.

⁷⁷⁷ Matt Alexander, Noel Crisostomo, Wendell Krell, Jeffrey Lu, Raja Ramesh, "Assembly Bill 2127: Electric Vehicle Charging Infrastructure Assessment," July 2021, California Energy Commission. Accessed March 9, 2023, at <https://www.energy.ca.gov/programs-and-topics/programs/electric-vehicle-charging-infrastructure-assessment-ab-2127>.

⁷⁷⁸ More information on these three acts can be found in the January, 2023 White House publication "Building a Clean Energy Economy: A Guidebook to the Inflation Reduction Act's Investments in Clean Energy and Climate Action." found online at <https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf>.

4. Transfers

There are three types of transfers included in our analysis. Two of these transfers come in the form of tax credits arising from the Inflation Reduction Act to encourage investment in battery

technology and the purchase of electrified vehicles. These are transfers from the government to producers of vehicles (the battery tax credit) or purchasers of vehicles (the vehicle purchase tax credit). The third is fuel

taxes which are transfers from purchasers of fuel to the government. The proposal results in less liquid-fuel consumed and, therefore, less money transferred from purchasers of fuel to the government.

TABLE 167—BATTERY TAX CREDITS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

Calendar year	Battery tax credits, proposal	Battery tax credits, alternative 1	Battery tax credits, alternative 2	Battery tax credits, alternative 3
2027	6.8	7.1	4.8	4.1
2028	9.2	11	6.3	5.6
2029	13	13	11	6.9
2030	11	13	8.7	7.9
2031	9	9.3	7.6	8.4
2032	5.3	5.5	4.6	5.4
2035	0	0	0	0
2040	0	0	0	0
2045	0	0	0	0
2050	0	0	0	0
2055	0	0	0	0
PV3	49	52	39	34
PV7	43	46	34	30
EAV3	2.6	2.7	2	1.8
EAV7	3.5	3.8	2.8	2.4

TABLE 168—VEHICLE PURCHASE TAX CREDITS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

Calendar year	Purchase tax credits, proposal	Purchase tax credits, alternative 1	Purchase tax credits, alternative 2	Purchase tax credits, alternative 3
2027	6.7	7	4.8	4
2028	9.9	11	6.7	6.1
2029	14	14	13	7.7
2030	18	20	14	13
2031	22	23	19	21
2032	27	29	24	27
2035	0	0	0	0
2040	0	0	0	0
2045	0	0	0	0
2050	0	0	0	0
2055	0	0	0	0
PV3	86	92	71	68
PV7	74	79	60	58
EAV3	4.5	4.8	3.7	3.6
EAV7	6	6.4	4.9	4.7

TABLE 169—FUEL TAX TRANSFERS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

Calendar year	Fuel taxes, proposal	Fuel taxes, alternative 1	Fuel taxes, alternative 2	Fuel taxes, alternative 3
2027	0.31	0.32	0.22	0.18
2028	0.77	0.88	0.57	0.46
2029	1.4	1.6	1.1	0.81
2030	2.4	2.8	1.9	1.5
2031	3.3	3.9	2.7	2.4
2032	4.5	5.2	3.8	3.6
2035	8	9	7	7.3
2040	12	14	11	12
2045	15	16	13	14
2050	16	17	14	16

TABLE 169—FUEL TAX TRANSFERS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Fuel taxes, proposal	Fuel taxes, alternative 1	Fuel taxes, alternative 2	Fuel taxes, alternative 3
2055	15	17	14	15
PV3	180	200	160	170
PV7	97	110	85	91
EAV3	9.5	11	8.4	9
EAV7	7.9	8.8	7	7.4

C. U.S. Vehicle Sales Impacts

1. Light-Duty Vehicle Sales Impacts

As discussed in Section IV.A of this Preamble, EPA used the OMEGA model to analyze impacts of this proposal, including impacts on vehicle sales. The OMEGA model accounts for interactions in producer and consumer decisions in total sales and in the share of ICE and BEV vehicles in the market. As in previous rulemakings, the sales impacts are based on a set of assumptions and inputs, including assumptions about the role of fuel consumption in vehicle purchase decisions, and assumptions on consumers' demand elasticity.⁷⁷⁹

In OMEGA, the amount of fuel savings considered in the purchase decisions is directly incorporated in the producer assumptions of how many years of fuel savings consumers consider in their purchase decision. In the 2021 rule, as well as in this proposed rule, EPA assumed that LD vehicle buyers account for about 2.5 years of fuel consumption in their purchase decision. However, as discussed in detail in the 2021 rule,⁷⁸⁰ there is not a consensus around the role of fuel consumption in vehicle purchase decisions. Greene et al. (2018) provides a reference value of \$1,150 for the value of reducing fuel costs by \$0.01/mile over the lifetime of an average vehicle; for comparison, 2.5 years of fuel savings is only about 30 percent of that value, or about \$334. This \$334 is within the large standard deviation in Greene et al. (2018) for the willingness to pay to reduce fuel costs, but it is far lower than both the mean of \$1,880 (160 percent of the reference value) and the median of

\$990 (85 percent of the reference value) per one cent per mile in the paper. On the other hand, the 2021 NAS report,⁷⁸¹ citing the 2015 NAS report, observed that automakers “perceive that typical consumers would pay upfront for only one to four years of fuel savings” (pp. 9–10), which is within the range of values identified in Greene et al. (2018) for consumer response, but well below the median or mean. In other words, though automakers seem to operate under a perception of consumer willingness to pay for additional fuel economy that is not inconsistent with estimates in the literature of how consumers actually behave, it does appear possible that automakers do not fully account for how those consumers actually behave. In comments on the 2021 rule, some commenters suggested that new vehicle buyers care more about fuel consumption than the use of 2.5 years suggests, and that EPA should model automaker adoption of fuel-saving technologies based on historical actions. As discussed in Section VIII.J and DRIA Chapter 4.4, we note that, historically, automakers did not provide fuel saving technology to customers, even though it was proven to pay for itself in short periods of time. However, EPA notes that the data, methods and ideas discussed here are based on historical data and focus on ICE vehicle sales. Automaker adoption of fuel-saving technologies and consumer response to fuel savings, and the amount of fuel savings considered in the purchase decision, may be different with electric vehicles and in an era of high BEV sales. We request comment on data, methods and perspectives on the role of fuel consumption in the vehicle purchase decision.

Continuing the approach used in the final 2021 rule, EPA will be using a demand elasticity for new LD vehicles of -0.4 based on a 2021 EPA peer reviewed report, which included a

literature review on and estimates of the effects of new vehicle price changes on the new vehicle market.⁷⁸² However, as noted in EPA's report and by public commenters on the proposed 2021 rule, -0.4 appears to be the largest estimate (in absolute value) for a long-run new vehicle demand elasticity in recent studies. Further, EPA's report examining the relationship between new and used vehicle markets shows that, for plausible values reflecting that interaction, the new vehicle demand elasticity varies from -0.15 to -0.4 . A smaller elasticity does not change the direction of sales effects, but it does reduce the magnitude of the effects. We chose the larger value of this range for our analysis because it will lead to more conservative estimates that are still within the range estimated within the report.

For this proposed rule, EPA is maintaining the previous assumptions of 2.5 years of fuel savings and a new vehicle demand elasticity of -0.4 for its modeling of LD sales impacts. These assumptions are applied to the Proposal, as well as the more stringent (Alternative 1 (-10)) and less stringent (Alternative 2 ($+10$)) and Alternative 3 (linear phase-in)) options as described in Section III.E.

Under the Proposed scenario, there is a small change projected in total new LD vehicle sales compared to sales under the No Action scenario.⁷⁸³ See Table 170 for total new vehicle sales impacts under the Proposed scenario. The table shows that sales decrease for two years, increase for the next two years, and then decrease again. Though the increase in the middle years may seem unexpected at first, as technology costs are increasing, the reduction in average per vehicle cost due to the 2.5 years of fuel cost savings incorporated

⁷⁷⁹ The demand elasticity is the percent change in quantity associated with percent increase in price. For price, we use net price, where net price is the difference in technology costs less an estimate of the change in fuel costs over the number of years we assume fuel costs are taken into account. BEV purchase incentives from the IRA are also accounted for in the net consumer prices used in OMEGA. See DRIA Chapter 2.6.8 for more information.

⁷⁸⁰ 86 FR 74434, December 30, 2021, “Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards.”

⁷⁸¹ National Academies of Sciences, Engineering, and Medicine. 2021. Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy—2025–2035. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26092>.

⁷⁸² U.S. EPA. 2021. The Effects of New-Vehicle Price Changes on New- and Used-Vehicle Markets and Scrappage. EPA-420-R-21-019. https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=352754&Lab=OTAQ.

⁷⁸³ The No Action scenario consists of the 2021 rule standards and IRA provisions as explained in Section IV.B.

into the sales impact estimates offset the increase in the LD vehicle technology costs.

increase in the LD vehicle technology costs.

TABLE 170—TOTAL NEW LD SALES IMPACTS IN THE PROPOSED SCENARIO

Year	No action	Proposed rule	
	Total sales	Total sales	Change from no action (%)
2027	15,487,827	15,432,908	– 54,919 (– 0.35%)
2028	15,637,207	15,616,676	– 20,531 (– 0.13%)
2029	15,770,260	15,781,094	10,834 (0.07%)
2030	15,807,049	15,814,296	7,247 (0.05%)
2031	15,884,729	15,860,358	– 24,370 (– 0.15%)
2032	15,880,160	15,834,010	– 46,150 (– 0.29%)

Table 171 shows the total new vehicle sales impacts under the three alternative scenarios. All three alternatives also show a very small change in sales compared to the No Action scenario.

The change is largest in magnitude under the most stringent alternative (Alternative 1), with the largest results projected to be a decrease of less than 0.8 percent in 2032. Alternative 3

projects the smallest, in magnitude, results in the first two years, with Alternative 2 projecting the smallest, in magnitude, results in the last two years.

TABLE 171—TOTAL NEW LD SALES IMPACTS IN ALTERNATIVE 1, ALTERNATIVE 2 AND ALTERNATIVE 3

Year	Alternative 1 (– 10)		Alternative 2 (+10)		Alternative 3 (linear)	
	Total sales	Change from no action (%)	Total sales	Change from no action (%)	Total sales	Change from no action (%)
2027	15,429,939	– 57,889 (– 0.37%)	15,447,829	– 39,998 (– 0.26%)	15,476,391	– 11,436 (– 0.07%)
2028	15,582,224	– 54,983 (– 0.35%)	15,624,158	– 13,048 (– 0.08%)	15,643,941	6,734 (0.04%)
2029	15,690,100	– 80,160 (– 0.51%)	15,778,412	8,153 (0.05%)	15,795,393	25,133 (0.16%)
2030	15,732,702	– 74,347 (– 0.47%)	15,821,919	14,871 (0.09%)	15,823,563	16,514 (0.10%)
2031	15,774,869	– 109,860 (– 0.69%)	15,864,090	– 20,639 (– 0.13%)	15,857,727	– 27,001 (– 0.17%)
2032	15,758,885	– 121,275 (– 0.76%)	15,834,633	– 45,527 (– 0.29%)	15,818,292	– 61,868 (– 0.39%)

2. Medium-Duty Sales Impacts

The cited literature is focused on light-duty vehicles, which are primarily purchased and used as personal vehicles by individuals and households. The medium-duty vehicle market, in contrast, largely serves commercial applications. The assumptions in our analysis of the LD sales response are specific to that market, and do not necessarily carry over to the MD vehicle market. Commercial vehicle owners purchase vehicles based on the needs for their business, and we believe they are less sensitive to changes in vehicle price than personal vehicle owners.⁷⁸⁴ The elasticity of demand affects the sensitivity of vehicle buyers to a change in the price of vehicles: The smaller the elasticity, in absolute value, the smaller the estimated change in sales due to a change in vehicle price. Therefore, as explained in Chapter 4.4 of the DRIA, the estimates of a change in sales due to

this rule depend on the elasticity of demand assumptions. For this proposal, we are assuming an elasticity of 0 for the MD vehicle sales impacts estimates, and we are not projecting any differences in the number of MD vehicles sold between the No Action and the Proposal. This implicitly assumes that the buyers of MD vehicles are not going to change purchase decisions if the price of the vehicle changes, all else equal. In other words, as long as the characteristics of the vehicle do not change, commercial buyers will still purchase the vehicle that fits their needs.

We seek comment on our assumptions for both LD and MD vehicle sales impacts.

D. Greenhouse Gas Emission Reduction Benefits

EPA estimated the climate benefits for the final standards using measures of the social cost of three GHGs: Carbon, methane, and nitrous oxide. The social

cost of each gas (*i.e.*, the social cost of carbon (SC-CO₂), methane (SC-CH₄), and nitrous oxide (SC-N₂O)) is the monetary value of the net harm to society associated with a marginal increase in emissions in a given year, or the benefit of avoiding that increase. Collectively, these values are referenced as the “social cost of greenhouse gases” (SC-GHG). In principle, SC-GHG includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk and natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. The SC-GHG therefore, reflects the societal value of reducing emissions of the gas in question by one metric ton. EPA and other Federal agencies began regularly incorporating SC-GHG estimates in their benefit-cost analyses conducted under Executive Order (E.O.)

⁷⁸⁴ See DRIA Chapter 4.1.1 for more information.

12866⁷⁸⁵ since 2008, following a Ninth Circuit Court of Appeals remand of a rule for failing to monetize the benefits of reducing CO₂ emissions in a rulemaking process.

We estimate the global social benefits of CO₂, CH₄, and N₂O emission reductions expected from the proposed rule using the SC–GHG estimates presented in the February 2021 Technical Support Document (TSD): Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under E.O. 13990 (IWG 2021). These SC–GHG estimates are interim values developed under E.O. 13990 for use in benefit-cost analyses until updated estimates of the impacts of climate change can be developed based on the best available climate science and economics. We have evaluated the SC–GHG estimates in the TSD and have determined that these estimates are appropriate for use in estimating the global social benefits of CO₂, CH₄, and N₂O emission reductions expected from this proposed rule. After considering the TSD, and the issues and studies discussed therein, EPA finds that these estimates, while likely an underestimate, are the best currently available SC–GHG estimates. These SC–GHG estimates were developed over many years, using a transparent process, peer-reviewed methodologies, the best science available at the time of that process, and with input from the public. As discussed in Chapter 10 of the DRIA, these interim SC–GHG estimates have a

number of limitations, including that the models used to produce them do not include all of the important physical, ecological, and economic impacts of climate change recognized in the climate-change literature and that several modeling input assumptions are outdated. As discussed in the February 2021 TSD, the Interagency Working Group on the Social Cost of Greenhouse Gases (IWG) finds that, taken together, the limitations suggest that these SC–GHG estimates likely underestimate the damages from GHG emissions. The IWG is currently working on a comprehensive update of the SC–GHG estimates (under E.O. 13990) taking into consideration recommendations from the National Academies of Sciences, Engineering and Medicine, recent scientific literature, public comments received on the February 2021 TSD and other input from experts and diverse stakeholder groups. EPA is participating in the IWG’s work. In addition, while that process continues, EPA is continuously reviewing developments in the scientific literature on the SC–GHG, including more robust methodologies for estimating damages from emissions, and looking for opportunities to further improve SC–GHG estimation going forward. Most recently, EPA has developed a draft updated SC–GHG methodology within a sensitivity analysis in the regulatory impact analysis of EPA’s November 2022 supplemental proposal for oil and gas standards that is currently

undergoing external peer review and a public comment process. See Chapter 10 of the DRIA for more discussion of this effort.

We monetize benefits of the proposed standards and evaluate other costs in part to enable a comparison of costs and benefits pursuant to E.O. 12866, but we recognize there are benefits that we are currently unable to fully quantify. EPA’s practice has been to set standards to achieve improved air quality consistent with CAA section 202, and not to rely on cost-benefit calculations, with their uncertainties and limitations, as identifying the appropriate standards. In setting standards, we place weight on the emissions reductions the standards are projected to achieve, and we present the monetized benefits here and elsewhere as illustrative, taking into consideration their substantial uncertainties and limitations.

Table 172 through Table 175 show the benefits of reduced CO₂, CH₄, N₂O and GHG emissions, respectively, and consequently the annual quantified benefits (*i.e.*, total GHG benefits), for each of the four interim social cost of GHG (SC–GHG) values estimated by the interagency working group. Table 176 through Table 179 show the same information for Alternative 1. Table 180 through Table 183 show the same information for Alternative 2, and Table 184 through Table 187 show this information for Alternative 3. See Chapter 10.4 of the DRIA for more on the application of SC–GHG estimates.

TABLE 172—CLIMATE BENEFITS FROM REDUCTIONS IN CO₂ EMISSIONS ASSOCIATED WITH THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.1	0.34	0.5	1
2028	0.27	0.88	1.3	2.6
2029	0.51	1.6	2.4	5
2030	0.81	2.6	3.8	7.8
2031	1.2	3.8	5.5	11
2032	1.7	5.2	7.5	16
2035	3.5	10	15	32
2040	6.6	19	27	59
2045	9.9	27	38	84
2050	13	35	48	110
2055	15	37	52	110
PV	82	330	500	1000

⁷⁸⁵ Benefit-cost analyses have been an integral part of executive branch rulemaking for decades. Presidents since the 1970s have issued executive orders requiring agencies to conduct analysis of the economic consequences of regulations as part of the

rulemaking development process. E.O. 12866, released in 1993 and still in effect today, requires that for all regulatory actions that are significant under 3(f)(1), an agency provide an assessment of the potential costs and benefits of the regulatory

action, and that this assessment include a quantification of benefits and costs to the extent feasible.

TABLE 172—CLIMATE BENEFITS FROM REDUCTIONS IN CO₂ EMISSIONS ASSOCIATED WITH THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
EAV	5.4	17	24	52

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 173—CLIMATE BENEFITS FROM REDUCTIONS IN CH₄ EMISSIONS ASSOCIATED WITH THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.000022	0.000046	0.000059	0.00012
2028	0.000068	0.00014	0.00018	0.00038
2029	0.00015	0.00032	0.00041	0.00085
2030	0.00026	0.00054	0.00069	0.0014
2031	0.00042	0.00086	0.0011	0.0023
2032	0.00063	0.0013	0.0016	0.0034
2035	0.0017	0.0034	0.0043	0.009
2040	0.0046	0.009	0.011	0.024
2045	0.0086	0.016	0.02	0.044
2050	0.013	0.025	0.03	0.066
2055	0.015	0.027	0.033	0.07
PV	0.067	0.19	0.26	0.49
EAV	0.0044	0.0097	0.012	0.026

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 174—CLIMATE BENEFITS FROM REDUCTIONS IN N₂O EMISSIONS ASSOCIATED WITH THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.00094	0.0028	0.0041	0.0074
2028	0.0021	0.0063	0.0091	0.017
2029	0.0039	0.012	0.017	0.03
2030	0.0061	0.018	0.026	0.047
2031	0.0091	0.026	0.038	0.07
2032	0.013	0.036	0.052	0.096
2035	0.026	0.072	0.1	0.19
2040	0.049	0.13	0.19	0.35
2045	0.073	0.19	0.26	0.51
2050	0.096	0.24	0.33	0.64
2055	0.11	0.27	0.37	0.73
PV	0.61	2.3	3.5	6.1
EAV	0.04	0.12	0.17	0.32

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 175—CLIMATE BENEFITS FROM REDUCTIONS IN GHG EMISSIONS ASSOCIATED WITH THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.1	0.34	0.5	1
2028	0.27	0.88	1.3	2.7
2029	0.52	1.7	2.4	5
2030	0.82	2.6	3.8	7.9
2031	1.2	3.8	5.5	12
2032	1.7	5.3	7.6	16
2035	3.5	11	15	32
2040	6.7	19	27	60
2045	10	28	38	85
2050	13	35	48	110
2055	15	38	52	110
PV	82	330	500	1000
EAV	5.4	17	25	52

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC-GHG at 5, 3, 2.5 percent) is used to calculate the present value of SC-GHG for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 176—CLIMATE BENEFITS FROM REDUCTIONS IN CO₂ EMISSIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.11	0.36	0.52	1.1
2028	0.31	1	1.5	3
2029	0.58	1.9	2.7	5.6
2030	0.95	3	4.4	9.2
2031	1.4	4.4	6.3	13
2032	1.9	5.9	8.6	18
2035	3.9	12	17	36
2040	7.4	21	30	66
2045	11	30	42	93
2050	14	38	53	120
2055	16	41	57	120
PV	91	360	550	1100
EAV	6	19	27	58

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC-GHG at 5, 3, 2.5 percent) is used to calculate the present value of SC-GHG for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 177—CLIMATE BENEFITS FROM REDUCTIONS IN CH₄ EMISSIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.000023	0.000048	0.000062	0.00013
2028	0.000065	0.00014	0.00018	0.00036
2029	0.00014	0.00029	0.00037	0.00077
2030	0.00024	0.0005	0.00065	0.0013
2031	0.00041	0.00084	0.0011	0.0022
2032	0.00063	0.0013	0.0016	0.0034
2035	0.0018	0.0035	0.0045	0.0094
2040	0.0049	0.0096	0.012	0.026
2045	0.0094	0.018	0.022	0.047
2050	0.015	0.027	0.033	0.072
2055	0.016	0.03	0.036	0.077
PV	0.072	0.2	0.28	0.53

TABLE 177—CLIMATE BENEFITS FROM REDUCTIONS IN CH₄ EMISSIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
EAV	0.0047	0.01	0.013	0.028

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 178—CLIMATE BENEFITS FROM REDUCTIONS IN N₂O EMISSIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.00097	0.0029	0.0042	0.0077
2028	0.0023	0.0068	0.0098	0.018
2029	0.004	0.012	0.017	0.031
2030	0.0065	0.019	0.027	0.05
2031	0.0096	0.028	0.04	0.073
2032	0.013	0.038	0.054	0.1
2035	0.027	0.076	0.11	0.2
2040	0.053	0.14	0.2	0.38
2045	0.08	0.21	0.29	0.55
2050	0.1	0.26	0.36	0.7
2055	0.12	0.3	0.4	0.79
PV	0.66	2.5	3.7	6.5
EAV	0.044	0.13	0.18	0.34

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 179—CLIMATE BENEFITS FROM REDUCTIONS IN GHG EMISSIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.11	0.36	0.52	1.1
2028	0.31	1	1.5	3
2029	0.58	1.9	2.7	5.6
2030	0.96	3.1	4.4	9.2
2031	1.4	4.4	6.3	13
2032	1.9	6	8.6	18
2035	3.9	12	17	36
2040	7.5	22	30	66
2045	11	31	43	94
2050	14	38	53	120
2055	16	41	57	120
PV	91	360	560	1100
EAV	6	19	27	58

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 180—CLIMATE BENEFITS FROM REDUCTIONS IN CO₂ EMISSIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.076	0.25	0.36	0.74
2028	0.2	0.64	0.94	1.9
2029	0.41	1.3	1.9	4
2030	0.65	2.1	3	6.3
2031	0.99	3.1	4.5	9.4
2032	1.4	4.4	6.3	13
2035	3	9.2	13	28
2040	6	17	24	53
2045	8.9	25	35	76
2050	12	31	43	96
2055	13	34	47	100
PV	73	290	450	890
EAV	4.8	15	22	47

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC–GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC–GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 181—CLIMATE BENEFITS FROM REDUCTIONS IN CH₄ EMISSIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.000018	0.000038	0.000049	0.0001
2028	0.000052	0.00011	0.00014	0.00029
2029	0.00013	0.00027	0.00035	0.00072
2030	0.00021	0.00044	0.00057	0.0012
2031	0.00035	0.00072	0.00092	0.0019
2032	0.00054	0.0011	0.0014	0.003
2035	0.0015	0.003	0.0038	0.0081
2040	0.0042	0.0082	0.01	0.022
2045	0.008	0.015	0.019	0.04
2050	0.012	0.023	0.028	0.061
2055	0.014	0.025	0.031	0.065
PV	0.061	0.17	0.24	0.46
EAV	0.004	0.0089	0.011	0.024

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC–GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC–GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 182—CLIMATE BENEFITS FROM REDUCTIONS IN N₂O EMISSIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.00073	0.0022	0.0031	0.0057
2028	0.0016	0.0047	0.0068	0.012
2029	0.0032	0.0093	0.013	0.025
2030	0.005	0.015	0.021	0.038
2031	0.0076	0.022	0.031	0.058
2032	0.011	0.031	0.044	0.082
2035	0.023	0.065	0.092	0.17
2040	0.046	0.12	0.17	0.33
2045	0.068	0.18	0.25	0.47
2050	0.09	0.22	0.31	0.6
2055	0.11	0.26	0.35	0.68
PV	0.56	2.1	3.2	5.6

TABLE 182—CLIMATE BENEFITS FROM REDUCTIONS IN N₂O EMISSIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
EAV	0.037	0.11	0.16	0.29

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 183—CLIMATE BENEFITS FROM REDUCTIONS IN GHG EMISSIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.076	0.25	0.36	0.75
2028	0.2	0.65	0.95	2
2029	0.41	1.3	1.9	4
2030	0.66	2.1	3	6.3
2031	0.99	3.1	4.5	9.5
2032	1.4	4.4	6.4	13
2035	3.1	9.3	13	28
2040	6	17	25	54
2045	9	25	35	77
2050	12	32	44	97
2055	13	34	47	100
PV	74	290	450	900
EAV	4.9	15	22	47

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 184—CLIMATE BENEFITS FROM REDUCTIONS IN CO₂ EMISSIONS ASSOCIATED WITH ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.061	0.2	0.29	0.6
2028	0.16	0.53	0.77	1.6
2029	0.3	0.97	1.4	2.9
2030	0.52	1.7	2.4	5
2031	0.88	2.8	4	8.4
2032	1.4	4.3	6.1	13
2035	3.2	9.6	14	29
2040	6.4	19	26	57
2045	9.8	27	38	83
2050	13	35	48	110
2055	15	37	52	110
PV	79	320	480	960
EAV	5.2	16	24	50

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC—GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC—GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 185—CLIMATE BENEFITS FROM REDUCTIONS IN CH₄ EMISSIONS ASSOCIATED WITH ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.00002	0.000042	0.000054	0.00011
2028	0.000055	0.00012	0.00015	0.00031
2029	0.00011	0.00023	0.0003	0.00061
2030	0.00019	0.00039	0.0005	0.001
2031	0.00032	0.00066	0.00085	0.0018
2032	0.00051	0.0011	0.0013	0.0028
2035	0.0015	0.0031	0.0039	0.0082
2040	0.0044	0.0087	0.011	0.023
2045	0.0085	0.016	0.02	0.043
2050	0.013	0.025	0.03	0.066
2055	0.015	0.027	0.033	0.07
PV	0.065	0.18	0.25	0.49
EAV	0.0043	0.0095	0.012	0.025

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC–GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC–GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 186—CLIMATE BENEFITS FROM REDUCTIONS IN N₂O EMISSIONS ASSOCIATED WITH ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.00065	0.0019	0.0028	0.0051
2028	0.0014	0.0043	0.0062	0.011
2029	0.0025	0.0075	0.011	0.02
2030	0.0042	0.012	0.018	0.033
2031	0.0071	0.02	0.029	0.054
2032	0.011	0.031	0.044	0.081
2035	0.024	0.067	0.095	0.18
2040	0.048	0.13	0.18	0.35
2045	0.073	0.19	0.26	0.5
2050	0.097	0.24	0.33	0.65
2055	0.11	0.28	0.37	0.73
PV	0.6	2.2	3.4	5.9
EAV	0.039	0.12	0.17	0.31

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC–GHGs at 5, 3, 2.5 percent) is used to calculate the present value of SC–GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

TABLE 187—CLIMATE BENEFITS FROM REDUCTIONS IN GHG EMISSIONS ASSOCIATED WITH ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
2027	0.062	0.2	0.3	0.61
2028	0.17	0.54	0.78	1.6
2029	0.3	0.98	1.4	2.9
2030	0.53	1.7	2.4	5.1
2031	0.89	2.8	4.1	8.5
2032	1.4	4.3	6.2	13
2035	3.2	9.7	14	29
2040	6.5	19	26	58
2045	9.9	27	38	84
2050	13	35	48	110
2055	15	38	52	110
PV	80	320	490	970

TABLE 187—CLIMATE BENEFITS FROM REDUCTIONS IN GHG EMISSIONS ASSOCIATED WITH ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Discount rate and statistic			
	5% Average	3% Average	2.5% Average	3% 95th Percentile
EAV	5.3	17	24	51

Notes: The present value of reduced GHG emissions is calculated differently than other benefits. The same discount rate used to discount the value of damages from future emissions (SC-GHG at 5, 3, 2.5 percent) is used to calculate the present value of SC-GHGs for internal consistency. The 95th percentile of estimates based on a 3 percent discount rate are included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3 percent estimate of the discount rate. Annual benefits shown are undiscounted values.

E. Criteria Pollutant Health and Environmental Benefits

The light-duty passenger cars and light trucks and medium-duty vehicles subject to the proposed standards are significant sources of mobile source air pollution, including directly-emitted PM_{2.5} as well as NO_x and VOC emissions (both precursors to ozone formation and secondarily-formed PM_{2.5}). The proposed program would reduce exhaust emissions of these pollutants from the regulated vehicles, which would in turn reduce ambient concentrations of ozone and PM_{2.5}. Emissions from upstream sources would likely increase in some cases (e.g., power plants) and decrease in others (e.g., refineries). We project that in total, the proposed standards would result in substantial net reductions of emissions of pollutants like PM_{2.5}, NO_x and VOCs. Criteria and toxic pollutant emissions changes attributable to the proposed standards are presented in Section VII of this Preamble. Exposures to ambient pollutants such as PM_{2.5} and ozone are linked to adverse environmental and human health impacts, such as premature deaths and non-fatal illnesses (as explained in Section II.C of this Preamble). Reducing human exposure to these pollutants results in significant and measurable health benefits.

This section discusses the economic benefits from reductions in adverse health and environmental impacts resulting from criteria pollutant emission reductions that can be expected to occur as a result of the proposed emission standards. When feasible, EPA conducts full-scale photochemical air quality modeling to demonstrate how its national mobile source regulatory actions affect ambient concentrations of regional pollutants throughout the United States. The estimation of the human health impacts of a regulatory action requires national-scale photochemical air quality modeling to conduct a full-scale assessment of PM_{2.5} and ozone-related health benefits.

EPA conducted an illustrative air quality modeling analysis of a regulatory scenario involving light- and medium-duty vehicle emission reductions and corresponding changes in “upstream” emission sources like EGU (electric generating unit) emissions and refinery emissions (see DRIA Chapter 8). Decisions about the emissions and other elements used in the air quality modeling were made early in the analytical process for the proposed rulemaking. Accordingly, the air quality analysis does not represent the proposal’s regulatory scenario, nor does it reflect the expected impacts of the Inflation Reduction Act (IRA). Based on updated power sector modeling that incorporated expected generation mix impacts of the IRA, we are projecting the IRA will lead to a significantly cleaner power grid. Because the air quality analysis does not account for these impacts on EGU emissions, we instead used the OMEGA-based emissions analysis (see Preamble Section VII.A) and benefit-per-ton (BPT) values to estimate the criteria pollutant (PM_{2.5}) health benefits of the proposed standards.

The BPT approach estimates the monetized economic value of PM_{2.5}-related emission reductions or increases (such as direct PM, NO_x, and SO₂) due to implementation of the proposed program. Similar to the SC-GHG approach for monetizing reductions in GHGs, the BPT approach monetizes the health benefits of avoiding one ton of PM_{2.5}-related emissions from a particular onroad mobile or upstream source. The value of health benefits from reductions (or increases) in PM_{2.5} emissions associated with this proposal were estimated by multiplying PM_{2.5}-related BPT values by the corresponding annual reduction (or increase) in tons of directly-emitted PM_{2.5} and PM_{2.5} precursor emissions (NO_x and SO₂). As explained in Chapter 7.4 in the DRIA, the PM_{2.5} BPT values represent the monetized value of human health

benefits, including reductions in both premature mortality and morbidity.

The mobile sector BPT estimates used in this proposal were published in 2019, but were recently updated using the suite of premature mortality and morbidity studies in use by EPA for the 2023 p.m. NAAQS Reconsideration Proposal.^{786 787} The upstream BPT estimates used in this proposal were also recently updated.⁷⁸⁸ The health benefits Technical Support Document (Benefits TSD) that accompanied the 2023 p.m. NAAQS Proposal details the approach used to estimate the PM_{2.5}-related benefits reflected in these BPTs.⁷⁸⁹ For more detailed information about the benefits analysis conducted for this proposal, including the BPT unit values used in this analysis, please refer to Chapter 7.4 of the DRIA.

A chief limitation to using PM_{2.5}-related BPT values is that they do not reflect benefits associated with reducing ambient concentrations of ozone. The PM_{2.5}-related BPT values also do not capture the benefits associated with reductions in direct exposure to NO₂ and mobile source air toxics, nor do they account for improved ecosystem effects or visibility. The estimated benefits of this proposal would be larger if we were able to monetize these unquantified benefits at this time.

Table 188 presents the annual, undiscounted PM_{2.5}-related health

⁷⁸⁶ Wolfe, P.; Davidson, K.; Fulcher, C.; Fann, N.; Zawacki, M.; Baker, K. R. 2019. Monetized Health Benefits Attributable to Mobile Source Emission Reductions across the United States in 2025. *Sci. Total Environ.* 650, 2490–2498. Available at: <https://doi.org/10.1016/j.scitotenv.2018.09.273>.

⁷⁸⁷ U.S. Environmental Protection Agency (U.S. EPA). 2022. PM NAAQS Reconsideration Proposal RIA. EPA-HQ-OAR–2019–0587. December.

⁷⁸⁸ U.S. Environmental Protection Agency (U.S. EPA). 2023. Technical Support Document: Estimating the Benefit per Ton of Reducing Directly-Emitted PM_{2.5}, PM_{2.5} Precursors and Ozone Precursors from 21 Sectors. January.

⁷⁸⁹ U.S. Environmental Protection Agency (U.S. EPA). 2023. Estimating PM_{2.5}- and Ozone-Attributable Health Benefits. Technical Support Document (TSD) for the PM NAAQS Reconsideration Proposal RIA. EPA-HQ-OAR–2019–0587. January.

benefits estimated for the stream of years beginning with the first year of rule implementation, 2027, through 2055 for the proposed standards. Benefits are presented by source (onroad and upstream) and are estimated using either a 3 percent or 7 percent discount rate to account for avoided health outcomes that are expected to accrue over more than a single year (the

“cessation” lag between the change in PM exposures and the total realization of changes in health effects). Because premature mortality typically constitutes the vast majority of monetized benefits in a PM_{2.5} benefits assessment, we present benefits based on risk estimates reported from two different long-term exposure studies using different cohorts to account for

uncertainty in the benefits associated with avoiding PM-related premature deaths.^{790, 791}

The total present value of PM_{2.5}-related benefits for the proposed program between 2027 and 2055 (discounted back to 2027) is \$140 to \$280 billion at a 3 percent discount rate and \$63 to \$130 billion at a 7 percent discount rate (2020 dollars).

TABLE 188—MONETIZED PM_{2.5} HEALTH BENEFITS OF ONROAD AND UPSTREAM EMISSIONS REDUCTIONS ASSOCIATED WITH THE PROPOSAL, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

	Onroad		Upstream		Total benefits	
	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate
2027	0.053–0.11	0.048–0.1	0.011–0.026	0.01–0.023	0.064–0.14	0.058–0.13
2028	0.13–0.28	0.12–0.25	0.039–0.088	0.035–0.08	0.17–0.37	0.15–0.33
2029	0.24–0.52	0.22–0.47	0.083–0.19	0.075–0.17	0.33–0.71	0.29–0.63
2030	0.65–1.3	0.58–1.2	0.15–0.33	0.14–0.29	0.8–1.7	0.72–1.5
2031	1–2.1	0.93–1.9	0.24–0.52	0.22–0.47	1.3–2.7	1.2–2.4
2032	1.4–3	1.3–2.7	0.36–0.77	0.33–0.69	1.8–3.7	1.6–3.4
2033	1.9–3.9	1.7–3.5	0.51–1.1	0.45–0.96	2.4–4.9	2.1–4.4
2034	2.3–4.8	2.1–4.3	0.67–1.4	0.6–1.3	3–6.2	2.7–5.6
2035	3.2–6.4	2.9–5.8	0.98–2	0.88–1.8	4.2–8.4	3.7–7.6
2036	3.7–7.4	3.3–6.6	1.2–2.4	1–2.2	4.8–9.8	4.3–8.8
2037	4.2–8.4	3.7–7.5	1.4–2.8	1.2–2.6	5.6–11	5–10
2038	4.7–9.4	4.2–8.5	1.6–3.3	1.5–3	6.3–13	5.6–11
2039	5.1–10	4.6–9.3	1.9–3.8	1.7–3.4	7–14	6.3–13
2040	6.3–13	5.7–11	2.4–4.8	2.1–4.3	8.7–17	7.8–16
2041	6.8–14	6.1–12	2.7–5.3	2.4–4.8	9.5–19	8.5–17
2042	7.3–14	6.6–13	2.9–5.8	2.6–5.2	10–20	9.2–18
2043	7.8–15	7–14	3.2–6.4	2.9–5.8	11–22	9.8–20
2044	8.1–16	7.3–14	3.4–6.9	3.1–6.2	12–23	10–21
2045	9.3–18	8.4–16	3.7–7.4	3.3–6.6	13–26	12–23
2046	9.7–19	8.7–17	4–7.9	3.6–7.1	14–27	12–24
2047	10–20	9–18	4.2–8.3	3.8–7.5	14–28	13–25
2048	10–20	9.2–18	4.3–8.6	3.9–7.7	15–29	13–26
2049	11–21	9.4–18	4.4–8.9	4–8	15–29	13–26
2050	12–22	10–20	4.6–9.1	4.1–8.2	16–31	14–28
2051	12–23	11–20	4.6–9.2	4.1–8.2	16–32	15–29
2052	12–23	11–21	4.6–9.2	4.1–8.3	16–32	15–29
2053	12–23	11–21	4.6–9.3	4.2–8.3	17–32	15–29
2054	12–23	11–21	4.6–9.3	4.2–8.3	17–32	15–29
2055	13–25	12–22	4.6–9.3	4.2–8.3	18–34	16–31
Present Value	100–200	46–91	39–79	17–35	140–280	63–130
Equivalent Annualized Value	5.4–11	3.7–7.4	2.1–4.1	1.4–2.8	7.5–15	5.1–10

Notes: The range of benefits in this table reflect the range of premature mortality estimates derived from the Medicare study (Wu et al., 2020) and the NHIS study (Pope III et al., 2019). All benefits estimates are rounded to two significant figures. Annual benefit values presented here are not discounted. The present value of benefits is the total aggregated value of the series of discounted annual benefits that occur between 2027–2055 (in 2020 dollars) using either a 3 percent or 7 percent discount rate. The benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

TABLE 189—MONETIZED PM_{2.5} HEALTH BENEFITS OF ONROAD AND UPSTREAM EMISSIONS REDUCTIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

	Onroad		Upstream		Total benefits	
	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate
2027	0.055–0.12	0.05–0.11	0.012–0.027	0.011–0.025	0.067–0.15	0.06–0.13
2028	0.14–0.3	0.13–0.27	0.048–0.11	0.044–0.098	0.19–0.41	0.17–0.37
2029	0.25–0.53	0.22–0.48	0.11–0.23	0.095–0.21	0.35–0.76	0.32–0.69

⁷⁹⁰ Wu, X, Braun, D, Schwartz, J, Kioumourtzoglou, M and Dominici, F (2020). Evaluating the impact of long-term exposure to fine

particulate matter on mortality among the elderly. Science advances 6(29): eaba5692.

⁷⁹¹ Pope III, CA, Lefler, JS, Ezzati, M, Higbee, JD, Marshall, JD, Kim, S-Y, Bechle, M, Gilliat, KS,

Vernon, SE and Robinson, AL (2019). Mortality risk and fine particulate air pollution in a large, representative cohort of US adults. Environmental health perspectives 127(7): 077007.

TABLE 189—MONETIZED PM_{2.5} HEALTH BENEFITS OF ONROAD AND UPSTREAM EMISSIONS REDUCTIONS ASSOCIATED WITH ALTERNATIVE 1, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

	Onroad		Upstream		Total benefits	
	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate
2030	0.66–1.4	0.59–1.2	0.2–0.42	0.18–0.38	0.85–1.8	0.77–1.6
2031	1–2.2	0.93–1.9	0.31–0.65	0.28–0.59	1.3–2.8	1.2–2.5
2032	1.4–3	1.3–2.7	0.44–0.94	0.4–0.84	1.9–3.9	1.7–3.5
2033	1.9–3.9	1.7–3.5	0.61–1.3	0.55–1.2	2.5–5.2	2.2–4.6
2034	2.3–4.8	2.1–4.3	0.78–1.7	0.71–1.5	3.1–6.5	2.8–5.8
2035	3.2–6.5	2.9–5.8	1.1–2.3	1–2.1	4.3–8.8	3.9–7.9
2036	3.7–7.4	3.3–6.7	1.3–2.7	1.2–2.5	5–10	4.5–9.1
2037	4.2–8.5	3.8–7.6	1.6–3.2	1.4–2.9	5.8–12	5.2–11
2038	4.7–9.5	4.2–8.6	1.8–3.7	1.6–3.4	6.5–13	5.9–12
2039	5.2–10	4.7–9.4	2.1–4.2	1.9–3.8	7.3–15	6.5–13
2040	6.4–13	5.7–11	2.7–5.3	2.4–4.8	9.1–18	8.1–16
2041	6.9–14	6.2–12	3–5.9	2.7–5.3	9.9–20	8.9–18
2042	7.4–15	6.6–13	3.2–6.5	2.9–5.8	11–21	9.5–19
2043	7.8–15	7–14	3.5–7.1	3.2–6.4	11–23	10–20
2044	8.2–16	7.4–15	3.8–7.6	3.4–6.8	12–24	11–21
2045	9.4–18	8.5–17	4.1–8.2	3.7–7.3	14–27	12–24
2046	9.8–19	8.8–17	4.4–8.8	3.9–7.9	14–28	13–25
2047	10–20	9.1–18	4.6–9.2	4.1–8.3	15–29	13–26
2048	10–20	9.3–18	4.8–9.5	4.3–8.6	15–30	14–27
2049	11–21	9.5–19	4.9–9.8	4.4–8.8	16–31	14–27
2050	12–23	11–20	5–10	4.5–9	17–33	15–29
2051	12–23	11–21	5–10	4.5–9.1	17–33	15–30
2052	12–23	11–21	5.1–10	4.6–9.1	17–33	15–30
2053	12–23	11–21	5.1–10	4.6–9.1	17–33	15–30
2054	12–23	11–21	5.1–10	4.6–9.1	17–34	15–30
2055	13–25	12–23	5.1–10	4.6–9.1	18–35	16–32
Present Value	100–210	46–92	44–88	19–39	150–290	66–130
Equivalent Annualized Value	5.4–11	3.8–7.5	2.3–4.6	1.6–3.2	7.7–15	5.3–11

Notes: The range of benefits in this table reflect the range of premature mortality estimates derived from the Medicare study (Wu et al., 2020) and the NHIS study (Pope III et al., 2019). All benefits estimates are rounded to two significant figures. Annual benefit values presented here are not discounted. The present value of benefits is the total aggregated value of the series of discounted annual benefits that occur between 2027–2055 (in 2020 dollars) using either a 3 percent or 7 percent discount rate. The benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

TABLE 190—MONETIZED PM_{2.5} HEALTH BENEFITS OF ONROAD AND UPSTREAM EMISSIONS REDUCTIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

	Onroad		Upstream		Total benefits	
	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate
2027	0.039–0.083	0.035–0.075	0.0083–0.019	0.0075–0.017	0.047–0.1	0.042–0.092
2028	0.094–0.2	0.084–0.18	0.031–0.07	0.028–0.063	0.13–0.27	0.11–0.24
2029	0.19–0.41	0.17–0.37	0.069–0.15	0.062–0.14	0.26–0.56	0.23–0.51
2030	0.59–1.2	0.53–1.1	0.12–0.27	0.11–0.24	0.71–1.5	0.64–1.3
2031	0.97–2	0.87–1.8	0.2–0.43	0.18–0.39	1.2–2.4	1.1–2.2
2032	1.4–2.8	1.2–2.5	0.31–0.65	0.28–0.59	1.7–3.5	1.5–3.1
2033	1.8–3.7	1.6–3.3	0.44–0.94	0.4–0.85	2.2–4.6	2–4.2
2034	2.2–4.6	2–4.2	0.59–1.2	0.53–1.1	2.8–5.9	2.5–5.3
2035	3.1–6.2	2.8–5.6	0.87–1.8	0.78–1.6	4–8	3.6–7.2
2036	3.6–7.2	3.2–6.5	1–2.1	0.92–1.9	4.6–9.3	4.1–8.4
2037	4.1–8.2	3.7–7.4	1.2–2.5	1.1–2.3	5.3–11	4.8–9.6
2038	4.6–9.2	4.1–8.3	1.4–2.9	1.3–2.6	6–12	5.4–11
2039	5.1–10	4.5–9.2	1.6–3.4	1.5–3	6.7–14	6–12
2040	6.2–12	5.6–11	2.1–4.3	1.9–3.8	8.4–17	7.5–15
2041	6.7–13	6.1–12	2.4–4.8	2.1–4.3	9.1–18	8.2–16
2042	7.2–14	6.5–13	2.6–5.2	2.4–4.7	9.8–19	8.8–18
2043	7.7–15	6.9–14	2.9–5.8	2.6–5.2	11–21	9.5–19
2044	8–16	7.2–14	3.1–6.2	2.8–5.6	11–22	10–20
2045	9.2–18	8.3–16	3.3–6.6	3–6	13–25	11–22
2046	9.6–19	8.6–17	3.6–7.1	3.2–6.4	13–26	12–23
2047	9.9–19	8.9–17	3.8–7.5	3.4–6.8	14–27	12–24
2048	10–20	9.1–18	3.9–7.8	3.5–7	14–28	13–25
2049	10–20	9.4–18	4–8	3.6–7.2	14–28	13–26

TABLE 190—MONETIZED PM_{2.5} HEALTH BENEFITS OF ONROAD AND UPSTREAM EMISSIONS REDUCTIONS ASSOCIATED WITH ALTERNATIVE 2, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

	Onroad		Upstream		Total benefits	
	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate
2050	11–22	10–20	4.1–8.3	3.7–7.4	16–30	14–27
2051	12–22	10–20	4.2–8.3	3.7–7.5	16–31	14–28
2052	12–23	11–20	4.2–8.3	3.8–7.5	16–31	14–28
2053	12–23	11–20	4.2–8.4	3.8–7.5	16–31	14–28
2054	12–23	11–21	4.2–8.4	3.8–7.5	16–31	14–28
2055	13–25	12–22	4.2–8.4	3.8–7.5	17–33	15–30
Present Value	100–200	45–89	35–71	15–31	140–270	61–120
Equivalent Annualized Value	5.3–10	3.7–7.3	1.8–3.7	1.3–2.5	7.2–14	4.9–9.8

Notes: The range of benefits in this table reflect the range of premature mortality estimates derived from the Medicare study (Wu et al., 2020) and the NHIS study (Pope III et al., 2019). All benefits estimates are rounded to two significant figures. Annual benefit values presented here are not discounted. The present value of benefits is the total aggregated value of the series of discounted annual benefits that occur between 2027–2055 (in 2020 dollars) using either a 3 percent or 7 percent discount rate. The benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

TABLE 191—MONETIZED PM_{2.5} HEALTH BENEFITS OF ONROAD AND UPSTREAM EMISSIONS REDUCTIONS ASSOCIATED WITH ALTERNATIVE 3, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]

	Onroad		Upstream		Total Benefits	
	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate	3% Discount rate	7% Discount rate
2027	0.034–0.073	0.031–0.066	0.0057–0.013	0.0051–0.012	0.04–0.086	0.036–0.078
2028	0.085–0.18	0.076–0.16	0.023–0.052	0.021–0.047	0.11–0.23	0.097–0.21
2029	0.15–0.32	0.14–0.29	0.049–0.11	0.044–0.098	0.2–0.43	0.18–0.39
2030	0.54–1.1	0.48–1	0.098–0.21	0.088–0.19	0.63–1.3	0.57–1.2
2031	0.92–1.9	0.83–1.7	0.18–0.38	0.16–0.34	1.1–2.3	0.99–2.1
2032	1.3–2.7	1.2–2.4	0.29–0.62	0.26–0.56	1.6–3.3	1.4–3
2033	1.7–3.6	1.6–3.3	0.43–0.92	0.39–0.83	2.2–4.5	2–4.1
2034	2.2–4.6	2–4.1	0.6–1.3	0.54–1.1	2.8–5.8	2.5–5.2
2035	3–6.1	2.7–5.5	0.9–1.8	0.81–1.7	3.9–8	3.5–7.2
2036	3.5–7.1	3.2–6.4	1.1–2.2	0.97–2	4.6–9.3	4.1–8.4
2037	4–8.1	3.6–7.3	1.3–2.7	1.2–2.4	5.3–11	4.8–9.7
2038	4.6–9.2	4.1–8.3	1.5–3.1	1.4–2.8	6.1–12	5.5–11
2039	5–10	4.5–9.1	1.8–3.6	1.6–3.3	6.8–14	6.1–12
2040	6.2–12	5.6–11	2.3–4.6	2.1–4.1	8.5–17	7.7–15
2041	6.7–13	6–12	2.6–5.2	2.3–4.6	9.3–18	8.4–17
2042	7.2–14	6.5–13	2.8–5.7	2.6–5.1	10–20	9–18
2043	7.7–15	6.9–14	3.1–6.3	2.8–5.6	11–21	9.7–19
2044	8–16	7.2–14	3.4–6.8	3–6.1	11–23	10–20
2045	9.3–18	8.3–16	3.6–7.3	3.3–6.5	13–25	12–23
2046	9.7–19	8.7–17	3.9–7.8	3.5–7	14–27	12–24
2047	9.9–19	8.9–17	4.1–8.3	3.7–7.4	14–28	13–25
2048	10–20	9.2–18	4.3–8.6	3.9–7.7	15–29	13–26
2049	10–20	9.4–18	4.4–8.9	4–8	15–29	13–26
2050	12–22	10–20	4.6–9.1	4.1–8.2	16–31	14–28
2051	12–23	10–20	4.6–9.2	4.1–8.2	16–32	15–29
2052	12–23	11–21	4.6–9.2	4.1–8.3	16–32	15–29
2053	12–23	11–21	4.6–9.2	4.2–8.3	16–32	15–29
2054	12–23	11–21	4.6–9.3	4.2–8.3	17–32	15–29
2055	13–25	12–22	4.6–9.3	4.2–8.3	18–34	16–31
Present Value	100–200	45–89	38–77	17–33	140–280	62–120
Equivalent Annualized Value	5.3–10	3.7–7.3	2–4	1.4–2.7	7.3–14	5–10

Notes: The range of benefits in this table reflect the range of premature mortality estimates derived from the Medicare study (Wu et al., 2020) and the NHIS study (Pope III et al., 2019). All benefits estimates are rounded to two significant figures. Annual benefit values presented here are not discounted. The present value of benefits is the total aggregated value of the series of discounted annual benefits that occur between 2027–2055 (in 2020 dollars) using either a 3 percent or 7 percent discount rate. The benefits associated with the standards presented here do not include the full complement of health and environmental benefits that, if quantified and monetized, would increase the total monetized benefits.

This analysis includes many data sources that are each subject to uncertainty, including projected emission inventories, air quality data

from models, population data, population estimates, health effect estimates from epidemiology studies, economic data, and assumptions

regarding the future state of the world (*i.e.*, regulations, technology, and human behavior). When compounded, even small uncertainties can greatly

influence the size of the total quantified benefits. There are also inherent limitations associated with using the BPT approach. Despite these uncertainties, we believe the criteria pollutant benefits presented here are our best estimate of benefits absent air quality modeling and we have confidence in the BPT approach and the appropriateness of relying on BPT health estimates for this rulemaking. Please refer to DRIA Chapter 7 for more information on the uncertainty associated with the benefits presented here.

F. Other Impacts Including Maintenance and Repair

We present here the estimated impacts associated with rebound driving (drive value, congestion, noise) and the impacts on maintenance and repair costs. Lastly, we briefly discuss the safety-related impacts. More information on each of these topics is

presented in Chapter 4 and Chapter 9 of the DRIA.

1. Impacts Associated With Rebound Driving

The rebound effect might occur when an increase in vehicle fuel efficiency makes it possible for people to choose to drive more without spending more because of the lower cost per mile of driving. Additional driving can lead to costs and benefits that can be monetized. Note that we do not estimate or further discuss the size of the rebound effect in this Preamble. See DRIA Chapter 4 for that discussion. We request comment on the assumptions described there. In this section, we take the size of the rebound effect determined in the DRIA and highlight the costs and benefits associated with additional driving.

i. Drive Value

The increase in travel associated with the rebound effect produces social and

economic opportunities that become accessible with additional travel. We estimate the economic benefits from increased rebound-effect driving as the sum of the fuel costs paid to drive those miles and the owner/operator surplus from the additional accessibility that driving provides. These benefits are known as the drive value and appear in Table 192.

The fuel costs of the rebound miles driven are simply the number of rebound miles multiplied by the cost per mile of driving them. The economic value of the increased owner/operator surplus provided by added driving is estimated as one half of the product of the fuel savings per mile and rebound miles. Because fuel savings differ among vehicles in response to standards, the value of benefits from increased vehicle use differs by model year and varies across alternative standards.

TABLE 192—DRIVE VALUE BENEFITS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]*

Calendar year	Drive value benefits, proposal	Drive value benefits, alternative 1	Drive value benefits, alternative 2	Drive value benefits, alternative 3
2027	0.0011	0.0019	0.0026	–0.0036
2028	0.024	0.045	0.028	0.0068
2029	0.049	0.12	0.049	0.02
2030	0.086	0.2	0.077	0.041
2031	0.12	0.28	0.11	0.063
2032	0.16	0.37	0.16	0.1
2035	0.26	0.5	0.22	0.21
2040	0.37	0.51	0.15	0.26
2045	0.34	0.37	0.087	0.22
2050	0.34	0.29	0.11	0.21
2055	0.31	0.22	0.17	0.21
PV3	4.8	6.5	2.4	3.2
PV7	2.7	3.9	1.5	1.8
EAV3	0.25	0.34	0.12	0.17
EAV7	0.22	0.32	0.12	0.15

* Positive values represent benefits.

ii. Congestion and Noise

In contrast to the benefits of additional driving are the costs associated with that driving. Increased vehicle use associated with a positive rebound effect also contributes to increased traffic congestion and highway noise. Delays associated with congestion impose higher costs on road users in the form of increased travel time and operating expenses. Likewise, vehicles driving more miles on

roadways leads to more road noise from tires, wind, engines, and motors.

As in past rulemakings (*i.e.*, GHG 2010, 2012, and 2021), EPA relies on estimates of congestion and noise costs developed by the Federal Highway Administration's (FHWA's), specifically the "Middle" estimates for marginal congestion and noise costs, to estimate the increased external costs caused by added driving due to the rebound effect. FHWA's congestion and noise cost estimates focus on freeways. EPA,

however, applies the congestion cost to all vehicle miles, freeway and non-freeway and including rebound miles to ensure that these costs are not underestimated. Table 193 shows the values used as inputs to OMEGA and adjusted within the model to the dollar basis used in the analysis.

Table 194 presents the congestion costs associated with the proposal and each of the alternatives, while Table 195 shows the same information for noise costs.

TABLE 193—COSTS ASSOCIATED WITH CONGESTION AND NOISE
[2018 Dollars per vehicle mile]

	Sedans/wagons	CUVs/SUVs/vans	Pickups
Congestion	0.0634	0.0634	0.0566
Noise	0.0009	0.0009	0.0009

TABLE 194—CONGESTION COSTS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]*

Calendar year	Congestion costs, proposal	Congestion costs, alternative 1	Congestion costs, alternative 2	Congestion costs, alternative 3
2027	−0.00023	0.00063	0.00072	−0.0039
2028	0.01	0.025	0.012	−0.00089
2029	0.022	0.071	0.02	0.0042
2030	0.038	0.11	0.03	0.012
2031	0.055	0.17	0.046	0.023
2032	0.074	0.21	0.065	0.039
2035	0.12	0.28	0.082	0.088
2040	0.19	0.27	0.037	0.12
2045	0.17	0.2	0.0096	0.11
2050	0.17	0.14	0.028	0.11
2055	0.16	0.11	0.064	0.11
PV3	2.3	3.5	0.74	1.5
PV7	1.3	2.2	0.48	0.82
EAV3	0.12	0.18	0.039	0.078
EAV7	0.11	0.18	0.039	0.066

* Positive values represent costs.

TABLE 195—NOISE COSTS ASSOCIATED WITH THE PROPOSAL AND EACH ALTERNATIVE, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars]*

Calendar year	Noise costs, proposal	Noise costs, alternative 1	Noise costs, alternative 2	Noise costs, alternative 3
2027	−0.000014	−0.0000017	0.0000041	−0.000059
2028	0.00014	0.00037	0.00018	−0.000006
2029	0.00033	0.0011	0.00031	0.000076
2030	0.00059	0.0018	0.00047	0.0002
2031	0.00087	0.0026	0.00073	0.00038
2032	0.0012	0.0033	0.001	0.00064
2035	0.0019	0.0043	0.0013	0.0015
2040	0.0029	0.0043	0.00064	0.002
2045	0.0027	0.0031	0.00021	0.0017
2050	0.0027	0.0022	0.00048	0.0017
2055	0.0025	0.0017	0.001	0.0016
PV3	0.037	0.055	0.012	0.024
PV7	0.021	0.034	0.0078	0.013
EAV3	0.0019	0.0028	0.00064	0.0012
EAV7	0.0017	0.0027	0.00064	0.0011

* Positive values represent costs.

2. Maintenance and Repair Costs

Maintenance and repair (M&R) are large components of vehicle cost of ownership for any vehicle. According to Edmunds, maintenance costs consist of two types of maintenance: Scheduled and unscheduled. Scheduled maintenance is the performance of factory-recommended items at periodic mileage or calendar intervals. Unscheduled maintenance includes wheel alignment and the replacement of items such as the battery, brakes, headlights, hoses, exhaust system parts,

taillight/turn signal bulbs, tires, and wiper blades/inserts.⁷⁹² Repairs, in contrast, are done to fix malfunctioning parts that inhibit the use of the vehicle. The differentiation between the items that are included in unscheduled maintenance versus repairs is likely arbitrary, but the items considered repairs seem to follow the systems that are covered in vehicle comprehensive (*i.e.*, “bumper-to-bumper”) warranties

⁷⁹² Edmunds, “Edmunds.com/tco.html,” Edmunds, [Online]. Available: [Edmunds.com/tco.html](https://www.edmunds.com/tco.html). [Accessed 24 February 2022].

offered by automakers, which exclude common “wear” items like tires, brakes, and starter batteries.⁷⁹³

To estimate maintenance and repair costs, we have used the data gathered and summarized by Argonne National Laboratory (ANL) in their evaluation of the total cost of ownership for vehicles of various sizes and powertrains.⁷⁹⁴

⁷⁹³ D. Muller, “Warranties Defined: The Truth behind the Promises,” Car and Driver, 29 May 2017.

⁷⁹⁴ “Comprehensive Total Cost of Ownership Quantification for Vehicles with Different Size Classes and Powertrains, ANL/ESD-21/4,” Argonne

i. Maintenance Costs

Maintenance costs are an important consideration in the full accounting of social benefits and costs and in a consumer's purchase decision process. In their study, ANL developed a generic maintenance service schedule for various powertrain types using owner's manuals from various vehicle makes and models, assuming that drivers would follow the recommended service

intervals. After developing the maintenance schedules, the authors collected national average costs for each of the preventative and unscheduled services, noting several instances where differences in consumer characteristics and in vehicle attributes were likely important but not quantified/quantifiable.

Using the schedules and costs developed by the authors and presented in the DRIA, OMEGA calculates the

cumulative maintenance costs from mile zero through mile 225,000. Because maintenance costs typically increase over the life of the vehicle, we estimate maintenance and repair costs per mile at a constant slope with an intercept set to \$0 per mile such that the cumulative costs per the maintenance schedule are reached at 225,000 miles. Following this approach, the maintenance cost per mile curves calculated within OMEGA are as shown in Figure 38.

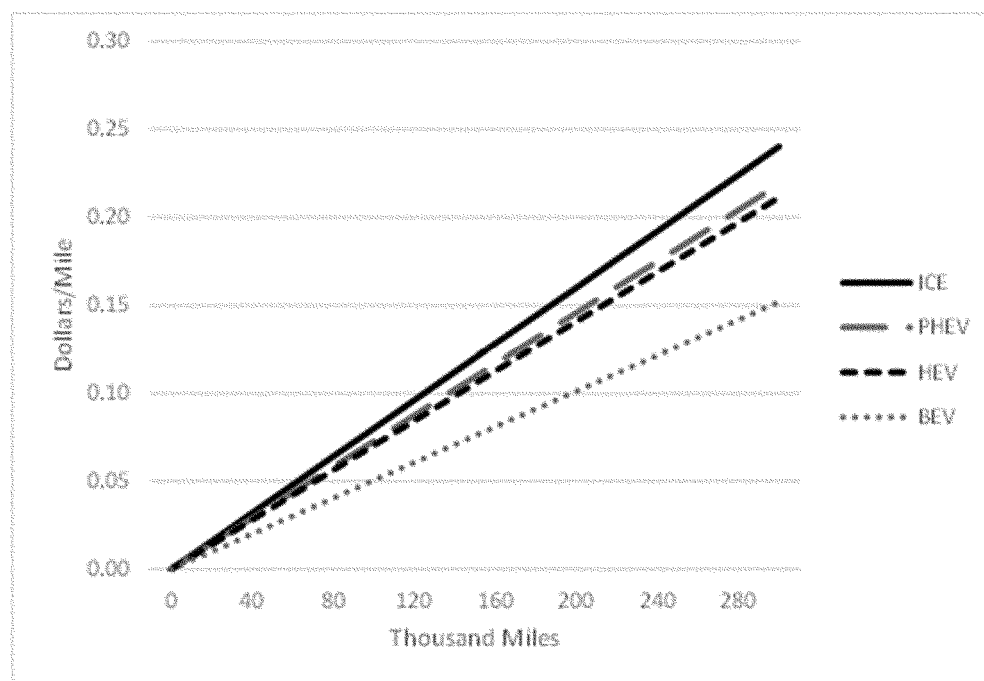


Figure 38. Maintenance cost per mile (2019 dollars) at various odometer readings.

Using these maintenance cost per mile curves, OMEGA then calculates the estimated maintenance costs in any given year of a vehicle's life based on

the miles traveled in that year. Table 196 presents the maintenance costs (savings) associated with the proposal and each alternative. For a more

detailed discussion of maintenance costs, see DRIA Chapter 4.

TABLE 196—MAINTENANCE COSTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY
[Billions of 2020 dollars] *

Calendar year	Maintenance costs, proposal	Maintenance costs, alternative 1	Maintenance costs, alternative 2	Maintenance costs, alternative 3
2027	−0.048	−0.048	−0.032	−0.044
2028	−0.34	−0.32	−0.24	−0.22
2029	−0.91	−0.8	−0.68	−0.54
2030	−1.7	−1.6	−1.3	−1
2031	−2.7	−2.7	−2.1	−1.7
2032	−4	−4.1	−3.2	−2.7
2035	−9.7	−10	−8.2	−7.7
2040	−23	−26	−21	−21
2045	−37	−42	−34	−36
2050	−47	−52	−43	−47

TABLE 196—MAINTENANCE COSTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY—Continued

[Billions of 2020 dollars]*

Calendar year	Maintenance costs, proposal	Maintenance costs, alternative 1	Maintenance costs, alternative 2	Maintenance costs, alternative 3
2055	–51	–57	–47	–51
PV3	–410	–450	–370	–390
PV7	–200	–220	–180	–190
EAV3	–21	–24	–19	–20
EAV7	–16	–18	–14	–15

* Negative values denote negative costs, *i.e.*, savings.

ii. Repair Costs

Repairs are done to fix malfunctioning parts that inhibit the use of the vehicle and are generally considered to address problems associated with parts or systems that are covered under typical

manufacturer bumper-to-bumper type warranties. In the ANL study, the authors were able to develop a repair cost curve for a gasoline car and a series of scalars that could be applied to that curve to estimate repair costs for other powertrains and vehicle types.

OMEGA makes use of ANL's cost curve and multipliers to estimate repair costs per mile at any age in a vehicle's life. Figure 39 provides repair cost per mile for a \$35,000 car, van/SUV, and pickup.

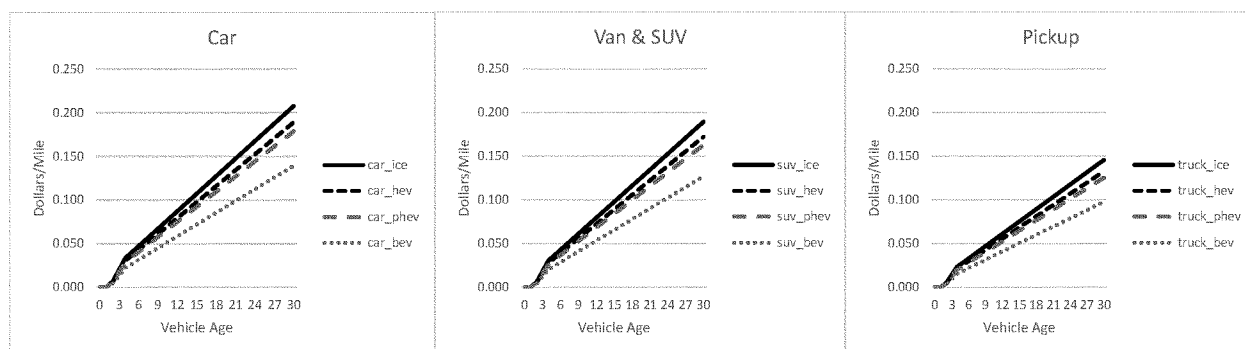


Figure 39. Repair cost per mile (2019 dollars) for a \$35,000 car, van/SUV, and pickup with various powertrains

by vehicle age in years.

Table 197 presents the repair costs associated with the proposal and each of the alternatives. A more detailed discussion of repair costs appears in DRIA Chapter 4.

TABLE 197—REPAIR COSTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY

[Billions of 2020 dollars]

Calendar year	Repair costs, proposal	Repair costs, alternative 1	Repair costs, alternative 2	Repair costs, alternative 3
2027	0.057	0.06	0.043	0.016
2028	0.078	0.11	0.058	0.012
2029	0.017	0.13	0.0065	–0.049
2030	–0.15	0.032	–0.13	–0.19
2031	–0.43	–0.17	–0.36	–0.39
2032	–0.84	–0.51	–0.7	–0.66
2035	–2.8	–2.4	–2.5	–2.3
2040	–9	–9	–8.4	–8.5
2045	–16	–17	–15	–16
2050	–21	–23	–20	–21
2055	–24	–26	–22	–24
PV3	–170	–180	–160	–170
PV7	–79	–82	–74	–77
EAV3	–8.9	–9.3	–8.3	–8.6

TABLE 197—REPAIR COSTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY—Continued
[Billions of 2020 dollars]

Calendar year	Repair costs, proposal	Repair costs, alternative 1	Repair costs, alternative 2	Repair costs, alternative 3
EAV7	–6.5	–6.7	–6	–6.3

* Negative values denote negative costs, *i.e.*, savings.

3. Safety Impacts

EPA has long considered the safety implications of its emission standards. Section 202(a)(4) of the CAA specifically prohibits the use of an emission control device, system or element of design that will cause or contribute to an unreasonable risk to public health, welfare, or safety. With respect to its light-duty greenhouse gas emission regulations, EPA has historically considered the potential impacts of GHG standards on safety in its light-duty GHG rulemakings.

The potential relationship between GHG emissions standards and safety is multi-faceted, and can be influenced not only by control technologies, but also by consumer decisions about vehicle ownership and use. EPA has estimated the impacts of this rule on safety by accounting for changes in new vehicle purchase, fleet turnover and VMT, and changes in vehicle weight that occur either as an emissions control strategy or as a result of the adoption of emissions control technologies such as vehicle electrification. Safety impacts related to changes in the use of vehicles in the fleet, relative mass changes, and the turnover of fleet to newer and safer vehicles have been estimated and considered in the standard setting process.

The GHG emissions standards are attribute-based standards, using vehicle footprint as the attribute. Footprint is defined as a vehicle's wheelbase multiplied by its average track width—in other words, the area enclosed by the points at which the wheels meet the ground. The standards are therefore generally based on a vehicle's size: Larger vehicles have numerically higher GHG emissions targets and smaller vehicles have numerically lower GHG emissions targets. Footprint-based standards help to distribute the burden of compliance across all vehicle footprints and across all manufacturers. Manufacturers are not compelled to build vehicles of any particular size or type, and each manufacturer has its own fleetwide standard for its car and truck fleets in each year that reflects the light-duty vehicles it chooses to produce. EPA has evaluated the relationship

between vehicle footprint and GHG emissions targets and is proposing GHG standards that are intended to minimize incentives to change footprint as a compliance strategy. EPA is not projecting any changes in vehicle safety due to changes in footprint as a result of this proposed rule.

While EPA has not conducted new studies on the safety implications of electrified vehicles, there is strong reason to believe that BEVs are at least as safe as conventional vehicles,⁷⁹⁵ if not more so. For example, the BEV architecture often lends itself to the addition of a “frunk” or front trunk. The frunk can provide additional crush space and occupant protection in frontal or front offset impacts. In addition, high voltage, large capacity batteries are often packaged under the vehicle and are integral to the vehicle construction. The increase in mass low in the vehicle provides additional vehicle stability and could reduce the propensity for vehicle rollover, especially in vehicles with a higher ride height, such as SUVs. In addition, the battery is typically an integral part of the body design and can provide additional side impact protection. For each of these reasons EPA believes that applying the historical relationship between mass and safety is appropriate for this rulemaking and may be conservative given the potential safety improvements provided by vehicle electrification.

Consistent with previous light-duty GHG analyses, EPA conducted a quantitative assessment of the potential of the proposed standards to affect vehicle safety. EPA applied the same historical relationships between mass, size, and fatality risk that were established and documented in the 2021 rulemaking. These relationships are based on the statistical analysis of historical crash data, which included an analysis performed by using the most recently available crash studies based on data for model years 2007 to 2011. EPA used these findings to estimate safety impacts of the modeled adoption of mass reduction as technology to reduce emissions, and the adoption of

BEVs that result in some vehicle weights that are higher than comparable ICE vehicles due to the addition of the battery. Based on the findings of our safety analysis, we concluded there are no changes to the vehicles themselves, nor the combined effects of fleet composition and vehicle design, that will have a statistically significant impact on safety.⁷⁹⁶ The only fatality projections presented here that are statistically significant are due to changes in use (VMT) rather than changes to the vehicles themselves. When including non-significant effects, EPA estimates that the proposed standards would result in an average 0.2 percent increase in the annual fatalities per billion miles driven in the 27-year period from 2027 through 2055 (increasing from 5.053 fatalities per billion miles under the proposal compared to 5.040 fatalities per billion miles under the no-action case.)

EPA has also estimated, over the same 27-year period, that total fatalities will increase by 1,595, with 330 deaths attributed to increased driving and 1,265 deaths attributed to the non-statistically significant increase in fatality risk. Our analysis projects that there will be an increase in vehicle miles traveled (VMT) under the revised standards of 65 billion miles compared to the No Action case in 2027 through 2055 (an increase of about 0.06 percent). As noted, the only statistically significant changes in the fatalities projected are the result from the projected increased driving—*i.e.*, people choosing to drive more due to the lower operating costs of more efficient vehicles. Our cost-benefit analysis accounts for the value of this additional driving, which we assume is an important consideration in the decision to drive.

On the whole, EPA considers safety impacts in the context of all projected health impacts from the rule including public health benefits from the

⁷⁹⁵ <https://www.iihs.org/news/detail/with-more-electric-vehicles-comes-more-proof-of-safety>.

⁷⁹⁶ None of the mass-safety coefficients that were developed for the 2020 and 2021 Rulemakings are statistically significant at the 95th percentile confidence level. EPA is including the presentation of non-significant changes in fatality rate here for the purpose of comparison with previous rulemaking assessments.

projected reductions in air pollution. Considering these estimates in the context of public health benefits anticipated from the proposed standards, EPA notes that the estimated present value of monetized benefits of reduced PM_{2.5} through 2055 is between \$63 billion and \$280 billion (depending on study and discount rate), and that the illustrative air quality modeling which, as discussed further in Chapter 8 of the DRIA, assesses a regulatory scenario with lower rates of PEV penetration than EPA is projecting for the proposal, estimates that in 2055 such a scenario would prevent between 730 and 1,400 premature deaths associated with exposure to PM_{2.5} and prevent between 15 and 330 premature deaths associated with exposure to ozone. We expect that the cumulative number of premature deaths avoided that would occur during the entire period from 2027 to 2055 would be much larger than the estimate of deaths avoided projected to occur in 2055.

G. Energy Security Impacts

In this section, we evaluate the energy security impacts of the proposed standards. Energy security is broadly defined as the uninterrupted availability of energy sources at affordable prices.⁷⁹⁷ Energy independence and energy security are distinct but related concepts, and an analysis of energy independence informs our assessment of energy security. The goal of U.S. energy independence is the elimination

of all U.S. imports of petroleum and other foreign sources of energy, but more broadly, it is the elimination of U.S. sensitivity to variations in the price and supply of foreign sources of energy.⁷⁹⁸ See Chapter 11 of the DRIA for a more detailed assessment of energy security and energy independence impacts of this proposed rule. See Preamble Section IV.C.6 and Chapter 3.1.3 of the DRIA for a discussion of critical materials and PEV supply chains.

The U.S.'s oil consumption had been gradually increasing in recent years (2015–2019) before the COVID–19 pandemic in 2020 dramatically decreased U.S. and global oil consumption.⁷⁹⁹ By July 2021, U.S. oil consumption had returned to pre-pandemic levels and has remained fairly stable since then.⁸⁰⁰ The U.S. has increased its production of oil, particularly “tight” (*i.e.*, shale) oil, over the last decade.⁸⁰¹ As a result of the recent increase in U.S. oil production, the U.S. became a net exporter of crude oil and refined petroleum products in 2020 and is projected to be a net exporter of crude oil and refined petroleum products for the foreseeable future.⁸⁰² This is a significant reversal of the U.S.'s net export position since the U.S. has been a substantial net importer of crude oil and refined petroleum products starting in the early 1950s.⁸⁰³

Oil is a commodity that is globally traded and, as a result, an oil price shock is transmitted globally. Given that

the U.S. is projected to be a modest net exporter of crude oil and refined petroleum products for the time frame of this analysis (2027–2055), one could reason that the U.S. no longer has a significant energy security problem. However, U.S. refineries still rely on significant imports of heavy crude oil which could be subject to supply disruptions. Also, oil exporters with a large share of global production have the ability to raise or lower the price of oil by exerting the market power associated with the Organization of Petroleum Exporting Countries (OPEC) to alter oil supply relative to demand. These factors contribute to the vulnerability of the U.S. economy to episodic oil supply shocks and price spikes, even when the U.S. is projected to be an overall net exporter of crude oil and refined products.

We anticipate that U.S. consumption and net imports of petroleum will be reduced as a result of this proposed rule, both from an increase in fuel efficiency of LMDVs using petroleum-based fuels and from the greater use of PEVs which are fueled with electricity. A reduction of U.S. net petroleum imports reduces both financial and strategic risks caused by potential sudden disruptions in the supply of petroleum to the U.S. and global market, thus increasing U.S. energy security. Table 198 presents the impacts on imported oil.

TABLE 198—OIL IMPORT IMPACTS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY

[Million barrels of imported oil per day in the given year]

Calendar year	Oil import impacts, proposal	Oil import impacts, alternative 1	Oil import impacts, alternative 2	Oil import impacts, alternative 3
2027	– 0.042	– 0.044	– 0.031	– 0.025
2028	– 0.1	– 0.12	– 0.076	– 0.063
2029	– 0.19	– 0.21	– 0.15	– 0.11
2030	– 0.29	– 0.33	– 0.23	– 0.18
2031	– 0.41	– 0.46	– 0.33	– 0.3
2032	– 0.54	– 0.61	– 0.45	– 0.44
2035	– 0.99	– 1.1	– 0.88	– 0.91
2040	– 1.6	– 1.8	– 1.4	– 1.6
2045	– 2	– 2.2	– 1.8	– 2
2050	– 2.3	– 2.5	– 2	– 2.2
2055	– 2.3	– 2.5	– 2.1	– 2.3

It is anticipated that manufacturers will choose to comply with the proposed standards with an increased

penetration of PEVs. Compared to the use of petroleum-based fuels to power vehicles, electricity used in PEVs is

anticipated to be generally more affordable and more stable in its price, *i.e.*, have less price volatility. See

⁷⁹⁷ IEA, Energy Security: ensuring the uninterrupted availability of energy sources at an affordable price. 2019. December.

⁷⁹⁸ Greene, D. 2010. Measuring energy security: Can the United States achieve oil independence? *Energy Policy*. 38. pp. 1614–1621.

⁷⁹⁹ EIA. Monthly Energy Review. Table 3.1. Petroleum Overview. December 2022.

⁸⁰⁰ *Ibid.*

⁸⁰¹ *Ibid.*

⁸⁰² EIA. Annual Energy Outlook 2022. Table A11: Petroleum and Other Liquid Supply and Disposition (Reference Case). 2022.

⁸⁰³ U.S. EIA. Oil and Petroleum Products Explained. November 2nd, 2022.

Chapter 11.3 of the DRIA for an analysis of PEV affordability and electricity price stability compared to gasoline prices. Thus, the greater use of electricity for PEVs is anticipated to improve the U.S.'s overall energy security position. Also, since the electricity to power PEVs will likely be almost exclusively produced in the U.S., this proposal will move the U.S. towards the goal of energy independence. See Chapter 11.3 of the DRIA for more discussion of how the proposed rule moves the U.S. to the goal of energy independence.

In order to understand the energy security implications of reducing U.S. oil imports, EPA has worked with Oak Ridge National Laboratory (ORNL), which has developed approaches for evaluating the social costs and energy security implications of oil use. When conducting this analysis, ORNL estimates the risk of reductions in U.S. economic output and disruption to the

U.S. economy caused by sudden disruptions in world oil supply and associated price shocks (*i.e.*, labeled the avoided macroeconomic disruption/adjustment costs). These risks are quantified as “macroeconomic oil security premiums”, *i.e.*, the extra costs of using oil besides its market price, associated with oil use.

For this proposed rule, EPA is using macroeconomic oil security premiums estimated using ORNL's methodology, which incorporates updated oil price projections and energy market and economic trends from the U.S. Department of Energy's Energy Information Administration's (EIA) Annual Energy Outlook (AEO) 2021. EPA and ORNL have worked together to revise the macroeconomic oil security premiums based upon recent energy security literature. We do not consider military cost impacts as a result of reductions in U.S. oil imports from this

proposed rule due to methodological issues in quantifying these impacts. If military cost impacts could be quantified and monetized, the estimated benefits of this proposed rule would be larger.

To calculate the oil security benefits of this proposed rule, EPA is using the ORNL macroeconomic oil security premium methodology with: (1) Estimated oil savings calculated by EPA, and (2) an oil import reduction factor of 90.7 percent, which reflects our estimate of how much U.S. oil imports are reduced from changes in U.S. oil consumption. Below EPA presents the macroeconomic oil security premiums used for the proposed standards for selected years from 2027–2055 in Table 199. The energy security benefits of this proposed rule are presented in Table 200.

TABLE 199—MACROECONOMIC OIL SECURITY PREMIUMS FOR SELECTED YEARS FROM 2027–2055
[2020\$/Barrel]*

Calendar year	Macroeconomic oil security premiums (range)
2027	\$3.41 (\$0.74–\$6.36)
2030	3.55 (0.65–6.68)
2032	3.70 (0.68–6.94)
2035	3.91 (0.73–7.34)
2040	4.39 (1.08–8.09)
2050	5.15 (1.52–9.28)
2055	5.15 (1.52–9.28)

* Top values in each cell are the mid-points, the values in parentheses are the 90 percent confidence intervals.

TABLE 200—ENERGY SECURITY BENEFITS ASSOCIATED WITH THE PROPOSAL AND EACH OF THE ALTERNATIVES, LIGHT-DUTY AND MEDIUM-DUTY
[In billions of 2020 dollars]

Calendar year	Energy security benefits, proposal	Energy security benefits, alternative 1	Energy security benefits, alternative 2	Energy security benefits, alternative 3
2027	0.052	0.055	0.038	0.031
2028	0.13	0.15	0.095	0.08
2029	0.24	0.27	0.19	0.14
2030	0.37	0.43	0.3	0.24
2031	0.54	0.61	0.44	0.4
2032	0.73	0.82	0.61	0.6
2035	1.4	1.6	1.3	1.3
2040	2.6	2.9	2.3	2.5
2045	3.5	3.8	3.1	3.4
2050	4.2	4.7	3.8	4.2
2055	4.4	4.8	3.9	4.4
PV3	41	46	37	40
PV7	21	23	19	20
EAV3	2.2	2.4	1.9	2.1
EAV7	1.7	1.9	1.5	1.6

H. Employment Impacts

If the U.S. economy is at full employment, even a large-scale environmental regulation is unlikely to have a noticeable impact on aggregate

net employment. Instead, labor would primarily be reallocated from one productive use to another, and net national employment effects from environmental regulation would be

small and transitory (*e.g.*, as workers move from one job to another). Affected sectors may nevertheless experience transitory effects as workers change jobs. Some workers may retrain or

relocate in anticipation of new requirements or require time to search for new jobs, while shortages in some sectors or regions could bid up wages to attract workers. These adjustment costs can lead to local labor disruptions. Even if the net change in the national workforce is small, localized reductions in employment may adversely impact individuals and communities just as localized increases may have positive impacts. If the economy is operating at less than full employment, economic theory does not clearly indicate the direction or magnitude of the net impact of environmental regulation on employment; it could cause either a short-run net increase or short-run net decrease.

Economic theory of labor demand indicates that employers affected by environmental regulation may change their demand for different types of labor in different ways. They may increase their demand for some types, decrease demand for other types, or maintain demand for still other types. The uncertain direction of labor impacts is due to the different channels by which regulations affect labor demand. A variety of conditions can affect employment impacts of environmental regulation, including baseline labor market conditions, employer and worker characteristics, industry, and region. In general, the employment effects of environmental regulation are difficult to disentangle from other economic changes (especially the state of the macroeconomy) and business decisions that affect employment, both over time and across regions and industries. In light of these difficulties, we look to economic theory to provide a constructive framework for approaching these assessments and for better understanding the inherent complexities in such assessments.

1. Background on Employment Effects

In addition to the employment effects, we have discussed in previous rules (for example the 2021 rule), where we estimated a partial employment effect on LD ICE vehicle manufacturing due to the increase in technical costs of the rule, the increasing penetration of electric vehicles in the market is likely to affect both the number and the nature of employment in the auto and parts sectors and related sectors, such as providers of charging infrastructure. Over time, as BEVs become a greater portion of the new vehicle fleet, the kinds of jobs in auto manufacturing are expected to change. For instance, there will be no need for engine and exhaust system assembly for BEVs, while many assembly tasks will involve electrical

rather than mechanical fitting. In addition, batteries represent a significant portion of the manufacturing content of an electrified vehicle, and some automakers are likely to purchase the cells, if not pre-assembled modules or packs, from suppliers. Employment in building and maintaining charging infrastructure needed to support the ever-increasing number of BEVs on the road is also expected to affect the nature of employment in automotive and related sectors. For much of these effects, there is considerable uncertainty in the data to quantitatively assess how employment might change as a function of the increased electrification expected to result under the proposed standards.

Results from California's ACC II program analysis suggest that there may be a small decrease, not exceeding 0.3 percent of baseline California employment in any year, in total employment across all industries in CA through 2040.⁸⁰⁴ A report by the Economic Policy Institute suggests that U.S. employment in the auto sector could increase if the share of vehicles, or powertrains, sold in the United States that are produced in the United States increases.⁸⁰⁵ The BlueGreen Alliance also states that though BEVs have fewer parts than their ICE counterparts, there is potential for job growth in electric vehicle component manufacturing, including batteries, electric motors, regenerative braking systems and semiconductors, and manufacturing those components in the United States can lead to an increase in jobs.⁸⁰⁶ They go on to state that if the United States does not become a major producer for these components, there is risk of job loss.

The UAW states that re-training programs will be needed to support auto workers in a market with an increasing share of electric vehicles in order to prepare workers that might be displaced by the shift to the new technology.⁸⁰⁷ Volkswagen states that labor requirements for ICE vehicles are about 70 percent higher than their electric counterpart, but these changes in employment intensities in the manufacturing of the vehicles can be offset by shifting to the production of new components, for example batteries

or battery cells.⁸⁰⁸ Research from the Seattle Jobs Initiative indicates that employment in a collection of sectors related to both BEV and ICE vehicle manufacturing is expected to grow slightly through 2029.⁸⁰⁹ Climate Nexus also indicates that the increasing penetration of electric vehicles will lead to a net increase in jobs, a claim that is partially supported by the rising investment in batteries, vehicle manufacturing and charging stations.⁸¹⁰ This expected private investment is also supported by recent Federal investment which will encourage increased investment along the vehicle supply chain, including domestic battery manufacturing, charging infrastructure, and vehicle manufacturing. The BIL was signed in November 2021 and provides over \$24 billion in investment in electric vehicle chargers, critical minerals, and components needed by domestic manufacturers of EV batteries and for clean transit and school buses.⁸¹¹ The CHIPS and Science Act, signed in August, 2022, invests in expanding America's manufacturing capacity for the semiconductors used in electric vehicles and chargers.⁸¹² The IRA provides incentives for producers to expand domestic manufacturing of BEVs and domestic sourcing of components and critical minerals needed to produce them. The act also provides incentives for consumers to purchase both new and used BEVs. These pieces of legislation are expected to create domestic employment opportunities along the full automotive sector supply chain, from components and equipment manufacturing and processing to final assembly, as well as incentivize the development of reliable EV battery supply chains.⁸¹³ The BlueGreen Alliance and the Political

⁸⁰⁸ https://www.volkswagenag.com/presence/stories/2020/12/frauenhofer-studie/6095_EMDI_VW_Summary_um.pdf.

⁸⁰⁹ https://www.seattle.gov/Documents/Departments/OSE/ClimateDocs/TE/EV%20Field%20in%20OR%20and%20WA_February20.pdf.

⁸¹⁰ <https://climatenexus.org/climate-issues/energy/ev-job-impacts/>.

⁸¹¹ The Bipartisan Infrastructure Law is officially titled the Infrastructure Investment and Jobs Act. More information can be found at <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/>.

⁸¹² The CHIPS and Science Act was signed by President Biden in August, 2022 to boost investment in, and manufacturing of, semiconductors in the U.S. The fact sheet can be found at <https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/09/fact-sheet-chips-and-science-act-will-lower-costs-create-jobs-strengthen-supply-chains-and-counter-china/>.

⁸¹³ "Building a Clean Energy Economy: A Guidebook to the Inflation Reduction Act's Investments in Clean Energy and Climate Action." January 2023. Whitehouse.gov. <https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf>.

⁸⁰⁴ <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/isor.pdf>.

⁸⁰⁵ <https://www.epi.org/publication/ev-policy-workers/>.

⁸⁰⁶ <https://www.bluegreenalliance.org/wp-content/uploads/2021/04/Backgrounder-EVs-Are-Coming-Will-They-Bemade-in-the-USA-vFINAL.pdf>.

⁸⁰⁷ <https://uaw.org/wp-content/uploads/2019/07/190416-EV-White-Paper-REVISED-January-2020-Final.pdf>.

Economy Research Institute estimate that IRA will create over 9 million jobs over the next decade, with about 400,000 of those jobs being attributed directly to the battery and fuel cell vehicle provisions in the act.⁸¹⁴ In addition, the IRA is expected to lead to increased demand for BEVs through tax credits for purchasers of BEVs.

2. Demand, Cost and Factor Shift Effect on Employment

In DRIA Chapter 4.96, we describe three ways employment at the firm level might be affected by changes in a firm's production costs due to environmental regulation: A demand effect, caused by higher production costs increasing market prices and decreasing demand; a cost effect, caused by additional environmental protection costs leading regulated firms to increase their use of inputs; and a factor- shift effect, in which post-regulation production technologies may have different labor intensities than their pre-regulation counterparts.⁸¹⁵ ⁸¹⁶ Due to data limitations, EPA is not quantifying the impacts of the final regulation on firm-level employment for affected companies, although we acknowledge these potential impacts. Instead, we discuss factor- shift, demand, and cost employment effects for the regulated sector at the industry level.

Factor- shift effects are due to changes in labor intensity of production due to the standards. We do not have data on how the regulation might affect labor intensity of production within ICE vehicle production. There is ongoing research on the different labor intensity of production between BEV and ICE vehicle production, with inconsistent results. Some research indicates that the labor hours needed to produce a BEV are fewer than those needed to produce an ICE vehicle, while other research indicates there are no real differences. EPA worked with a research group to produce a peer-reviewed tear-down study of a BEV to its comparable ICE

vehicle counterpart.⁸¹⁷ Study results were delivered in January 2023, and a peer review of the study is planned. Included in this study are estimates of labor intensity needed to produce each vehicle. We hope to use this information in additional analytical discussions in the final rule. Given the current lack of data and inconsistency in the existing literature, we are unable to estimate a factor-shift effect of increasing relative BEV production as a function of this rule.

The factor shift effect would occur where a BEV is replacing an ICE vehicle and does not account for a change in the total number of vehicles sold. Demand effects on employment are due to changes in labor due to changes in demand. In general, if the regulation causes total sales of new vehicles to increase, as we are estimating due to this proposed rule, more workers will be needed to assemble vehicles and manufacture their components. If BEVs and ICE vehicles have different labor intensities of production, the relative change in BEV and ICE vehicles sales will impact the demand effect on employment. Assume that sales of both BEV and ICE vehicles increase. This would mean that the change in employment due to an increase demand will depend on the labor intensity of BEV production and the increase in BEV sales, as well as in the labor intensity of ICE vehicle production and the increase in ICE sales. Now assume that BEV sales increased while ICE vehicle sales decreased. If total sales increased, that would indicate that BEVs replaced ICE vehicles, but there was new sales demand as well. The change in employment under this scenario would depend on the factor shift effect (the relative BEV and ICE vehicle labor intensity) for the replaced ICE vehicles, and the demand effect (labor intensity of BEVs) for the new sales demand. For the same reason we cannot estimate a factor- shift effect, namely that we do not know the labor intensity of BEV vs ICE vehicle production, we are not currently able to estimate a demand-shift effect on employment. However, because we are estimating increased new vehicle sales due to this rule, we would expect to see an increase in employment due to the demand effect.

The cost effects on employment are due to changes in labor associated with increases in costs of production.

BEVs and ICE vehicles require different inputs and have different costs of production, though there are interchangeable, common, parts as well.

In previous LD and HD rules, we have estimated a partial employment effect due to the change in costs of production. We estimated the cost effect using the historic share of labor in the cost of production to extrapolate future estimates of impacts on labor due to new compliance activities in response to the regulations. Specifically, we multiplied the share of labor in production costs by the production cost increase estimated as an impact of the rule. This provided a sense of the magnitude of potential impacts on employment.

As described in Chapter 4.6 of the DRIA, we used historical data on the number of employees per \$1 million in expenditures from the Employment Requirements Matrix (ERM) provided by the U.S. Bureau of Labor Statistics (BLS) to examine labor needs of five manufacturing sectors related to ICE and BEV vehicle production to determine trends over time. Two of these sectors (electrical equipment and manufacturing and other electrical equipment and component manufacturing) are more closely related to BEV production, while the other three (motor vehicle manufacturing, motor vehicle body and trailer manufacturing, and motor vehicle parts manufacturing) are sectors that are more generally related to both BEV and ICE vehicle production.

Over time, the amount of labor needed in the motor vehicle industry has changed: Automation and improved methods have led to significant productivity increases, which is reflected in the estimates from the BLS ERM. For example, in 1997 about 1.2 workers in the Motor Vehicle Manufacturing sector were needed per \$1 million, but only 0.5 workers by 2021 (in 2020\$).⁸¹⁸ Though the two sectors mainly associated with BEV manufacturing, electrical equipment manufacturing, and other electrical equipment and component manufacturing, show an increase in recent years.

3. Partial Employment Effect

We attempt to estimate partial employment effects of this proposed rule by separating out costs for BEVs and ICE vehicles, as well as the costs that are common between them,

⁸¹⁴ Political Economy Research Institute. (2022). *Job Creation Estimates Through Proposed Inflation Reduction Act*. University of Massachusetts Amherst. Retrieved from <https://www.bluegreenalliance.org/site/9-million-good-jobs-from-climate-action-the-inflation-reduction-act/>.

⁸¹⁵ Morgenstern, Richard D., William A. Pizer, and Jhih-Shyang Shih (2002). "Jobs Versus the Environment: An Industry-Level Perspective." *Journal of Environmental Economics and Management* 43: 412–436.

⁸¹⁶ Berman and Bui have a similar framework in which they consider output and substitution effects that are similar to Morgenstern et al.'s three effect (Berman, E. and L. T. M. Bui (2001). "Environmental Regulation and Labor Demand: Evidence from the South Coast Air Basin." *Journal of Public Economics* 79(2): 265–295).

⁸¹⁷ See DRIA Chapter 2.5.2.2.3 for more information.

⁸¹⁸ http://www.bls.gov/emp/ep_data_emp_requirements.htm; this analysis used data for sectors electrical equipment and manufacturing, other electrical equipment and component manufacturing, motor vehicle manufacturing, motor vehicle body and trailer manufacturing, and motor vehicle parts manufacturing from "Chain-weighted (2012 dollars) real domestic employment requirements tables;" see "Cost Effect Employment Impacts calculation" in the docket.

applying the BEV cost changes to data from sectors primarily focused on BEV production, ICE vehicle costs to sectors primarily focused on ICE vehicle production, and costs common for BEV and ICE vehicles to sectors that are common to BEV and ICE vehicle production.⁸¹⁹ For more information on how we estimated this partial employment effect, see DRIA Chapter 4.5.4.

In previous rules, we have estimated the cost effect, which is done while keeping sales constant. However, OMEGA estimates costs and changes in sales concurrently. Therefore, the partial

employment effect we are estimating here is not a straight cost effect, nor is it a demand effect, as the demand effect is due to a change in sales, keeping costs and factor intensities constant. This estimate we provide here is a combined cost and demand effect, and is meant to give a sense of possible partial employment effects, including directionality and relative magnitude. These estimates include effects due to both LD and MD cost changes, as the costs used in the analysis were the combined estimated costs for the light- and medium-duty sectors, as well as the change in new vehicle sales in the LD

market.⁸²⁰ It does not include economy-wide labor effects, possible factor intensity effects, or effects from possible changes to domestic production.

Results are provided in job-years, where a job-year is, for example, one year of full-time work for one person, or one year of half-time work for two people. Table 201 shows our partial employment results for the Proposal scenario. See Chapter 4.5.4 of the DRIA for more information on the employment analysis, as well as the partial employment effects for the three alternative scenarios.

TABLE 201—ESTIMATED PARTIAL EMPLOYMENT EFFECTS IN JOB-YEARS FOR BEV AND ICE VEHICLE SECTORS, SECTORS COMMON TO BEV AND ICE, AND THE NET MINIMUM AND MAXIMUM ACROSS ALL SECTORS

Year	Common		BEV		ICE vehicle		Net	
	Min	Max	Min	Max	Min	Max	Min	Max
2027	7,620	54,000	–9,800	–11,700	–10,200	–11,500	–12,380	30,800
2028	8,600	61,600	–9,100	–11,600	–13,900	–15,700	–14,400	34,300
2029	10,300	75,200	–9,000	–12,100	–19,200	–21,600	–17,900	41,500
2030	11,700	86,900	–9,100	–12,800	–21,600	–24,300	–19,000	49,800
2031	14,600	109,900	–10,100	–15,100	–26,100	–29,300	–21,600	65,500
2032	17,500	133,300	–11,100	–17,500	–30,500	–34,300	–24,100	81,500

These results show negative employment effects in the ICE and BEV focused sectors, while there are positive effects in the common sectors. These results also suggest that there could be either an increase or decrease in net employment in the automotive manufacturing industries examined as part of this analysis.

EPA contracted with FEV to perform a detailed tear-down study comparing two similar vehicles, one a BEV (the 2021 Volkswagen ID.4) and the other an ICE vehicle (the 2021 Volkswagen Tiguan (see DRIA Chapter 2.5.2.2.3 for more details on this study). In the process of compiling the detailed information, FEV estimated the number of labor hours it takes to build each of the two vehicles. Under a realistic scenario of assembly based on what OEMs are currently doing, their results suggest that the labor hours needed to assemble the BEV and ICE vehicles are very similar.⁸²¹ This indicates that changes in employment in the auto manufacturing sectors from increasing electrification will not come from the

assembling of the vehicles at the auto manufacturer, but from changing sales.

4. Employment in Related Sectors

With respect to possible employment effects in other sectors, economy-wide impacts on employment are generally driven by broad macroeconomic effects. However, employment impacts, both positive and negative, in sectors upstream and downstream from the regulated sector, or in sectors producing substitute or complementary products, may also occur as a result of this rule. For example, changes in electricity generation may have consequences for labor demand in those upstream industries. Lower per-mile fuel costs could lead to labor effects in ride-sharing or ride-hailing services through an increase in demand for those services. Reduced demand for gasoline may lead to impacts on demand for labor in the gas station sector, although the fact that many gas stations provide other goods, such as food and car washes, will moderate possible losses in this sector. There may also be an

increase in demand for labor in sectors that build and maintain charging stations. The magnitude of all of these impacts depends on a variety of factors including the labor intensities of the related sectors, as well as the nature of the linkages (which can be reflected in measures of elasticity) between them and the regulated firms.

Electrification of the vehicle fleet is likely to affect both the number and the nature of employment in the auto and parts sectors and related sectors, such as providers of charging infrastructure. In addition, the type and number of jobs related to vehicle maintenance are expected to change as well, though we expect this to happen over a longer time span due to the nature of fleet turnover. Given the timeline, we expect opportunities for workers to retrain from ICE vehicle maintenance to other positions, for example within BEV maintenance, charging station infrastructure, or elsewhere in the economy.

Reduced consumption of petroleum fuel represents fuel savings for

⁸¹⁹ A recent report from the Seattle Jobs Initiative examined how electrification in the automotive industry might advance workforce development in Oregon and Washington. As part of that study, the authors identified the sectors classified by the North American Industry Classification System (NAICS) codes most strongly associated with automotive production in general, those exclusive to ICE vehicles, and those primarily associated with BEV production. The report can be found at:

https://www.seattle.gov/Documents/Departments/OSE/ClimateDocs/TE/EV%20Field%20in%20OR%20and%20WA_February20.pdf.

⁸²⁰ We do not estimate a change in new MD vehicle sales. See Section VIII.C above, or DRIA Chapter 4.4.2 for more information on the change in sales estimated due to this proposed rule.

⁸²¹ In the realistic scenario, FEV assumes that the automakers purchase EV battery modules and

assembles the pack. Under assumptions that the auto manufacturers provide the least amount of added value in assemble, the Tiguan (ICE vehicle) is estimated to more man hours to assemble than the ID.4 (BEV). Under assumptions that the auto manufacturers perform most of the sub system manufacturing and assembly, including the engine, transmission and battery pack modules, the ID.4 (BEV) takes more man hours per vehicle than the Tiguan (ICE vehicle).

purchasers of fuel, as well as a potential loss in value of output for the petroleum refining industry, fuel distributors, and gasoline stations, which may result in reduced employment in these sectors. However, because the fuel production sector is material-intensive, the employment effect is not expected to be large. In addition, it may be difficult to distinguish these effects from other trends, such as increases in petroleum sector labor productivity that may also lower labor demand.

As discussed in Preamble Section I, there have been several legislative and administrative efforts enacted since 2021 aimed at improving the domestic supply chain for electric vehicles, including electric vehicle chargers, critical minerals, and components needed by domestic manufacturers of EV batteries. These actions are also expected to provide opportunities for domestic employment in these associated sectors.

The standards may affect employment for auto dealers through a change in vehicles sold, with increasing sales being associated with an increase in labor demand. However, vehicle sales are also affected by macroeconomic effects, and it is difficult to separate out the effects of the standards on sales from effects due to macroeconomic conditions. In addition, auto dealers may also be affected by changes in maintenance and service costs, as well as through changes in the maintenance needs of the vehicles sold. For example, reduced maintenance needs of BEVs would lead to reduced demand for maintenance labor.

I. Environmental Justice

1. Overview

People of color and people of low socioeconomic status face cumulative impacts associated with environmental exposures of multiple types, as well as non-chemical stressors. Numerous studies have found that environmental hazards such as air pollution are more prevalent in areas where people of color and low-income populations represent a higher fraction of the population compared with the general population.^{822 823} In addition, compared to non-Hispanic Whites, some other racial groups experience greater levels

of health problems during some life stages. For example, in 2018–2020, about 12 percent of non-Hispanic Black; 9 percent of non-Hispanic American Indian/Alaska Native; and 7 percent of Hispanic children were estimated to currently have asthma, compared with 6 percent of non-Hispanic White children.⁸²⁴ Nationally, on average, non-Hispanic Black and Non-Hispanic American Indian or Alaska Native people also have lower than average life expectancy based on 2019 data, the latest year for which CDC estimates are available.⁸²⁵

EPA's 2016 "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis" provides recommendations on conducting the highest quality analysis feasible, though not prescriptive, recognizing that data limitations, time and resource constraints, and analytic challenges will vary by media and regulatory context.⁸²⁶ Where applicable and practicable, the Agency endeavors to conduct such an analysis. There is evidence that communities with EJ concerns are disproportionately impacted by vehicle emissions associated with this proposed rule.⁸²⁷ EPA did not consider any potential disproportionate impacts of vehicle emissions in selecting the proposed standards, but we view mitigation of disproportionate impacts of vehicle emissions as one element of protecting public health consistent with CAA section 202. In general, we expect reduced tailpipe emissions of GHGs, criteria pollutants, and air toxics as described in Sections VI and VII of this Preamble.

A key consideration in EPA's Technical Guidance is consistency with the assumptions underlying other parts of the regulatory analysis when evaluating the baseline and regulatory options. When assessing the potential for disproportionately high and adverse health or environmental impacts of regulatory actions on populations with potential EJ concerns, EPA strives to answer three broad questions: (1) Is

there evidence of potential EJ concerns in the baseline (the state of the world absent the regulatory action)? Assessing the baseline will allow EPA to determine whether pre-existing disparities are associated with the pollutant(s) under consideration (*e.g.*, if the effects of the pollutant(s) are more concentrated in some population groups). (2) Is there evidence of potential EJ concerns for the regulatory option(s) under consideration? Specifically, how are the pollutant(s) and its effects distributed for the regulatory options under consideration? And, (3) do the regulatory option(s) under consideration exacerbate or mitigate EJ concerns relative to the baseline?

In this section, we discuss the environmental justice impacts of this proposal from the reduction of GHGs, criteria pollutants and air toxics tailpipe emissions. This section also discusses EJ impacts from upstream sources and the underlying uncertainty in our EJ analysis.

2. GHG Impacts

In 2009, under the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under section 202(a) of the CAA ("Endangerment Finding"), the Administrator considered how climate change threatens the health and welfare of the U.S. population. As part of that consideration, she also considered risks to people of color and low-income individuals and communities, finding that certain parts of the U.S. population may be especially vulnerable based on their characteristics or circumstances. These groups include economically and socially vulnerable communities; individuals at vulnerable life stages, such as the elderly, the very young, and pregnant or nursing women; those already in poor health or with comorbidities; the disabled; those experiencing homelessness, mental illness, or substance abuse; and/or Indigenous or minority populations dependent on one or limited resources for subsistence due to factors including but not limited to geography, access, and mobility.

Scientific assessment reports produced over the past decade by the U.S. Global Change Research Program (USGCRP),^{828 829} the Intergovernmental

⁸²² Rowangould, G.M. (2013) A census of the near-roadway population: public health and environmental justice considerations. *Trans Res D* 25: 59–67. <http://dx.doi.org/10.1016/j.trd.2013.08.003>.

⁸²³ Marshall, J.D. (2000) Environmental inequality: Air pollution exposures in California's South Coast Air Basin. *Atmos Environ* 21: 5499–5503. <https://doi.org/10.1016/j.atmosenv.2008.02.005>.

⁸²⁴ Current Asthma Prevalence by Race and Ethnicity (2018–2020). [Online at https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm.]

⁸²⁵ Arias, E. Xu, J. (2022) United States Life Tables, 2019. National Vital Statistics Report, Volume 70, Number 19. [Online at <https://www.cdc.gov/nchs/data/nvsr/nvsr70/nvsr70-19.pdf>.]

⁸²⁶ "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis." EPA.gov, Environmental Protection Agency, https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf. (June 2016).

⁸²⁷ Mohai, P.; Pellow, D.; Roberts Timmons, J. (2009) Environmental justice. *Annual Reviews* 34: 405–430. <https://doi.org/10.1146/annurev-environ082508-094348>.

⁸²⁸ USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.

⁸²⁹ USGCRP, 2016: The Impacts of Climate Change on Human Health in the United States: A

Panel on Climate Change (IPCC),^{830 831 832 833} and the National Academies of Science, Engineering, and Medicine^{834 835} add more evidence that the impacts of climate change raise potential environmental justice concerns. These reports conclude that poorer or predominantly non-White communities can be especially vulnerable to climate change impacts

Scientific Assessment. Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska, Eds. U.S. Global Change Research Program, Washington, DC, 312 pp. <http://dx.doi.org/10.7930/J0R49NQX>.

⁸³⁰ Oppenheimer, M., M. Campos, R. Warren, J. Birkmann, G. Luber, B. O'Neill, and K. Takahashi, 2014: Emergent risks and key vulnerabilities. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1039–1099.

⁸³¹ Porter, J.R., L. Xie, A.J. Challinor, K. Cochrane, S.M. Howden, M.M. Iqbal, D.B. Lobell, and M.I. Travasso, 2014: Food security and food production systems. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 485–533.

⁸³² Smith, K.R., A. Woodward, D. Campbell-Lendrum, D.D. Chadee, Y. Honda, Q. Liu, J.M. Olwoch, B. Revich, and R. Sauerborn, 2014: Human health: impacts, adaptation, and co-benefits. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 709–754.

⁸³³ IPCC, 2018: Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.

⁸³⁴ National Research Council. 2011. *America's Climate Choices*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12781>.

⁸³⁵ National Academies of Sciences, Engineering, and Medicine. 2017. *Communities in Action: Pathways to Health Equity*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24624>.

because they tend to have limited adaptive capacities and are more dependent on climate-sensitive resources such as local water and food supplies or have less access to social and information resources. Some communities of color, specifically populations defined jointly by ethnic/racial characteristics and geographic location, may be uniquely vulnerable to climate change health impacts in the U.S. In particular, the 2016 scientific assessment on the Impacts of Climate Change on Human Health⁸³⁶ found with high confidence that vulnerabilities are place- and time-specific, life stages and ages are linked to immediate and future health impacts, and social determinants of health are linked to a greater extent and severity of climate change-related health impacts. The GHG emission reductions from this proposal would contribute to efforts to reduce the probability of severe impacts related to climate change.

i. Effects on Specific Populations of Concern

Individuals living in socially and economically vulnerable communities, such as those living at or below the poverty line or who are experiencing homelessness or social isolation, are at greater risk of health effects from climate change. This is also true with respect to people at vulnerable life stages, specifically women who are pre- and perinatal, or are nursing; in utero fetuses; children at all stages of development; and the elderly. Per the Fourth National Climate Assessment (NCA4), “Climate change affects human health by altering exposures to heat waves, floods, droughts, and other extreme events; vector-, food- and waterborne infectious diseases; changes in the quality and safety of air, food, and water; and stresses to mental health and well-being.”⁸³⁷ Many health conditions such as cardiopulmonary or respiratory illness and other health impacts are associated with and exacerbated by an increase in GHGs and climate change outcomes, which is problematic as these diseases occur at higher rates within vulnerable communities. Importantly, negative public health outcomes include

those that are physical in nature, as well as mental, emotional, social, and economic.

To this end, the scientific assessment literature, including the aforementioned reports, demonstrates that there are myriad ways in which these populations may be affected at the individual and community levels. Individuals face differential exposure to criteria pollutants, in part due to the proximities of highways, trains, factories, and other major sources of pollutant-emitting sources to less-affluent residential areas. Outdoor workers, such as construction or utility crews and agricultural laborers, who frequently are comprised of already at-risk groups, are exposed to poor air quality and extreme temperatures without relief. Furthermore, individuals within EJ populations of concern face greater housing, clean water, and food insecurity and bear disproportionate economic impacts and health burdens associated with climate change effects. They have less or limited access to healthcare and affordable, adequate health or homeowner insurance. Finally, resiliency and adaptation are more difficult for economically vulnerable communities: They have less liquidity, individually and collectively, to move or to make the types of infrastructure or policy changes to limit or reduce the hazards they face. They frequently are less able to self-advocate for resources that would otherwise aid in building resilience and hazard reduction and mitigation.

The assessment literature cited in EPA's 2009 and 2016 Endangerment and Cause or Contribute Findings, as well as Impacts of Climate Change on Human Health, also concluded that certain populations and life stages, including children, are most vulnerable to climate-related health effects.⁸³⁸ The assessment literature produced from 2016 to the present strengthens these conclusions by providing more detailed findings regarding related vulnerabilities and the projected impacts youth may experience. These assessments—including the NCA4 and The Impacts of Climate Change on Human Health in the United States (2016)—describe how children's unique physiological and developmental factors contribute to making them particularly vulnerable to climate change. Impacts to children are expected from heat waves, air pollution, infectious and waterborne illnesses, and mental health effects resulting from extreme weather events. In addition, children are among those especially

⁸³⁶ USGCRP, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment

⁸³⁷ Ebi, K.L., J.M. Balbus, G. Luber, A. Bole, A. Crimmins, G. Glass, S. Saha, M.M. Shimamoto, J. Trtanj, and J.L. White-Newsome, 2018: Human Health. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 539–571. doi: 10.7930/NCA4.2018.CH14.

⁸³⁸ 74 FR 66496, December 15, 2009; 81 FR 54422, August 15, 2016.

susceptible to allergens, as well as health effects associated with heat waves, storms, and floods. Additional health concerns may arise in low-income households, especially those with children, if climate change reduces food availability and increases prices, leading to food insecurity within households.

The Impacts of Climate Change on Human Health⁸³⁷ also found that some communities of color, low-income groups, people with limited English proficiency, and certain immigrant groups (especially those who are undocumented) live with many of the factors that contribute to their vulnerability to the health impacts of climate change. While difficult to isolate from related socioeconomic factors, race appears to be an important factor in vulnerability to climate-related stress, with elevated risks for mortality from high temperatures reported for Black or African American individuals compared to White individuals after controlling for factors such as air conditioning use. Moreover, people of color are disproportionately exposed to air pollution based on where they live, and disproportionately vulnerable due to higher baseline prevalence of underlying diseases such as asthma, so climate exacerbations of air pollution are expected to have disproportionate effects on these communities.

Native American Tribal communities possess unique vulnerabilities to climate change, particularly those impacted by degradation of natural and cultural resources within established reservation boundaries and threats to traditional subsistence lifestyles. Tribal communities whose health, economic well-being, and cultural traditions depend upon the natural environment will likely be affected by the degradation of ecosystem goods and services associated with climate change. The IPCC indicates that losses of customs and historical knowledge may cause communities to be less resilient or adaptable.⁸³⁹ The NCA4 noted that while Indigenous peoples are diverse and will be impacted by the climate changes universal to all Americans, there are several ways in which climate change uniquely threatens Indigenous

peoples' livelihoods and economies.⁸⁴⁰ In addition, there can institutional barriers to their management of water, land, and other natural resources that could impede adaptive measures.

For example, Indigenous agriculture in the Southwest is already being adversely affected by changing patterns of flooding, drought, dust storms, and rising temperatures leading to increased soil erosion, irrigation water demand, and decreased crop quality and herd sizes. The Confederated Tribes of the Umatilla Indian Reservation in the Northwest have identified climate risks to salmon, elk, deer, roots, and huckleberry habitat. Housing and sanitary water supply infrastructure are vulnerable to disruption from extreme precipitation events.

NCA4 noted that Indigenous peoples often have disproportionately higher rates of asthma, cardiovascular disease, Alzheimer's, diabetes, and obesity, which can all contribute to increased vulnerability to climate-driven extreme heat and air pollution events. These factors also may be exacerbated by stressful situations, such as extreme weather events, wildfires, and other circumstances.

NCA4 and IPCC Fifth Assessment Report also highlighted several impacts specific to Alaskan Indigenous Peoples. Coastal erosion and permafrost thaw will lead to more coastal erosion, exacerbated risks of winter travel, and damage to buildings, roads, and other infrastructure—these impacts on archaeological sites, structures, and objects that will lead to a loss of cultural heritage for Alaska's Indigenous people. In terms of food security, the NCA4 discussed reductions in suitable ice conditions for hunting, warmer temperatures impairing the use of traditional ice cellars for food storage, and declining shellfish populations due to warming and acidification. While the NCA also noted that climate change provided more opportunity to hunt from boats later in the fall season or earlier

in the spring, the assessment found that the net impact was an overall decrease in food security.

In addition, the U.S. Pacific Islands and the indigenous communities that live there are also uniquely vulnerable to the effects of climate change due to their remote location and geographic isolation. They rely on the land, ocean, and natural resources for their livelihoods, but face challenges in obtaining energy and food supplies that need to be shipped in at high costs. As a result, they face higher energy costs than the rest of the nation and depend on imported fossil fuels for electricity generation and diesel. These challenges exacerbate the climate impacts that the Pacific Islands are experiencing. NCA4 notes that Indigenous peoples of the Pacific are threatened by rising sea levels, diminishing freshwater availability, and negative effects to ecosystem services that threaten these individuals' health and well-being.

3. Criteria Pollutant and Air Toxics Impacts

In addition to climate change benefits, this proposed rule would also impact emissions of criteria and air toxic pollutants from vehicles and from upstream sources (e.g., EGUs and refineries), as described in Section VII.A. We discuss near-roadway issues in Section VIII.I.3.i and upstream sources in Section VIII.I.3.ii.

i. Near-Roadway Analysis

In this section, we review existing scholarly literature examining the potential for disproportionate exposure among people of color and people with low socioeconomic status (SES) living near or attending school near major roads. In addition, we provide three analyses: People living near roadways using the U.S. Census Bureau's American Housing Survey for calendar year 2009, children attending school near roadways using the U.S. Department of Education's database of school locations, and the analysis of people who live in close proximity to major truck routes which also carry light- and medium-duty vehicles, using data from the 2010 Decennial Census, the 2012 five-year American Community Survey, EPA's population analysis, and U.S. Department of Transportation Freight Analysis Framework, version 4.

⁸³⁹ Porter et al., 2014: Food security and food production systems.

⁸⁴⁰ Jantarasami, L.C., R. Novak, R. Delgado, E. Marino, S. McNeeley, C. Narducci, J. Raymond-Yakoubian, L. Singletary, and K. Powys Whyte, 2018: Tribes and Indigenous Peoples. In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 572–603. doi: 10.7930/NCA4.2018.CH15.

As discussed in Section II.C.7 of this document, concentrations of many air pollutants are elevated near high-traffic roadways. Several publications report nationwide analyses that compare the sociodemographic patterns of people who do or do not live near major roadways. Three of these studies found that people living near major roadways are more likely to be minorities or low in SES.^{841 842 843} They also found that the outcomes of their analyses varied between regions within the U.S. However, only one such study looked at whether such conclusions were confounded by living in a location with higher population density and how demographics differ between locations nationwide.⁸⁴³ In general, it found that higher density areas have higher proportions of low-income residents and people of color. In other publications based on a city, county, or state, the results are similar.

Locations in these studies include Los Angeles, CA; Seattle, WA; Wayne County, MI; Orange County, FL; and the State of California.^{844 845 846 847 848 849 850} Such disparities may be due to multiple factors.^{851 852 853 854 855}

People with low SES often live in neighborhoods with multiple stressors and health risk factors, including reduced health insurance coverage rates, higher smoking and drug use rates, limited access to fresh food, visible neighborhood violence, and elevated rates of obesity and some diseases such as asthma, diabetes, and ischemic heart disease. Although questions remain, several studies find stronger associations between traffic-related air pollution and health in locations with such chronic neighborhood stress, suggesting that populations in these areas may be more susceptible to the effects of air pollution.^{856 857 858 859}

We analyzed several national databases that allowed us to evaluate whether homes and schools were located near a major road and whether disparities in exposure may be occurring in these environments. The American Housing Survey (AHS) includes descriptive statistics of over 70,000 housing units across the nation. The survey is conducted every two years by the U.S. Census Bureau with road locations from the U.S. Census Bureau's TIGER database. The second database we analyzed was the U.S. Department of Education's Common

Core of Data, which includes school location, enrollment by race, and the number of students eligible for free- and reduced-price school lunch for all public elementary and secondary schools and school districts nationwide. The third analysis uses data from USDOT's Freight Analysis Framework 4 (FAF4), in addition to the 2010 Decennial Census and EPA's population analysis for the conterminous United States (CONUS).

In analyzing the 2009 AHS, we focused on whether a housing unit was located within 300 feet, the distance provided in the AHS data, of a "4-or-more lane highway, railroad, or airport." We analyzed whether there were differences between households in such locations compared with those in locations farther from these transportation facilities. We included other variables, such as land use category, region of country, and housing type. We found that homes with a non-White householder were 22–34 percent more likely to be located within 300 feet of these large transportation facilities than homes with White householders. Homes with a Hispanic householder were 17–33 percent more likely to be located within 300 feet of these large transportation facilities than homes with non-Hispanic householders. Households near large transportation facilities were, on average, lower in income and educational attainment and more likely to be a rental property and located in an urban area compared with households more distant from transportation facilities.

We examined the Common Core of Data from the U.S. Department of Education, to evaluate whether children who attend school in proximity to major roads are disproportionately represented by students of color or low SES students. To determine school proximities to major roadways, we used a geographic information system (GIS) to map each school and roadways based on the U.S. Census's TIGER roadway file. We found that students of color were overrepresented at schools within 200 meters of the largest roadways, and schools within 200 meters of the largest roadways had higher than expected numbers of students eligible for free or reduced-price lunches. For example, Black students represent 22 percent of students at schools located within 200 meters of a primary road, compared to 17 percent of students in all U.S. schools. Hispanic students represent 30 percent of students at schools located within 200 meters of a primary road, compared to 22 percent of students in all U.S. schools. In extended analyses of this data set, we found that students of

⁸⁴¹ Tian, N.; Xue, J.; Barzyk, T.M. (2013) Evaluating socioeconomic and racial differences in traffic-related metrics in the United States using a GIS approach. *J Exposure Sci Environ Epidemiol* 23: 215–222.

⁸⁴² Rowangould, G.M. (2013) A census of the U.S. near-roadway population: public health and environmental justice considerations. *Transportation Research Part D*: 59–67.

⁸⁴³ CDC (2013) Residential proximity to major highways—United States, 2010. *Morbidity and Mortality Weekly Report* 62(3): 46–50.

⁸⁴⁴ Marshall, J.D. (2008) Environmental inequality: air pollution exposures in California's South Coast Air Basin.

⁸⁴⁵ Su, J.G.; Larson, T.; Gould, T.; Cohen, M.; Buzzelli, M. (2010) Transboundary air pollution and environmental justice: Vancouver and Seattle compared. *GeoJournal* 57: 595–608. doi:10.1007/s10708-009-9269-6.

⁸⁴⁶ Chakraborty, J.; Zandbergen, P.A. (2007) Children at risk: measuring racial/ethnic disparities in potential exposure to air pollution at school and home. *J Epidemiol Community Health* 61: 1074–1079. doi:10.1136/jech.2006.054130.

⁸⁴⁷ Green, R.S.; Smorodinsky, S.; Kim, J.J.; McLaughlin, R.; Ostro, B. (2004) Proximity of California public schools to busy roads. *Environ Health Perspect* 112: 61–66. doi:10.1289/ehp.6566.

⁸⁴⁸ Wu, Y.; Batterman, S.A. (2006) Proximity of schools in Detroit, Michigan to automobile and truck traffic. *J Exposure Sci & Environ Epidemiol*. doi:10.1038/sj.jes.7500484.

⁸⁴⁹ Su, J.G.; Jerrett, M.; de Nazelle, A.; Wolch, J. (2011) Does exposure to air pollution in urban parks have socioeconomic, racial, or ethnic gradients? *Environ Res* 111: 319–328.

⁸⁵⁰ Jones, M.R.; Diez-Roux, A.; Hajat, A.; et al. (2014) Race/ethnicity, residential segregation, and exposure to ambient air pollution: The Multi-Ethnic Study of Atherosclerosis (MESA). *Am J Public Health* 104: 2130–2137. [Online at: <https://doi.org/10.2105/AJPH.2014.302135>].

⁸⁵¹ Depro, B.; Timmins, C. (2008) Mobility and environmental equity: do housing choices

determine exposure to air pollution? Duke University Working Paper.

⁸⁵² Rothstein, R. *The Color of Law: A Forgotten History of How Our Government Segregated America*. New York: Liveright, 2018.

⁸⁵³ Lane, H.J.; Morello-Frosch, R.; Marshall, J.D.; Apte, J.S. (2022) Historical redlining is associated with present-day air pollution disparities in US Cities. *Environ Sci & Technol Letters* 9: 345–350. DOI: [Online at: <https://doi.org/10.1021/acs.estlett.1c01012>].

⁸⁵⁴ Ware, L. (2021) Plessy's legacy: the government's role in the development and perpetuation of segregated neighborhoods. *RSF: The Russel Sage Foundation Journal of the Social Sciences*, 7:92–109. DOI: DOI: 10.7758/RSF.2021.7.1.06.

⁸⁵⁵ Archer, D.N. (2020) "White Men's Roads through Black Men's Homes": advancing racial equity through highway reconstruction. *Vanderbilt Law Rev* 73: 1259.

⁸⁵⁶ Clougherty, J.E.; Kubzansky, L.D. (2009) A framework for examining social stress and susceptibility to air pollution in respiratory health. *Environ Health Perspect* 117: 1351–1358. Doi:10.1289/ehp.0900612.

⁸⁵⁷ Clougherty, J.E.; Levy, J.I.; Kubzansky, L.D.; Ryan, P.B.; Franco Suglia, S.; Jacobson Canner, M.; Wright, R.J. (2007) Synergistic effects of traffic-related air pollution and exposure to violence on urban asthma etiology. *Environ Health Perspect* 115: 1140–1146. doi:10.1289/ehp.9863.

⁸⁵⁸ Finkelstein, M.M.; Jerrett, M.; DeLuca, P.; Finkelstein, N.; Verma, D.K.; Chapman, K.; Sears, M.R. (2003) Relation between income, air pollution and mortality: a cohort study. *Canadian Med Assn J* 169: 397–402.

⁸⁵⁹ Shankardass, K.; McConnell, R.; Jerrett, M.; Milam, J.; Richardson, J.; Berhane, K. (2009) Parental stress increases the effect of traffic-related air pollution on childhood asthma incidence. *Proc Natl Acad Sci* 106: 12406–12411. doi:10.1073/pnas.0812910106.

color from nearly every race are more likely to attend school within 200 meters of the largest roads as compared with White students.⁸⁶⁰ For example, American Indian/Alaska Native, Asian/Pacific Islander, Black, Hispanic, and multiracial students are at least 75 percent more likely than White students to attend school near primary roads, such as limited-access highways.⁸⁶¹ Students eligible for free or reduced-price lunches are also more likely to attend schools near major roads. The schools where we observed disparities of race and SES were mostly found in cities and large suburbs.

As described in Section II.C.8 of this Preamble, we recently conducted an analysis of the populations within the CONUS living in close proximity to FAF4 roads, which include many large highways and other routes where light- and medium-duty vehicles operate. Relative to the rest of the population, people living near these FAF4 roads are more likely to be people of color and have lower incomes than the general population. People living near FAF4 roads are also more likely to live in metropolitan areas. Even controlling for region of the country, county characteristics, population density, and household structure, race, ethnicity, and income are significant determinants of whether someone lives near a FAF4 road. Overall, there is substantial evidence that people who live or attend school near major roadways are more likely to be of a non-White race, Hispanic, and/or have a low SES. We expect communities near roads will benefit from the reduced tailpipe emissions of PM, NO_x, SO₂, NMOG, CO, and mobile source air toxics from light- and medium-duty vehicles in this proposal. EPA is considering how to better estimate the near-roadway air quality impacts of its regulatory actions and how those impacts are distributed across populations. EPA requests comment on the EJ analysis presented in this proposal.

ii. Upstream Source Impacts

In general, we expect that increases in emissions from EGUs and decreases in petroleum-sector emissions would lead to changes in exposure to criteria pollutants for people living in the communities near these facilities. Analyses of communities in close proximity to EGUs have found that a higher percentage of communities of

color and low-income communities live near these sources when compared to national averages.⁸⁶² Analysis of populations near refineries also indicates there may be potential disparities in pollution-related health risk from that source.⁸⁶³

J. Additional Non-Monetized Considerations Associated With Benefits and Costs: Energy Efficiency Gap

The topic of the “energy paradox” or “energy efficiency gap” has been extensively discussed in many previous vehicle GHG standards’ analyses.⁸⁶⁴ The idea of the energy efficiency gap is that existing technologies that reduce fuel consumption enough to pay for themselves in short periods were not widely adopted, even though conventional economic principles suggest that because the benefits to vehicle buyers would outweigh the costs to those buyers of the new technologies, automakers would provide them and people would buy them. However, as described in previous EPA GHG vehicle rules (most recently in the 2021 rule) engineering analyses identified technologies, such as downsized-turbocharged engines, gasoline direct injection, and improved aerodynamics, where the additional cost of the technology is quickly covered by the fuel savings it provides, but they were not widely adopted until after the issuance of EPA vehicle standards. As explained in detail in previous rulemakings, research suggests the presence of fuel-saving technologies does not lead to adverse effects on other vehicle attributes, such as performance and noise. Additionally, research shows that there are technologies that exist that provide improvements in both performance and fuel economy, or at least in improved fuel economy without hindering performance.

There are a number of hypotheses in the literature that attempt to explain the existence of the energy efficiency gap, including both consumer and producer side reasons.⁸⁶⁵ For example, some researchers posit that consumers take

up-front costs into account in purchase decisions more than future fuel savings, consumers may not fully understand potential cost savings, or they may not prioritize fuel consumption in their set of important attributes when starting the vehicle purchase process. On the producer side, explanations include the reasons related to large, fixed costs in switching to new technologies, or the uncertainty involved in technological innovation and adoption.

Part of the uncertainty surrounding the existence or reason behind the energy efficiency gap is that most of the technology applied to existing ICE vehicles that may have created possible unaccounted for effects was “invisible.” This is for a few reasons, including that the technology itself was not something the mainstream consumer would know about, or because it was applied to a vehicle at the same time as multiple other changes, therefore making it unclear to the consumer what changes in vehicle attributes, if any, could be attributed to a specific technology. Though there may still exist a slight gap in ICE vehicle purchases due to this uncertainty, it becomes less and less of an issue with the growing share of electric vehicles in the market, and changes in vehicle attributes due to the new technology are clearer. For more information, see DRIA Chapter 4.4.

IX. Consideration of Potential Fuels Controls for a Future Rulemaking

The emissions standards for new vehicles (MY 2027 and later) proposed in this rule would achieve significant air quality benefits. However, there is an opportunity to further address PM emissions from the existing vehicle fleet, the millions of vehicles produced during the phase-in period, as well as nonroad engines, through changes in market fuel composition. Given the current population of vehicles and nonroad equipment, we expect that tens of millions of gasoline-powered sources will remain in use well into the 2030s.⁸⁶⁶ ⁸⁶⁷ Although EPA has not undertaken sufficient analysis to propose changes to fuel requirements under CAA section 211(c) in this rulemaking, and considers such changes beyond the scope of this rulemaking, EPA has begun to consider the possibility of such changes and in this section, EPA requests comments on aspects of a possible future rulemaking aimed at further PM emission

⁸⁶² See 80 FR 64662, 64915–64916 (October 23, 2015).

⁸⁶³ U.S. EPA (2014). Risk and Technology Review—Analysis of Socio-Economic Factors for Populations Living Near Petroleum Refineries. Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina. January.

⁸⁶⁴ For two of the most recent examples, see 86 FR 74434, December 30, 2021, “Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards” and 85 FR 24174, April 30, 2020, “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks.”

⁸⁶⁵ Note that the literature surrounding the energy efficiency gap in LD vehicles is based on historical data, which is focused on ICE vehicles.

⁸⁶⁶ USEPA, “Population and Activity of Onroad Vehicles,” November 2020. Document EPA–420–R–20–023.

⁸⁶⁷ USEPA, “Nonroad Engine Population Growth Estimated in MOVES2014b,” July 2018. Document EPA–420–R–18–010.

⁸⁶⁰ U.S. EPA (2023) Extended Analyses of Students Attending Schools within 200 Meters of U.S. Primary and Secondary Roads. Memorandum to docket.

⁸⁶¹ These racial groups are those reported in reference 860.

reductions from these sources via gasoline fuel property standards. Such future fuel standards could be an important complement to EPA's proposed vehicle PM standards.

A. Impacts of High-Boiling Components on Emissions

Numerous emission studies have associated high-boiling compounds in gasoline with increased tailpipe PM emissions.^{868 869} In addition, analysis of a large number of market fuel samples has shown that the high-boiling tail of gasoline contains a high proportion of aromatics, and that the heaviest few percent of this material has very high leverage on PM emissions.^{870 871 872 873} The combination of these facts underlies the rest of our discussion, specifically the ability to use high boiling point as a surrogate for heavy aromatic content and the high leverage such compounds have on PM emissions from gasoline vehicles and equipment.

1. Predictive Fuel Parameters

Historically, PM emission predictors have been focused on total aromatics (e.g., from ASTM method D1319) and heavy-end distillation parameters from ASTM D86, such as T90.^{874 875} The T90 parameter refers to the temperature at which 90 volume percent of the gasoline sample has been distilled. It has been used for decades as a simple measure of the boiling range of the heaviest 10 percent of the fuel, or essentially how much high-boiling material is present. For example, in the EPAct study results published by EPA in 2013, aromatics content and T90 were found to be

statistically significant predictors of PM emissions across a large set of fuels and vehicles.⁸⁷⁶

The PM Index (PMI) parameter, first described in a 2010 publication, combines detailed fuel composition data (from ASTM D6730) with volatility and structural characteristics for all compounds identified in the fuel to predict its relative propensity to form PM.⁸⁷⁷ The PMI and its variants have been shown to be the most robust type of fuel-based PM predictor to date, and illustrate that a small proportion of low-volatility aromatics in gasoline are responsible for a large share of PM emissions.⁸⁷⁸ PMI has been used in several emission studies and modeling analyses correlating fuel parameters to PM,^{879 880} and our assessment of potential impacts of fuel formulation changes on PM emission inventories, presented in Section IX.7, rely heavily on PMI. However, the detailed fuel hydrocarbon analysis required to calculate PMI is costly and time-consuming. Therefore, it would be impractical to set PMI standards for market gasoline. We discuss alternative fuel parameters that could serve as an effective surrogate for PMI in Section IX.E.

2. Onroad Emissions Impacts

We considered three large studies spanning a range of vehicle technologies to provide a quantitative estimate of the impact of PMI on PM emissions. The first is the EPAct/V2/E-89 study designed by EPA, CRC, and DOE/NREL and published in 2013, where 27 gasoline blends were tested in 15 vehicles from the 2008 model year.⁸⁸¹ These results reflect the performance of port-fuel-injected vehicles meeting the light duty Tier 2 emissions standards. While PMI was not originally a design

parameter of the study, ASTM D6729 data was generated after test fuel production, which allowed the PMI analysis to be done later. During test fuel development, the distribution of C7/C8/C9/C10+ aromatics was controlled across the test fuels to uniform ratios approximating what is found in market fuel surveys. The test fuels spanned a PMI range of 0.7 to 2.2, and the study results indicate a change in PMI of 1 percent produces a PM emissions change of approximately 1 percent. PMI ranges for market fuels are shown in Section IX.B.2.

A second study providing relevant PM vs PMI data is CRC E-94-2, published in 2018.⁸⁸² Researchers tested 16 light duty vehicles spanning model years 2013–2017 and a range of engine technologies using eight fuels varying in PMI, ethanol, and anti-knock index (AKI, also called octane) level. These results showed a change in PM emissions of approximately 2 percent per 1 percent PMI over the range of 1.4 to 2.4 PMI.

A third and more recent study was jointly conducted by EPA, Environment and Climate Change Canada, and several automakers.⁸⁸³ Ten high-sales vehicles of model years 2015–2022 were tested in the participants' labs using five test fuels spanning a PMI range of 1.5 to 2.4. This study was designed to assess the emissions impact of replacing a small portion of heavy aromatics in a high-PMI gasoline with alternative high-octane blendstocks (light aromatics, isoparaffins, and ethanol), which are the types of changes we would expect to occur if fuel producers need to comply with a new PMI limit. Aromatics profiles and other key parameters were carefully designed to represent market fuels. Results showed a change in PM emissions of approximately 1.5 percent for each 1 percent change in PMI over the full span of the study fuels, which falls between the results of the two earlier studies described here. Taken together these three studies suggest a range of 1–2 percent PM emissions increase for each percent PMI increase.

3. Nonroad Emissions Impacts

A literature review for fuel impacts on nonroad gasoline engine (NRGE) emissions finds relatively few studies, and we are not aware of any that have specifically assessed effects of heavy

⁸⁶⁸ Coordinating Research Council, "Evaluation and Investigation of Fuel Effects on Gaseous and Particulate Emissions on SIDI In-Use Vehicles," Report No. E-94-2, March 2016.

⁸⁶⁹ USEPA "Assessing the Effect of Five Gasoline Properties on Exhaust Emissions from Light-Duty Vehicles Certified to Tier 2 Standards: Analysis of Data from EPAct Phase 3 (EPAct/V2/E-89)," April 2013. Document EPA-420-R-13-002.

⁸⁷⁰ Chapman E., Winston-Galant M., Geng P., Latigo R., Boehman A., "Alternative Fuel Property Correlations to the Honda Particulate Matter Index (PMI)," SAE Technical Paper 2016-01-2550, 2016.

⁸⁷¹ Ben Amara A., Tahtouh T., Ubrich E., Starck L., Moriya H., Iida J., Koji N., "Critical Analysis of PM Index and Other Fuel Indices: Impact of Gasoline Fuel Volatility and Chemical Composition," SAE Technical Paper 2018-01-1741, 2018.

⁸⁷² Sobotowski R.A., Butler A.D., Guerra Z., "A Pilot Study of Fuel Impacts on PM Emissions from Light-duty Gasoline Vehicles," SAE Int. J. Fuels Lubr. 8(1):2015.

⁸⁷³ Aikawa, K., Sakurai K., Jetter J.J., "Development of a Predictive Model for Gasoline Vehicle Particulate Matter Emissions," SAE Technical Paper 2010-01-2115, 2010.

⁸⁷⁴ Reference to ASTM D86, D1319, etc.

⁸⁷⁵ Coordinating Research Council, "An Improved Index for Particulate Matter Emissions (PME)," Report No. RW-107-2, March 2021.

⁸⁷⁶ USEPA "Assessing the Effect of Five Gasoline Properties on Exhaust Emissions from Light-Duty Vehicles Certified to Tier 2 Standards: Analysis of Data from EPAct Phase 3 (EPAct/V2/E-89)," April 2013. Document EPA-420-R-13-002.

⁸⁷⁷ Aikawa, K., Sakurai K., Jetter J.J., "Development of a Predictive Model for Gasoline Vehicle Particulate Matter Emissions," SAE Technical Paper 2010-01-2115, 2010.

⁸⁷⁸ Coordinating Research Council, "An Improved Index for Particulate Matter Emissions (PME)," Report No. RW-107-2, March 2021.

⁸⁷⁹ Butler A.D., Sobotowski R.A., Hoffman G.J., and Machiele, P., "Influence of Fuel PM Index and Ethanol Content on Particulate Emissions from Light-Duty Gasoline Vehicles," SAE Technical Paper 2015-01-1072, 2015.

⁸⁸⁰ Coordinating Research Council, "Alternative Oxygenate Effects on Emissions," Report No. E-129-2, October 2022.

⁸⁸¹ USEPA "Assessing the Effect of Five Gasoline Properties on Exhaust Emissions from Light-Duty Vehicles Certified to Tier 2 Standards: Analysis of Data from EPAct Phase 3 (EPAct/V2/E-89)," April 2013. Document EPA-420-R-13-002.

⁸⁸² Coordinating Research Council, "Evaluation and Investigation of Fuel Effects on Gaseous and Particulate Emissions on SIDI In-Use Vehicles," Report No. E-94-2, March 2016.

⁸⁸³ USEPA, "Exhaust Emission Impacts of Replacing Heavy Aromatic Hydrocarbons in Gasoline with Alternate Octane Sources," April 2023. Document EPA-420-R-23-008.

aromatics or high-boiling compounds on PM emissions. Work published in 2005 and 2006 examined small NRGE emissions on two fuels, one being a gasoline with T90, aromatics, and oxygen content typical of market fuel at that time, and the other an alkylate test fuel with no aromatics and significantly lower T90.^{884, 885} For a 4-stroke engine, the results showed the alkylate fuel reduced PM by 28 percent to 59 percent, depending on the output power level. This type of engine is commonly found in larger portable equipment like lawnmowers, gensets, and plate compactors. The study also tested a 2-stroke engine, a design that has historically powered handheld devices like chainsaws and string trimmers. These are fueled by gasoline mixed with a small amount of lubricating oil, and as a result, have much higher emissions of PM and unburned hydrocarbons than 4-stroke engines (where oil is not involved in combustion). In the 2-stroke engine, the alkylate fuel reduced PM by 10

percent at a single, high-load test point. Overall, this engine had PM emissions roughly 100 times higher than the 4-stroke.

Sensitivity of PM emissions in NRGEs to fuel properties like aromatics content and T90 suggests that the fundamental mechanisms of particle formation described in the literature (*e.g.*, nucleation and growth arising from diffusion flames) is universal to gasoline combustion.^{886 887} Thus, we expect the effects of PMI observed in onroad vehicle studies to be broadly applicable to 4-stroke NRGEs. In addition, most nonroad engines rely on carburetors for fuel metering and in the absence of air-fuel-ratio feedback control tend to be calibrated to run with slightly over-fueled combustion to optimize power output and limit exhaust temperatures. This type of operation produces higher emissions related to incomplete combustion, including PM, and thus we might expect a significant impact of PMI. It is less clear how a reduction in

PMI will affect emissions from 2-stroke gasoline engines, given their use of a fuel-oil mixture. We will be collecting additional data on the effects of PMI on NRGEs, and request comment on other data sources that may be relevant.

B. Survey of High-Boiling Materials in Market Gasoline

Data on high-boiling materials (*e.g.*, in compliance data and other surveys) has historically been reported in terms of T90 from ASTM D86. This section discusses our assessment of the trends of T90 data over the past two decades, followed by a summary of available data for PMI.

1. T90 Levels

Figure 40 shows T90 trends by season over the past two decades. On an annual-average basis, the T90 of U.S. gasoline declined from around 325 °F prior to 2010 to around 315 °F after 2010.

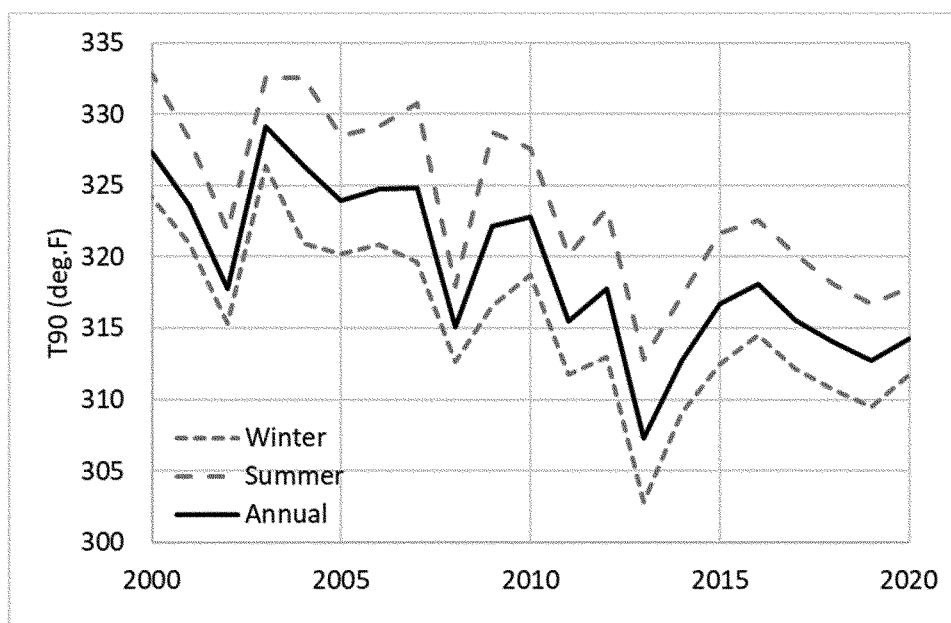


Figure 40. Average gasoline T90 values by season 2000 – 2020.

In any given year, there is significant variation in T90 levels across refineries, as well as between batches within each refinery. Thus, while the volume-

weighted average T90 of U.S. gasoline was 313 °F in 2019, Figure 41 shows that the ranges for individual refineries ranged from 280 °F to 340 °F in 2019,

and that individual gasoline batches could have much higher T90.

⁸⁸⁴ Timo Ålander, Eero Antikainen, Taisto Raunemaa, Esa Elonen, Aimo Rautiola & Keijo Torkkell (2005) Particle Emissions from a Small Two-Stroke Engine: Effects of Fuel, Lubricating Oil, and Exhaust Aftertreatment on Particle Characteristics, *Aerosol Science and Technology*, 39:2, 151–161.

⁸⁸⁵ Timo Ålander. Carbon Composition and Volatility Characteristics of the Aerosol Particles Formed in Internal Combustion Engines. *Kuopio Univ. Publ. C. Nat. and Environ. Sci.* 192: 1–54 (2006).

⁸⁸⁶ Das D.D., St. John P.C., McEnally C.S., Kim S., Pfefferle L.D., "Measuring and Predicting Sooting

Tendencies of Oxygenates, Alkanes, Alkenes, Cycloalkenes, and Aromatics on a Unified Scale," *Combustion and Flame* 190 (2018) 349–364.

⁸⁸⁷ Calcote, H.F., Manos D.M., "Effect of Molecular Structure on Incipient Soot Formation," *Combust. Flame* 49: 289–304 (1983).

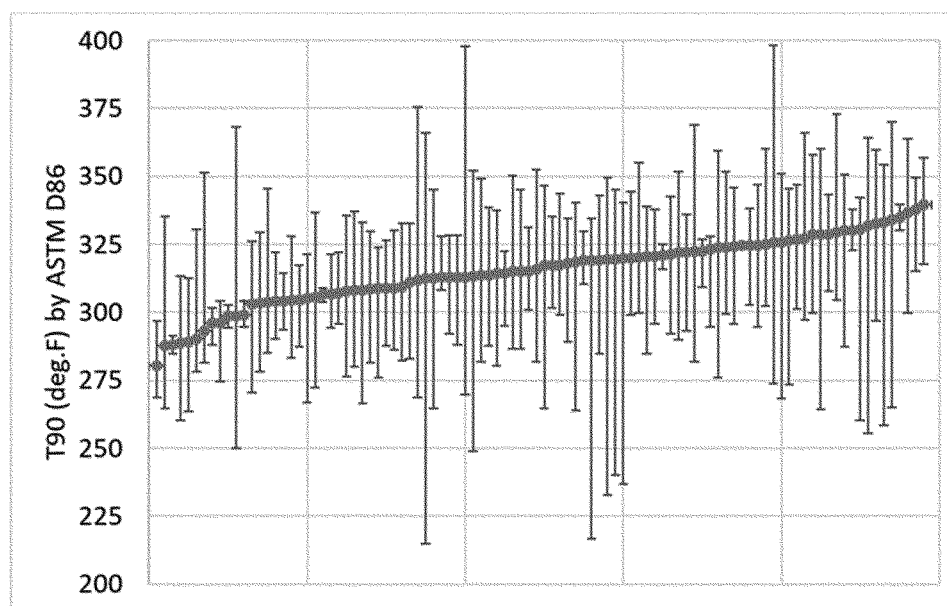


Figure 41. Volume-weighted T90 averages and batches by refinery for 2019.

A common thread across the market shifts in T90 has been a decreasing gasoline-to-distillate ratio (GDR) in the product slates produced by refineries. Changes in demand for gasoline relative to distillate products changes how refiners blend up their refinery streams. To accommodate a downward shift in GDR, the simplest process adjustment refiners can make is to undercut some heavy material from the gasoline blendstocks into diesel products. This has the effect of reducing the T90 of gasoline, consistent with the historical trends over the past two decades. Perhaps the most important factor affecting GDR was the influx of ethanol into gasoline. The increasing ethanol volume displaced a portion of petroleum, which caused refiners to move more of the midrange gasoline cut into the distillate pool. Ethanol's octane also allowed refiners to back out aromatic content. A second factor causing lower T90 values was the Tier 2 program, which reduced gasoline sulfur levels. Because some of the heavy gasoline blendstocks are high in sulfur, moving them into the distillate pool helped refiners comply with the gasoline sulfur standards and reduced T90 values at the same time. A third factor may have been the changes in

U.S. crude slates as fracked oil came online after 2010. Fracked crudes tend to have lower density and less heavy material, which results in a lighter gasoline.

Figure 40 also shows seasonal variation, with winter T90 values around 8 degrees lower on average than summer. GDR is lower in the winter due to lower demand for gasoline and an increase in heating oil product demand. Another factor is higher gasoline volatility limits (*i.e.*, RVP) in the winter allowing refiners to blend more butanes and pentanes into gasoline, which displaces heavier blendstocks proportionally.

Any potential future gasoline standard that might place limits on high-boiling and/or heavy aromatic content of gasoline should then be placed in the context of future changes in gasoline production and the GDR. Looking at domestic petroleum consumption projections in EIA's 2022 Annual Energy Outlook, we would expect the GDR to decline by roughly 10 percent over the next two decades. This is not surprising, given that the decline in gasoline demand with electrification of light-duty and medium-duty vehicles and consumer nonroad equipment is expected to be faster than the decline in

diesel demand for heavy duty trucks and equipment.⁸⁸⁸ To the extent that U.S. refinery production shifts along with U.S. market demand, then the T90 level of gasoline would be expected to continue to decline in the future as well. However, fuel production is also significantly affected by imports and exports. We can assume refiners will continue to try to maintain or expand export markets as much as possible. For these reasons, we would not expect significant reductions below the current production GDR of 1.4 for a decade or more, and thus despite significant reductions in T90 levels over the last decade, the GDR would be expected to remain fairly constant in the future.

2. PMI Profile of Market Gasoline

Figure 42 shows the distribution of PMI now and roughly a decade ago. Given our assessment of T90 levels over time, it is not surprising to see a reduction in the median PMI of market gasoline. Regardless of this downward shift, the median PMI of market gasoline is nearly 1.6, and roughly 10 percent of gasoline remains above a PMI of 2.0. Thus, there remains considerable opportunity to reduce PM emissions by bringing PMI levels down, particularly in areas with the highest PMIs.

⁸⁸⁸ Root, T. (2021, June 30). "Lawn care is going electric. And the revolution is here to stay." The

Washington Post. Retrieved from [https://](https://www.washingtonpost.com/climate-solutions/2021/06/30/electric-lawn-care/)

www.washingtonpost.com/climate-solutions/2021/06/30/electric-lawn-care/ on 12/15/2022.

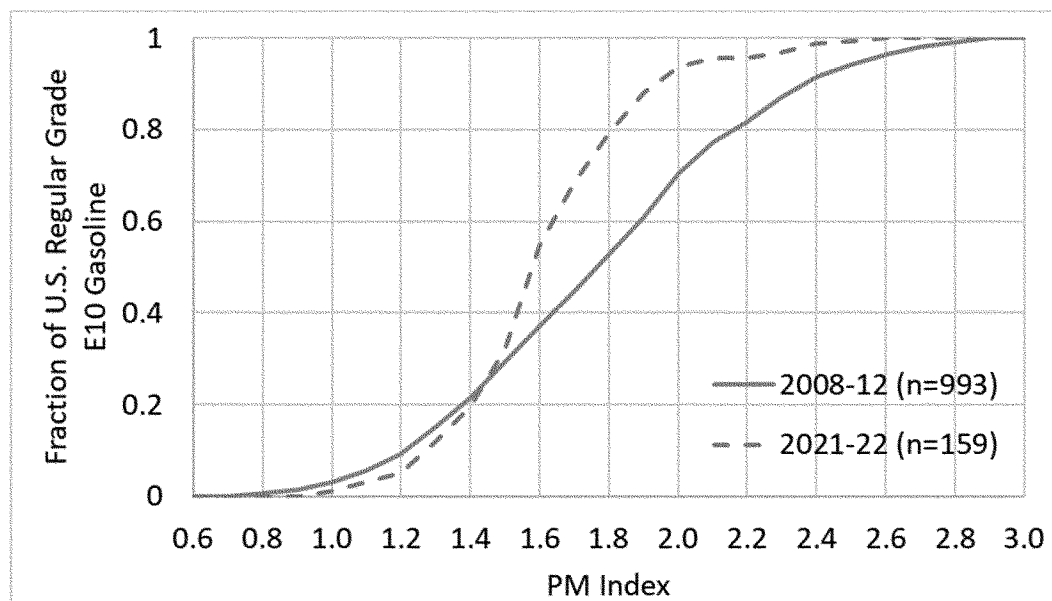


Figure 42. PM index distribution in U.S. gasoline in 2008-12 and 2021-22.

The specification for Tier 3 certification test gasoline includes a range for heavy (C10+) aromatics, which, along with the other specifications, results in a PMI value in the range of 1.6–1.7. This mirrors the median level in recent market surveys, though market fuels contain a wider range of compounds. Depending on the level of a potential limit on heavy material or PMI, the specifications for certification gasoline may nor may not need to be adjusted.

C. Sources of High-Boiling Compounds in Gasoline Production and How Reductions Might Occur

1. Refinery Units and Processes

There are primarily three refinery units that contribute high-boiling material to gasoline: The fluidized catalytic cracker (FCC), reformer, and coker. The FCC unit breaks down heavy crude fractions into lighter material spanning a wide boiling range, after which it is separated by distillation into the gasoline, diesel, and fuel oil product pools. The FCC produces the largest share of gasoline volume in most refineries, and for those processing highly aromatic crudes, the FCC can be a significant source of heavy aromatics. Lowering the boiling range of FCC output going into gasoline is likely to be the simplest way to reduce high-boiling material. Refiners commonly shift mid-boiling FCC output between gasoline and diesel seasonally to match product volume demands (see Section IX.C).

The reformer is typically the primary source of aromatics in a refinery's

gasoline, including high-boiling aromatic material. This unit's purpose is to increase the octane of naphtha streams by converting paraffinic material into aromatics. The reformer output (reformate) may contain several percent of high-boiling alkylbenzenes and bi-cyclic compounds, depending on its operating conditions and the boiling range of the feed naphtha. Except for possible removal of light reformate to control gasoline benzene levels, all reformer output is typically routed to the gasoline pool. Thus, the simplest ways to reduce heavy aromatics in reformate are likely to be lowering the boiling range of the feed naphtha and/or reducing the severity (*i.e.*, target octane) of the output.

Refineries that process heavy crudes often have coker units, which are a type of cracking unit used to break down very heavy distillation residues. The coker output is typically hydrotreated to produce a stable naphtha. Depending on its boiling range and octane level, this material may be blended into gasoline, diesel, or sent to the reformer. Thus, the aromatic content and boiling range of the coker naphtha may also be a consideration for a refiner trying to reduce heavy aromatics in gasoline.

We reviewed gasoline aromatics and T90 values from refinery batch data, as well as public information on which types of chemical processing units are present in those refineries. This analysis suggested two refinery configurations that are likely to result in more heavy aromatics in gasoline. Refineries with coker units tend to have higher T90

levels, and because the coker cracks heavy aromatic material into the gasoline boiling range, we expect these refineries to produce higher-PMI gasoline. Second, are refineries with aromatic extraction units, which are used to produce benzene, toluene, and xylenes for sale as petrochemicals. These refineries are expected to run their reformers at increased severity to produce more aromatics overall. After extraction of the valuable light aromatics, we expect a higher proportion of heavy aromatics will remain to meet octane requirements of their gasoline output.

2. Value of Aromatics for Octane Requirements

Reducing the content of high-boiling compounds in gasoline is made more complicated by the need to meet market octane requirements since these are generally aromatic-rich streams. Because of their high octane (>110 AKI), aromatics are among the most valuable compounds produced in refineries. If heavy aromatics were to be removed from gasoline, then not only their volume, but their octane would have to be replaced. One source for additional octane is via increased reformer severity or throughput to generate additional light aromatics. This action may require other adjustments to maintain compliance with gasoline benzene standards or rebalance naphtha streams. A refinery may also be able to increase high-octane isoparaffin production through additional alkylation and/or isomerization operations. Finally, a

refinery may opt to further increase reliance on ethanol as a source of octane. We seek comment and data on how refinery operations might change with a limit on heavy aromatics and/or other high boiling gasoline components.

D. Methods of Compliance Determination

Distillation by ASTM D86 has been part of EPA's gasoline compliance methods since the 1990s. As such, the equipment and expertise to run the method are widespread. An assessment of the correlation between PMI and four D86 distillation parameters (T70–T95) shows that T90 has the best correlation with PMI, but with only a modest correlation coefficient.⁸⁸⁹ The results also indicate that a T90 limit of 330 °F, for example, would permit fuels with PMI over 2.3 in the market while prohibiting some others with PMI less than 2. A comparison of D86 results with those of DHA (such as ASTM D6730) illustrate that ASTM D86 does a relatively poor job of separating compounds by volatility and underestimates the final boiling point of the heavy tail.⁸⁹⁰ These analyses indicate that ASTM D86 may lack the needed precision for PMI control.

Setting a standard for PMI itself would be ideal but quantifying the PMI of a fuel requires results from a DHA method such as ASTM D6730. This method runs for 2–3 hours and produces a chromatograph that must be interpreted by an experienced analyst, making it difficult to standardize and automate. There are a few alternative ASTM chromatography methods that are simpler and faster to run than DHA, which we believe may be better candidates for a PMI surrogate. ASTM D8071 uses a vacuum-UV (VUV) light source detector to produce results by molecular type and carbon number in about 35 minutes. It doesn't quantify individual species but is still useful for producing a good estimate of PMI without requiring the same analytical experience from the operator as ASTM D6730. However, it is relatively new and unfamiliar to many petroleum labs, and there isn't much VUV data on market fuels for use in correlating to PMI. Another method is ASTM D5769, which gives results for a range of

aromatics species, but does not quantify other heavy material in the tail.

The most promising alternative is simulated distillation (SimDis) by ASTM D7096. Unlike ASTM D6730 or D8071, this method does not separate the constituents by molecular type but produces a profile of mass by boiling point that is sufficiently precise to quantify the heavy tail of a fuel sample. Given the data showing that the heavy tail of market gasoline is highly aromatic, this method can act as a promising surrogate for PMI. SimDis was developed in the 1980s to quickly assess the boiling point range of petroleum samples and has been in use in refinery process control for many years. In a lab setting, ASTM D7096 runs in about 15 minutes and can easily be incorporated into an automated workflow. Collaborative work between EPA, national lab, and auto industry partners over the past year has produced data evaluating the reproducibility ASTM D7096.⁸⁹¹ We believe those results support the potential use of this method for demonstrating compliance with a limit on high-boiling point compounds. We request comment on the suitability of these methods for compliance determination.

E. Structure and Costs of Standards

1. Statutory Authority

Section 211(c)(1)(A) of the CAA provides EPA broad authority to issue or revise regulations controlling fuel or fuel additives that cause or contribute to air pollution. This authority could be used to limit high-boiling aromatics on the basis that they contribute to PM emissions that endanger public health. It is worth noting that CAA section 211(c)(1)(A) requires the Administrator to consider other technologically or economically feasible means of achieving emissions standards under section 202. While the vehicle standards proposed in this notice under CAA section 202 authority would be very effective at controlling particular emissions from new vehicles, they would not address or be capable of addressing the in-use fleet. Other than potential controls on the heavy aromatic content of gasoline, EPA is not aware of any other practical means of significantly reducing PM emissions from the existing fleet. Past gasoline and diesel sulfur standards were put in place in part using CAA 211(c)(1)(A) authority to address the in-use

fleet.^{892 893} We request comment on the appropriateness of EPA exercising these authorities to set limits on heavy aromatics and other high-boiling material in gasoline.

2. Structure and Level of the Standard

We believe significant air quality improvements would be achieved through a fuel standard that would eliminate market gasoline with high PMI levels (*e.g.*, >2) and reduce the amount of heavy aromatics in gasoline overall. Such a regulatory program could be structured in a number of ways. Options include a per-gallon cap, a national annual average standard implemented along with an averaging, banking, and trading program (ABT), a facility maximum annual average standard, or some combination of these. A per-gallon cap would be the simplest form of control and the easiest to enforce. It would also guarantee that the benefits of the program are achieved in all areas of the country at all times and that gasoline is more uniform in quality. However, a per-gallon cap could also reduce flexibility for issues that arise in the course of gasoline production and thus carries greater potential for causing supply disruptions.

A national annual average standard would provide maximum flexibility for refiners, avoiding compliance issues during facility start-up/shutdown and maintenance periods that might disrupt gasoline supply. However, a national average standard could also increase regulatory burden associated with testing, recordkeeping, and reporting, because compliance determination requires tracking historical fuel batch data as well as credit balances. It may also fail to provide benefits in high-PMI areas where ongoing credit use is a long-term compliance strategy.

The gasoline benzene standard is an example of a hybrid approach.⁸⁹⁴ It has a national average standard (0.62 volume percent) with ABT plus a maximum annual average for each production facility (1.3 volume percent without use of credits). It resulted in large reductions in average benzene levels across the country, while limiting the potential for locally-elevated exposures of people living in areas where high-benzene gasoline from a particular production facility would

⁸⁸⁹ See Docket Memo from Aron Butler, "Supplemental Information Related to Potential Fuels Controls for Gasoline PM", docket ID #EPA-HQ-OAR-2022-0829.

⁸⁹⁰ Sobotowski, R., Butler, A., Loftis, K., and Wyborny, L., "A Method of Assessing and Reducing the Impact of Heavy Gasoline Fractions on Particulate Matter Emissions from Light-Duty Vehicles," SAE Int. J. Fuels Lubr. 15(3):2022. See Figure 4b.

⁸⁹¹ USEPA, "Assessment and Optimization of ASTM D7096 Simulated Distillation for Quantifying Heavy Hydrocarbons in Gasoline," April 2023. Document EPA-420-R-23-009.

^{892 72 FR 8428} (Feb. 26, 2007), "Final Rule for Control of Hazardous Air Pollutants from Mobile Sources".

⁸⁹³ The gasoline and diesel standards were also put in place using 211(c)(1)(B) authority to enable vehicle emission control systems.

⁸⁹⁴ 72 FR 8428 (Feb. 26, 2007), "Final Rule for Control of Hazardous Air Pollutants from Mobile Sources".

regularly be sold. Some type of a per-gallon cap or maximum facility average in addition to a national average may be similarly appropriate for PMI control.

Another reason to consider a more stringent upper limit on PMI is related to low-speed pre-ignition (LSPI), a type of abnormal combustion that causes a spike in cylinder pressure (known as knock) that can damage the engine over time. As vehicle manufacturers have moved toward turbocharged, downsized engines for increased fuel economy and reduced GHG emissions, LSPI has become a significant design limitation and there is evidence that higher-PMI fuels increase the likelihood of LSPI events.⁸⁹⁵ We request comment on the impact of PMI on engine design and efficiency.

Of course, we understand that it may be difficult to comment on the various structures for a standard without having some idea of what the stringency of the standard might be. Their viability is in large part a function of the level of the standard. We do not have specific proposals at this time for the level of stringency associated with the various structures, but we offer the following as an example to help elucidate EPA's early thinking, which we hope will facilitate public comment. Were we to establish a facility maximum annual average SimDis T99 limit, 450 °F might be appropriate for preventing locally elevated PMI, while a national annual average T99 limit of 425 °F would provide PMI reductions in many areas and protection from potential PMI increases if crude or product slates change in the future. These T99 standards would allow 1 volume percent of a gasoline sample to exceed the specified temperature. We discuss this analysis in more detail in the cost and PM impacts discussion in the following section. A standard could also be set in terms of T98 or T97, which would allow 2 or 3 volume percent above the specified temperature, though reducing the T-number of the standard would introduce more uncertainty about how much high-PMI material remains in a complying batch.

In addition, we may consider setting seasonal standards for a couple of reasons. One is that gasoline has lower T90 and PMI in winter, so a refiner may produce relatively high PMI gasoline in summer but still comply with an annual average standard via a large shift in winter to undercutting heavy material into distillate products. Another reason is that PM emissions from gasoline

vehicles are higher at cold temperatures.⁸⁹⁶ We are collecting additional data on the effect of PMI on emissions at cold temperatures to assess the potential effectiveness of reducing wintertime PM emissions through a fuel control. We seek comment on the most appropriate structure and level of the standard, including annual averaging, caps, and the need for seasonal limits.

3. Cost and Impacts on Refining

Much of the material that comprises the heavy tail of gasoline, including aromatics that increase PMI, comes from a midrange "swing cut" of FCC naphtha that can be blended either into the heavy part of gasoline or the light part of diesel or other distillate products. Refiners routinely move this swing cut between products to balance their GDR to match market demands. If, however, refiners are required to limit the heavy aromatic content of their gasoline, we expect more swing cut material to move out of gasoline and into the distillate pool. Such a change requires refiners to make up for the loss of volume and octane-rich aromatics.

As outlined in Section IX.E, we believe the most efficient way to assess and potentially control PMI and/or heavy aromatics is via a chromatography method like SimDis. However, the refinery modeling tools that are available to assess costs and broad impacts of changes to gasoline specifications are built around D86 volatility parameters. Thus, our current cost assessment uses T90 as a proxy for a SimDis standard.

We used the Haverly LP refinery model to reduce the average T90 of U.S. gasoline by 15 °F in 5 °F steps.⁸⁹⁷ Using a T90 versus PMI correlation developed from market fuel data, this T90 reduction span of 15 °F would correspond to a PMI change of about 0.5. To accomplish this, the model moved heavy gasoline blendstocks from the gasoline pool to the distillate pool. To make up for the lost gasoline volume and octane, the model increased the reformer severity, purchased and isomerized natural gas liquids, and produced more alkylate. The estimated costs for the 5 °F, 10 °F, and 15 °F reductions in T90 were 0.5, 2.2, and 3.0 cents per gallon, respectively. This includes the refining cost as well as fuel

economy and distribution costs associated with a slight reduction in energy density of gasoline. We request comment on the suitability of the Haverly model for this work as well as the cost estimates themselves.

F. Estimated Emissions and Air Quality Impacts

Changes in fuel composition resulting from new limits on PMI or other high-boiling components are expected to reduce tailpipe PM and may also impact secondary pollutants formed in the atmosphere. We can assess the magnitude of tailpipe PM reductions by applying the emission impacts observed in the vehicle studies discussed in Section VIII.A.2 to the PMI changes associated with the new standards. If a new standard achieved the 0.5 PMI reduction described in the refinery modeling scenarios, the vehicle studies indicate we would expect a per-vehicle tailpipe PM reduction of about 30 percent for typical in-use vehicles. We think a similar reduction may also occur for 4-stroke nonroad gasoline engines, as described in Section VIII.A.3. The impacts may be smaller for "high-emitter" vehicles (those with failing or malfunctioning emission controls) and 2-stroke nonroad engines, which would reduce the overall inventory impact. We request comment on potential emissions impacts for onroad and nonroad sources.

Mobile sources are an important contributor to secondary aerosols formed from nitrate, sulfate, and organic precursors.^{898 899} Studies have shown that secondary organic aerosol (SOA) formation from gasoline vehicle exhaust can exceed directly-emitted (tailpipe) PM emissions, and that changes to gasoline formulation can have impacts on SOA that are larger than the associated shifts in direct PM emissions.^{900 901 902 903} An analysis of

⁸⁹⁸ Davidson, K., Fann, N., Zawacki, M., Fulcher, C., Baker, K. "The recent and future health burden of the U.S. mobile sector apportioned by source," *Environ. Res. Lett.* 15. 2020.

⁸⁹⁹ Zawacki, M., Baker, K., Phillips, S., Davidson, K., Wolfe, P. "Mobile source contributions to ambient ozone and particulate matter in 2025", *Atmospheric Environment*, Volume 188, 2018, Pages 129–141.

⁹⁰⁰ Zhao Y., Lambe A.T., Saleh R., Saliba G., Robinson A.L., "Secondary Organic Aerosol Production from Gasoline Vehicle Exhaust: Effects of Engine Technology, Cold Start, and Emission Certification Standard," *Environ. Sci. Technol.* 2018, 52, 1253–1261.

⁹⁰¹ Gentner D.R., Jathar S.H., Gordon T.D., Bahraini R., Day D.A., El Haddad I., Hayes P.L., Pieber S.M., Platt S.M., de Gouw J., Goldstein A.H., Harley R.A., Jimenez J.L., Prevot A.S.H., Robinson A.L., "Review of Urban Secondary Aerosol Formation from Gasoline and Diesel Motor Vehicle

Continued

⁸⁹⁵ Swarts, A., and Kalaskar, V., "Market Fuel Effects on Low Speed Preignition," *SAE Int J Adv & Curr Prac in Mobility* 3(5):2473–2483, 2021.

⁸⁹⁶ Edward Nam, Sandeep Kishan, Richard W. Baldauf, Carl R. Fulper, Michael Sabisch, and James Warila. "Temperature Effects on Particulate Matter Emissions from Light-Duty, Gasoline-Powered Motor Vehicles." *Environmental Science & Technology* 2010 44 (12), 4672–4677.

⁸⁹⁷ See Docket Memo from Aron Butler, "Supplemental Information Related to Potential Fuels Controls for Gasoline PM", docket ID #EPA-HQ-OAR-2022-0829.

SOA yields for a range of hydrocarbon types and molecular weights indicates that the compounds with the highest potential for SOA formation in the exhaust, share components with the heavy tail in gasoline.⁹⁰⁴ Changes to aromatic content may also affect NO_x emissions, which can affect nitrate particle formation. EPA is conducting research to understand potential changes in emissions that may influence the formation of secondary PM. We request comment on the most appropriate data sources and methods to assess impacts on SOA and other secondary pollutants of gasoline PMI changes.

A reduction in gasoline PMI would be expected to reduce exposure to directly-emitted PM for those exposed to vehicle exhaust in close proximity to roadways. As described in Section II.C.8 of this Preamble, there is substantial evidence that people who live or attend school near major roadways are more likely to be people of color, and/or have a low socioeconomic status (SES). In addition, lower-SES neighborhoods are likely to have higher populations of vehicles with higher emissions than those in higher-SES neighborhoods.^{905 906}

X. Statutory and Executive Order Reviews

A. Executive Order 12866: “Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review”

This action is a significant regulatory action within the scope of section 3(f)(1) of E.O. 12866 that was submitted to OMB for review. Any changes made in response to Executive Order 12866

review have been documented in the docket. EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is in the Regulatory Impact Analysis, which can be found in the docket for this rule and is briefly summarized in Section VIII of this Preamble.

B. Paperwork Reduction Act

The information collection activities in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2750.01. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

The Agency is proposing requirements for manufacturers to submit information to ensure compliance with the provisions in this proposed rule. This includes a variety of requirements for vehicle manufacturers. Section 208(a) of the CAA requires that vehicle manufacturers provide information the Administrator may reasonably require to determine compliance with the regulations; submission of the information is therefore mandatory. We will consider confidential all information meeting the requirements of section 208(c) of the CAA.

Many of the information activities associated with the proposed rule are covered by existing emission certification and reporting requirements for EPA’s light-duty and medium-duty vehicle emission control program. Therefore, this ICR only covers the incremental burden associated with the updated regulatory requirements as described in this proposal.

The total annual reporting burden associated with this rule is about 44,947 hours and \$26.240 million, based on a projection of 35 respondents. The estimated burden for vehicle manufacturers is a total estimate for new reporting requirements incremental to the current program. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; modify existing technology and systems for the purposes of collecting, validating, and verifying newly required information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of

information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Respondents/affected entities: Light and medium-duty vehicle manufacturers, alternative fuel converters, and independent commercial importers.

Respondent’s obligation to respond: Manufacturers must respond as part of their annual model year vehicle certification under section 208(a) of the CAA which is required prior to enter vehicles into commerce. Participation in some programs is voluntary; but once a manufacturer has elected to participate, it must submit the required information.

Estimated number of respondents: 35.

Frequency of response: Annually or on occasion, depending on the type of response.

Total estimated burden: 44,947 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: \$26,239,629 per year, includes an estimated \$25,611,681 annualized capital or operation & maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA’s regulations are listed in 40 CFR part 9.

Submit your comments on the Agency’s need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB’s Office of Information and Regulatory Affairs using the interface at www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting “Currently under Review—Open”. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than July 5, 2023. The EPA will respond to any ICR-related comments in the final rule.

C. Regulatory Flexibility Act

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA.

EPA has focused its assessment of potential small business impacts on three key aspects of the proposed standards, including GHG emissions standards, criteria pollutant standards (including NMOG+NO_x fleet-average standards and PM emissions standards),

Emissions,” *Environ. Sci. Technol.* 2017, 51, 1074–1093.

⁹⁰² Gordon, T.D., Presto, A.A., May, A.A., Nguyen, N.T., Lipsky, E.M., Donahue, N.M., Gutierrez, A., Zhang, M., Maddox, C., Rieger, P., Chattopadhyay, S., Maldonado, H., Maricq, M.M., and Robinson, A.L., “Secondary organic aerosol formation exceeds primary particulate matter emissions for light-duty gasoline vehicles,” *Atmos. Chem. Phys.*, 14, 4661–4678.

⁹⁰³ Peng J., Hu M., Du Z., Wang Y., Zheng J., Zhang W., Yang Y., Qin Y., Zheng R., Xiao Y., Wu Y., Lu S., Wu Z., Guo S., Mao H., Shuai S., “Gasoline Aromatics: A Critical Determinant of Urban Secondary Organic Aerosol Formation,” *Atmos. Chem. Phys.*, 17, 10743–10752, 2017.

⁹⁰⁴ Gentner D.R., *et al.*, “Elucidating secondary organic aerosol from diesel and gasoline vehicles through detailed characterization of organic carbon emissions,” *PNAS* 109 (2018) 18318–18323.

⁹⁰⁵ Park, S.S.; Bijayan, A.; Mara, S.L.; Herner, J.D. (2016) “Investigating the real-world emission characteristics of light-duty gasoline vehicles and their relationship to local socioeconomic conditions in three communities in Los Angeles, California.” *J Air & Waste Management Assoc* 66: 1031–1044.

⁹⁰⁶ Est, S. (2005) “Equity implications of vehicle emission taxes.” *J Transport Econ & Policy* 39: 1–24.

and EV battery warranty and durability. Details of EPA's No SISNOSE assessment are included in DRIA Chapter 12.

There are three types of small entities that could potentially be impacted by the proposed GHG standards: (1) Small entity vehicle manufacturers; (2) alternative fuel converters, which are companies that take a vehicle for which an OEM has already accounted for GHG compliance and convert it to operate on a cleaner fuel such as natural gas or propane; and (3) independent commercial importers (ICIs), which are firms that import vehicles from other countries for individual vehicle purchasers.

Under the current light-duty GHG program, small entities are exempt from the GHG standards. EPA is proposing to continue the current exemption for all three types of small entities, including small entity manufacturers, alternate fuel converters, and ICIs. However, EPA is proposing to add some environmental protections for imported vehicles. EPA is also proposing to continue the current provision allowing small entity manufacturers to opt into the GHG program to earn credits to sell in the credit market. The small entity vehicle manufacturers in the market at this time produce only electric vehicles. EPA is requesting comment on the potential need for small entity light-duty and medium-duty manufacturers to have an annual production cap (e.g., 200–500 vehicles per year) on vehicles eligible for the exemption. EPA believes that capping the number of vehicles exempted could be an appropriate protection for GHG emissions, while still allowing small entities to produce vehicles consistent with typical past annual sales.

Under existing EPA regulations, each ICI is currently limited to importing 50 vehicles per year. EPA is proposing to reduce the limit to 25 non-ZEV vehicles per year, which is well above historical sales, as a means of limiting the potential environmental impact of importing vehicles with potentially high GHG emissions. Importing of ZEVs would not count against the 25 vehicles limit. EPA believes this lower vehicle limit is important for capping the potential for high-emitting imported vehicles, because, unlike with criteria pollutant emissions, there are very limited add-on emissions control options for reducing the GHG emissions of an imported vehicle. EPA is proposing to ease the burden required for ICIs to certify EVs by removing the requirement to have a fuel economy label. Production EVs don't normally have their high voltage wiring accessible

so it is not practical for ICIs to measure the energy in and out of the battery which is necessary when measuring energy for the fuel economy label.

EPA also has evaluated the potential impacts on small businesses for the proposed criteria pollutant emissions standards, including both the NMOG+NO_x standard and the PM standard. EPA's proposed NMOG+NO_x standards should have no impact on the existing small entity manufacturers, which currently produce only electric vehicles. The proposed standards are expected to have minimal impact on both the alternate fuel converters and ICIs, as discussed in DRIA Chapter 12. EPA estimates that the proposed PM standard will have no significant financial impact on any of the three types of small entities. Existing small entity manufacturers all produce only EVs, which have no tailpipe emissions and therefore would be able to comply with the PM standard without any additional burden. Alternative fuel vehicles are exempted from doing any cold temperature testing under existing EPA regulations, and EPA is proposing to continue this exemption such that there would be no impact on alternative fuel converters. To minimize the testing burden on ICIs, EPA is proposing to exempt ICI from measuring PM during cold testing; ICIs would only need to comply with the new PM levels on the FTP75 and US06 tests.

The final aspect of the NPRM that could have potential impacts on small entities is battery durability (Section III.F.2). The current small entity manufacturers all have warranties that meet or exceed our proposed requirements for battery durability. EPA is proposing to exempt small entities from meeting the proposed battery durability requirements since the testing and reporting requirements would be an added financial burden that is not necessary given their current warranties.

D. Unfunded Mandates Reform Act

This action contains no unfunded Federal mandate for State, local, or Tribal governments as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any State, local or Tribal government. This action contains Federal mandates under UMRA that may result in expenditures of \$100 million or more for state, local, and Tribal governments, in the aggregate, or the private sector in any one year. Accordingly, the EPA has prepared a written statement of the costs and benefits associated with action as required under section 202 of UMRA.

This is discussed Section VIII of this Preamble and Chapter 10 of the DRIA. This action is not subject to the requirement of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments.

E. Executive Order 13132: "Federalism"

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: "Consultation and Coordination With Indian Tribal Governments"

This action does not have Tribal implications as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action. However, EPA has engaged with our Tribal stakeholders in the development of this rulemaking by offering a Tribal workshop and offering government-to-government consultation upon request.

G. Executive Order 13045: "Protection of Children From Environmental Health Risks and Safety Risks"

This action is subject to Executive Order 13045 because it is a significant regulatory action under section 3(f)(1) of Executive Order 12866, and EPA believes that the environmental health risks or safety risks of the pollutants addressed by this action may have a disproportionate effect on children. The 2021 Policy on Children's Health also applies to this action.⁹⁰⁷ Accordingly, we have evaluated the environmental health or safety effects of air pollutants affected by this program on children. The results of this evaluation are described in Section II. The protection offered by these standards may be especially important for children because childhood represents a life stage associated with increased susceptibility to air pollutant-related health effects.

Children make up a substantial fraction of the U.S. population, and often have unique factors that contribute to their increased risk of experiencing a health effect from exposures to ambient air pollutants because of their continuous growth and development. Children are more susceptible than adults to many air pollutants because they have (1) a developing respiratory

⁹⁰⁷ U.S. Environmental Protection Agency (2021). 2021 Policy on Children's Health. Washington, DC. <https://www.epa.gov/system/files/documents/2021-10/2021-policy-on-childrens-health.pdf>.

system, (2) increased ventilation rates relative to body mass compared with adults, (3) an increased proportion of oral breathing, particularly in boys, relative to adults, and (4) behaviors that increase chances for exposure. Even before birth, the developing fetus may be exposed to air pollutants through the mother that affect development and permanently harm the individual when the mother is exposed.

Certain motor vehicle emissions present greater risks to children as well. Early lifestages (e.g., children) are thought to be more susceptible to tumor development than adults when exposed to carcinogenic chemicals that act through a mutagenic mode of action.⁹⁰⁸ Exposure at a young age to these carcinogens could lead to a higher risk of developing cancer later in life. Section II.C.8 describes a systematic review and meta-analysis conducted by the U.S. Centers for Disease Control and Prevention that reported a positive association between proximity to traffic and the risk of leukemia in children.

The adverse effects of individual air pollutants may be more severe for children, particularly the youngest age groups, than adults. As described in Section II, the Integrated Science Assessments for a number of pollutants affected by this rule, including those for SO₂, NO₂, PM, ozone and CO, describe children as a group with greater susceptibility. Section II.C.8 discusses a number of childhood health outcomes associated with proximity to roadways, including evidence for exacerbation of asthma symptoms and suggestive evidence for new onset asthma.

There is substantial evidence that people who live or attend school near major roadways are more likely to be people of color, Hispanic ethnicity, and/or low socioeconomic status. Within these highly exposed groups, children's exposure and susceptibility to health effects is greater than adults due to school-related and seasonal activities, behavior, and physiological factors.

Section VII of this Preamble presents the estimated emission reductions from this proposed rule, including substantial reductions in criteria air pollutants and mobile source air toxics which would reduce exposures for children, significantly reducing air pollution in close proximity to major roadways where ten million children attend school.

GHG emissions contribute to climate change and the GHG emissions reductions described in Section VI resulting from implementation of this proposed rule would further improve children's health. The assessment literature cited in EPA's 2009 and 2016 Endangerment Findings concluded that certain populations and life stages, including children, the elderly, and the poor, are most vulnerable to climate-related health effects. The assessment literature since 2016 strengthens these conclusions by providing more detailed findings regarding these groups' vulnerabilities and the projected impacts they may experience. These assessments describe how children's unique physiological and developmental factors contribute to making them particularly vulnerable to climate change. Impacts to children are expected from heat waves, air pollution, infectious and waterborne illnesses, and mental health effects resulting from extreme weather events. In addition, children are among those especially susceptible to most allergic diseases, as well as health effects associated with heat waves, storms, and floods. Additional health concerns may arise in low-income households, especially those with children, if climate change reduces food availability and increases prices, leading to food insecurity within households. More detailed information on the impacts of climate change to human health and welfare is provided in Section II of this Preamble.

Children are not expected to experience greater ambient concentrations of air pollutants than the general population. However, because of

their greater susceptibility to air pollution, including the impacts of a changing climate, and their increased time spent outdoors, it is likely that these standards will have particular benefits for children's health.

H. Executive Order 13211: "Energy Effects"

This action is not a "significant energy action" because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. EPA has outlined the energy effects in Table 9–7 of the Draft Regulatory Impact Analysis (DRIA), which is available in the docket for this action and is briefly summarized here.

This action reduces CO₂ for light-duty and medium-duty vehicles under revised GHG standards, which will result in significant reductions of the consumption of petroleum, will achieve energy security benefits, and have no adverse energy effects. Because the GHG emission standards result in significant fuel savings, this rule encourages more efficient use of fuels. Table 9–7 in the DRIA shows over 950 billion gallons of retail gasoline (about 18 billion barrels of oil) reduced through 2055.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This rulemaking involves technical standards. Except for the standards discussed in this section, the standards included in the regulatory text as incorporated by reference were all previously approved for IBR and no change is included in this action.

In accordance with the requirements of 1 CFR 51.5, we are proposing to incorporate by reference the use of standards and test methods from the California Air Resources Board (CARB). The referenced standards and test methods may be obtained through the CARB website (www.arb.ca.gov) or by calling (916) 322–2884. We are incorporating by reference the following CARB documents:

Standard or test method	Regulation	Summary
CARB's 2022 OBD regulation—13 CCR 1968.2, Malfunction and Diagnostic System Requirements—2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines; operative November 22, 2022.	40 CFR 86.1 and 86.1806–27	The CARB standards establish updated requirements for manufacturers to design their light-duty and medium-duty vehicles with onboard diagnostic systems that detect malfunctions in emission controls. These are newly referenced standards.

⁹⁰⁸ U.S. Environmental Protection Agency (2005). Supplemental guidance for assessing susceptibility

from early-life exposure to carcinogens. Washington, DC: Risk Assessment Forum. EPA/630/

R-03/003F. https://www3.epa.gov/airtoxics/childrens_supplement_final.pdf.

Standard or test method	Regulation	Summary
California 2026 and Subsequent Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, And Medium-Duty Vehicles ("CARB's LMDV Test Procedures"); adopted August 25, 2022.	40 CFR 1066.801 and 1066.1010	The CARB regulation establishes test procedures for measuring emissions from light-duty and medium-duty vehicles that are not plug-in hybrid electric vehicles. These are newly referenced standards.
California Test Procedures for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-In Hybrid Electric Vehicles, in the Passenger Car, Light-Duty Truck and Medium-Duty Vehicle Classes ("CARB's PHEV Test Procedures"); adopted August 25, 2022.	40 CFR 1066.801 and 1066.1010	The CARB regulation establishes test procedures for measuring emissions from plug-in hybrid electric vehicles. These are newly referenced standards.

In accordance with the requirements of 1 CFR 51.5, we are proposing to incorporate by reference the use of standards and test methods from the United Nations. The referenced

standards and test methods may be obtained from the UN Economic Commission for Europe, Information Service at Palais des Nations, CH-1211 Geneva 10, Switzerland; unece_info@un.org;

un.org; www.unece.org. We are incorporating by reference the following UN Economic Commission for Europe document:

Standard or test method	Regulation	Summary
Addendum 22: United Nations Global Technical Regulation No. 22, United Nations Global Technical Regulation on In-vehicle Battery Durability for Electrified Vehicles, Adopted April 14, 2022.	40 CFR 86.1 and 86.1815	GTR 22 establishes design protocols and procedures for measuring durability and performance for batteries used with electric vehicles and plug-in hybrid-electric vehicles.

J. Executive Order 12898: "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations"

Executive Order 12898 (59 FR 7629, February 16, 1994) directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations (people of color and/or indigenous peoples) and low-income populations.

EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on people of color, low-income populations and/or indigenous peoples. EPA provides a summary of the evidence for potentially disproportionate and adverse effects among people of color and low-income populations in Sections II.C.8 and VIII.I of the Preamble for this rule.

EPA believes that this action is likely to reduce existing disproportionate and adverse effects on people of color, low-income populations and/or indigenous peoples. The air pollutant emission reductions proposed in this rule would improve air quality for the people who reside in close proximity to major

roadways and who are disproportionately represented by people of color and people with low income, as described in Section II.C.8 and Section VIII.I of this Preamble. We expect that increases in criteria and toxic pollutant emissions from EGUs and reductions in petroleum-sector emissions could lead to changes in exposure to these pollutants for people living in the communities near these facilities. Analyses of communities in close proximity to these sources (such as EGUs and refineries) have found that a higher percentage of communities of color and low-income communities live near these sources when compared to national averages.

Section VIII.I.2 discusses the environmental justice issues associated with climate change. People of color, low-income populations and/or indigenous peoples may be especially vulnerable to the impacts of climate change. The GHG emission reductions from this proposal would contribute to efforts to reduce the probability of severe impacts related to climate change.

EPA is additionally identifying and addressing environmental justice concerns by providing fair treatment and meaningful involvement with Environment Justice groups in developing this proposed action and soliciting input for this notice of proposed rulemaking.

The information supporting this Executive Order review is contained in

Sections II.C.8 and VIII.I of the Preamble for this rule, and all supporting documents have been placed in the public docket for this action.

XI. Statutory Provisions and Legal Authority

Statutory authority for this proposed rule is found at 42 U.S.C. 7401–7675 and 49 U.S.C. 32901–23919q.

List of Subjects

40 CFR Part 85

Environmental protection, Confidential business information, Greenhouse gases, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research, Warranties.

40 CFR Part 86

Environmental protection, Administrative practice and procedure, Confidential business information, Incorporation by reference, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements.

40 CFR Part 600

Environmental protection, Administrative practice and procedure, Electric power, Fuel economy, Labeling, Reporting and recordkeeping requirements.

40 CFR Part 1036

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential

business information, Greenhouse gases, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Warranties.

40 CFR Part 1037

Environmental protection, Administrative practice and procedure, Air pollution control, Confidential business information, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Warranties.

40 CFR Part 1066

Environmental protection, Air pollution control, Incorporation by reference, Reporting and recordkeeping requirements.

Michael S. Regan,
Administrator.

For the reasons set out in the preamble, we are proposing to amend title 40, chapter I of the Code of Federal Regulations as set forth below.

PART 85—CONTROL OF AIR POLLUTION FROM MOBILE SOURCES

■ 1. The authority citation for part 85 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 2. Amend § 85.505 by revising paragraph (f) to read as follows:

§ 85.505 Overview.

* * * * *

(f) If you have previously used small volume conversion manufacturer or qualified small volume test group/engine family procedures and you may exceed the volume thresholds using the sum described in § 85.535(f) to determine small volume status in 40 CFR 86.1838–01 or 1036.150(d), as appropriate, you must satisfy the requirements for conversion manufacturers who do not qualify for small volume exemptions or your exemption from tampering is no longer valid.

* * * * *

■ 3. Amend § 85.510 by revising paragraphs (b)(2)(i)(A) and (B), (b)(2)(ii), and (b)(6) through (11) to read as follows:

§ 85.510 Exemption provisions for new and relatively new vehicles/engines.

* * * * *

(b) * * *

(2) * * *

(i) * * *

(A) If criteria for small volume manufacturer or qualified small volume engine families are met as defined in 40 CFR 1036.150(d), you may combine heavy-duty engines using good

engineering judgment into conversion engine families if the following criteria are satisfied instead of those specified in 40 CFR 1036.230.

(1) Same OEM.

(2) Same OBD group after MY 2013.

(3) Same service class (e.g., light heavy-duty diesel engines, medium heavy-duty diesel engines, heavy heavy-duty diesel engines).

(4) Engine displacement is within 15% of largest displacement or 50 CID, whichever is larger.

(5) Same number of cylinders.

(6) Same arrangement of cylinders.

(7) Same combustion cycle.

(8) Same method of air aspiration.

(9) Same fuel type (e.g., diesel/gasoline).

(10) Same fuel metering system (e.g., mechanical direct or electronic direct injection).

(11) Same catalyst/filter construction (e.g., metal vs. ceramic substrate).

(12) All converted engines are subject to the most stringent emission standards. For example, 2005 and 2007 heavy-duty diesel engines may be in the same family if they meet the most stringent (2007) standards.

(13) Same emission control technology (e.g., internal or external EGR).

(B) EPA-established scaled assigned deterioration factors for both exhaust and evaporative emissions may be used for engines with over 10,000 miles if the criteria for small volume manufacturer or qualified small volume engine families are met as defined in 40 CFR 1036.150(d). This deterioration factor will be adjusted according to vehicle or engine miles of operation. The deterioration factor is intended to predict the engine's emission levels at the end of the useful life. EPA may adjust these scaled assigned deterioration factors if we find the rate of deterioration non-constant or if the rate differs by fuel type.

* * * * *

(ii) Conversion evaporative/refueling families are identical to the OEM evaporative/refueling families unless the OEM evaporative emission system is no longer functionally necessary. You must create any new evaporative families according to 40 CFR 86.1821.

* * * * *

(6) Durability testing is required unless the criteria for small volume manufacturer or qualified small volume test groups/engine families are met as defined in 40 CFR 86.1838–01 or 1036.150(d), as applicable.

(7) Conversion test groups/engine families for conversions to dual-fuel or mixed-fuel vehicles/engines cannot

include vehicles/engines subject to different emission standards unless applicable exhaust and OBD demonstrations are also conducted for the original fuel(s) demonstrating compliance with the most stringent standard represented in the test group. However, for small volume conversion manufacturers and qualified small volume test groups/engine families the data generated from exhaust emission testing on the new fuel for dual-fuel or mixed-fuel test vehicles/engines may be carried over to vehicles/engines which otherwise meet the test group/engine family criteria and for which the test vehicle/engine data demonstrate compliance with the application vehicle/engine standard. Clean alternative fuel conversion evaporative families for dual-fuel or mixed-fuel vehicles may not include vehicles/engines which were originally certified to different evaporative emissions standards unless evaporative/refueling demonstrations are also conducted for the original fuel(s) demonstrating compliance with the most stringent standard represented in the evaporative/refueling family.

(8) The vehicle/engine selected for testing must qualify as a worst-case vehicle/engine under 40 CFR 86.1828–01 or 1036.235(a)(2), as applicable.

(9) The following requirements apply for OBD systems:

(i) The OBD system must properly detect and identify malfunctions in all monitored emission-related powertrain systems or components including any new monitoring capability necessary to identify potential emission problems associated with the new fuel.

(ii) Conduct OBD testing as needed to demonstrate that the vehicle/engine continues to comply with emission thresholds and other requirements that apply based on the original certification.

(iii) Submit the applicable OBD reporting information for vehicles as set forth in 40 CFR 86.1806–17. Submit the applicable OBD reporting information for engines as set forth in 40 CFR 86.010–18 or 1036.110, as appropriate. Submit the following statement of compliance if the OEM vehicles/engines were required to be OBD-equipped:

The test group/engine family converted to an alternative fuel has fully functional OBD systems and therefore meets the OBD requirements specified in [40 CFR part 86 or part 1036, as applicable] when operating on the alternative fuel.

(10) In lieu of specific certification test data, you may submit the following attestations for the appropriate statements of compliance, if you have

sufficient basis to prove the statement is valid.

(i) The test group/engine family converted to an alternative fuel has properly exercised the optional and applicable statements of compliance or waivers in the certification regulations. Attest to each statement or waiver in your application for certification.

(ii) The test group/engine family converted to dual-fuel or mixed-fuel operation retains all the OEM fuel system, engine calibration, and emission control system functionality when operating on the fuel with which the vehicle/engine was originally certified.

(iii) The test group/engine family converted to dual fuel or mixed-fuel operation retains all the functionality of the OEM OBD system (if so equipped) when operating on the fuel with which the vehicle/engine was originally certified.

(iv) The test group/engine family converted to dual-fuel or mixed-fuel operation properly purges hydrocarbon vapor from the evaporative emission canister when the vehicle/engine is operating on the alternative fuel.

(11) Certification fees apply as described in 40 CFR part 1027.

* * * * *

■ 4. Amend § 85.515 by revising paragraphs (b)(4), (6), and (8), (b)(9)(iii), (b)(10)(i), and (b)(10)(iii)(A) to read as follows:

§ 85.515 Exemption provisions for intermediate age vehicles/engines.

* * * * *

(b) * * *

(4) EPA-established scaled assigned deterioration factors for both exhaust and evaporative emissions may be used for vehicles/engines with over 10,000 miles if the criteria for small volume manufacturer or qualified small volume test groups/engine families are met as defined in 40 CFR 86.1838–01 or 40 CFR 1036.150(d), as appropriate. This deterioration factor will be adjusted according to vehicle/engine miles or hours of operation. The deterioration factor is intended to predict the vehicle/engine's emission level at the end of the useful life. EPA may adjust these scaled assigned deterioration factors if we find the rate of deterioration non-constant or if the rate differs by fuel type.

* * * * *

(6) Durability testing is required unless the criteria for small volume manufacturer or qualified small volume test groups/engine families are met as defined in 40 CFR 86.1838–01 or 40 CFR 1036.150(d), as applicable. Durability procedures for large volume conversion manufacturers of intermediate age light-duty and heavy-

duty chassis certified vehicles that follow provisions in 40 CFR 86.1820–01 may eliminate precious metal composition and catalyst grouping statistic when creating clean alternative fuel conversion durability groupings.

* * * * *

(8) You must conduct all exhaust and all evaporative and refueling emissions testing with a worst-case vehicle/engine to show that the conversion test group/engine family complies with exhaust and evaporative/refueling emission standards, based on the certification procedures.

(9) * * *

(iii) In addition to conducting OBD testing described in this paragraph (b)(9), you must submit to EPA the following statement of compliance if the OEM vehicles/engines were required to be OBD-equipped:

The test group/engine family converted to an alternative fuel has fully functional OBD systems and therefore meets the OBD requirements specified in [40 CFR part 86 or part 1036, as applicable] when operating on the alternative fuel.

(10) * * *

(i) You must describe how your conversion system qualifies as a clean alternative fuel conversion. You must include emission test results from the required exhaust, evaporative emissions, and OBD testing, applicable exhaust and evaporative emissions standards and deterioration factors. You must also include a description of how the test vehicle/engine selected qualifies as a worst-case vehicle/engine under 40 CFR 86.1828–01 or 1036.235(a)(2), as applicable.

* * * * *

(iii) * * *

(A) The test group/engine family converted to an alternative fuel has properly exercised the optional and applicable statements of compliance or waivers in the certification regulations. Attest to each statement or waiver in your notification.

* * * * *

■ 5. Amend § 85.520 by revising paragraphs (b)(4), (b)(6)(i), and (b)(6)(iii)(A) to read as follows:

§ 85.520 Exemption provisions for outside useful life vehicles/engines.

* * * * *

(b) * * *

(4) The following requirements apply for OBD systems:

(i) The OBD system must properly detect and identify malfunctions in all monitored emission-related powertrain systems or components, including any new monitoring capability necessary to

identify potential emission problems associated with the new fuel. These include but are not limited to: Fuel trim lean and rich monitors, catalyst deterioration monitors, engine misfire monitors, oxygen sensor deterioration monitors, EGR system monitors, if applicable, and evaporative system leak monitors, if applicable. No original OBD system monitor that is still applicable to the vehicle/engine may be aliased, removed, bypassed, or turned-off. No MILs shall be illuminated after the conversion. Readiness flags must be properly set for all monitors that identify any malfunction for all monitored components.

(ii) Subsequent to the vehicle/engine fuel conversion, you must clear all OBD codes and reset all OBD monitors to not-ready status using an OBD scan tool appropriate for the OBD system in the vehicle/engine in question. You must operate the vehicle/engine with the new fuel on representative road operation or chassis dynamometer/engine dynamometer testing cycles to satisfy the monitors' enabling criteria. When all monitors have reset to a ready status, you must submit an OBD scan tool report showing that with the vehicle/engine operating in the key-on/engine-on mode, all supported monitors have reset to a ready status and no emission related "pending" (or potential) or "confirmed" (or MIL-on) diagnostic trouble codes (DTCs) have been stored. The MIL must not be commanded "On" or be illuminated. A MIL check must also be conducted in a key-on/engine-off mode to verify that the MIL is functioning properly. You must include the VIN/EIN of the test vehicle/engine. If necessary, the OEM evaporative emission readiness monitor may remain unset for dedicated gaseous fuel conversion systems.

(iii) In addition to conducting OBD testing described in this paragraph (b)(4), you must submit to EPA the following statement of compliance if the OEM vehicles/engines were required to be OBD-equipped:

The test group/engine family converted to an alternative fuel has fully functional OBD systems and therefore meets the OBD requirements specified in [40 CFR part 86 or 40 CFR part 1036, as applicable] when operating on the alternative fuel.

* * * * *

(6) * * *

(i) You must describe how your conversion system complies with the good engineering judgment criteria in paragraph (b)(3) of this section and/or other requirements under this subpart or other applicable subparts such that the

conversion system qualifies as a clean alternative fuel conversion. The submission must provide a level of technical detail sufficient for EPA to confirm the conversion system's ability to maintain or improve on emission levels in a worst-case vehicle/engine. The submission of technical information must include a complete characterization of exhaust and evaporative emissions control strategies, the fuel delivery system, durability, and specifications related to OBD system functionality. You must present detailed information to confirm the durability of all relevant new and existing components and to explain why the conversion system will not harm the emission control system or degrade the emissions. EPA may ask you to supply additional information, including test data, to support the claim that the conversion system does not increase emissions and involves good engineering judgment that is being applied for purposes of conversion to a clean alternative fuel.

* * * * *

(iii) * * *

(A) The test group/engine family converted to an alternative fuel has properly exercised the optional and applicable statements of compliance or waivers in the certification regulations. Attest to each statement or waiver in your notification.

* * * * *

§ 85.524 [Removed]

- 6. Remove § 85.524.
- 7. Amend § 85.535 by revising paragraph (f) to read as follows:

§ 85.535 Liability, recordkeeping, and end of year reporting.

* * * * *

(f) Clean alternative fuel conversion manufacturers must submit an end of the year sales report to EPA describing the number of clean alternative fuel conversions by fuel type(s) and vehicle test group/engine family by January 31 of the following year. The number of conversions is the sum of the calendar year intermediate age conversions, outside useful life conversions, and the same conversion model year certified clean alternative fuel conversions. The number of conversions will be added to any other vehicle and engine sales accounted for using 40 CFR 86.1838–01 or 1036.150(d), as appropriate to determine small volume manufacturer or qualified small volume test group/engine family status.

* * * * *

- 8. Amend § 85.1503 by revising paragraphs (a) and (c) to read as follows:

§ 85.1503 General requirements for importation of nonconforming vehicles and engines.

(a) A nonconforming vehicle or engine offered for importation into the United States must be imported by an ICI who is a current holder of a valid certificate of conformity unless an exemption or exclusion is granted by the Administrator under § 85.1511 or the vehicle is eligible for entry under § 85.1512.

* * * * *

(c) In any one certificate year (e.g., the current model year), an ICI may finally admit no more than the following numbers of nonconforming vehicles into the United States under the provisions of §§ 85.1505 and 85.1509, except as allowed by paragraph (e) of this section:

- (1) [Reserved]
- (2) A total of 25 light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles. This limit does not apply for electric vehicles.
- (3) 50 highway motorcycles.

* * * * *

■ 9. Amend § 85.1509 by:

- a. Revising paragraph (a) introductory text.
- b. Removing and reserving paragraphs (b) through (f).
- c. Removing the paragraph heading from paragraphs (j), (k) introductory text, and (l).

The revision reads as follows:

§ 85.1509 Final admission of modification and test vehicles.

(a) A motor vehicle or motor vehicle engine may be imported under this section by a certificate holder possessing a currently valid certificate of conformity only if—

* * * * *

- 10. Amend § 85.1510 by revising paragraphs (d)(1) and (f) to read as follows:

§ 85.1510 Maintenance instructions, warranties, emission labeling and fuel economy requirements.

* * * * *

(d) * * *

(1) The certificate holder shall affix a fuel economy label that complies with the requirements of 40 CFR part 600, subpart D. The requirement for fuel economy labels does not apply for electric vehicles.

* * * * *

(f) *Corporate Average Fuel Economy (CAFE)*. Certificate holders shall comply with any applicable CAFE requirements of the Energy Policy and Conservation Act, 15 U.S.C. 2001 *et seq.*, and 40 CFR part 600, for all vehicles imported under §§ 85.1505 and 85.1509.

- 11. Amend § 85.1515 by revising paragraphs (a)(2)(i)(A) and (B), (c)(2)(ix)

and (x), and (c)(3), (5), (6), and (8) to read as follows:

§ 85.1515 Emission standards and test procedures applicable to imported nonconforming motor vehicles and motor vehicle engines.

(a) * * *

(2) * * *

(i) * * *

(A) Cold temperature CO, NMHC, NMOG+NO_x, and PM emission standards specified in 40 CFR 86.1811.

(B) SFTP emission standards specified in 40 CFR 86.1811 and 86.1816 for all pollutants, and separate emission standards that apply for US06 and SC03 duty cycles.

* * * * *

(c) * * *

(2) * * *

(ix) Nonconforming vehicles subject to the provisions of 40 CFR part 86, subpart S, originally manufactured in OP years 2022 through 2029 must meet the Tier 3 exhaust emission standards in 40 CFR 86.1811–17 and 86.1816–18, the Tier 3 evaporative emission standards in 40 CFR 86.1813–17, and the refueling emission standards in 40 CFR 86.1813–17(b).

(x) Nonconforming vehicles subject to the provisions of 40 CFR part 86, subpart S, originally manufactured in OP years 2030 and later must meet the Tier 4 exhaust emission standards in 40 CFR 86.1811–27, the Tier 3 evaporative emission standards in 86.1813–17, and the refueling emission standards in 40 CFR 86.1813–17(b).

(3) The following provisions apply for Tier 2 vehicles certified to standards under 40 CFR 86.1811–04:

(i) As an option to the requirements of paragraph (c)(2) of this section, independent commercial importers may elect to meet lower bins in Tables S04–1 and S04–2 of 40 CFR 86.1811–04 than specified in paragraph (c)(2) of this section and bank or sell NO_x credits as permitted in 40 CFR 86.1860–04 and 40 CFR 86.1861–04. An ICI may not meet higher bins in Tables S04–1 and S04–2 of 40 CFR 86.1811–04 than specified in paragraph (c)(2) of this section unless it demonstrates to the Administrator at the time of certification that it has obtained appropriate and sufficient NO_x credits from another manufacturer, or has generated them in a previous model year or in the current model year and not transferred them to another manufacturer or used them to address other vehicles as permitted in 40 CFR 86.1860–04 and 40 CFR 86.1861–04.

(ii) Where an ICI desires to obtain a certificate of conformity using a bin higher than specified in paragraph (c)(2) of this section but does not have

sufficient credits to cover vehicles produced under such certificate, the Administrator may issue such certificate if the ICI has also obtained a certificate of conformity for vehicles certified using a bin lower than that required under paragraph (c)(2) of this section. The ICI may then produce vehicles to the higher bin only to the extent that it has generated sufficient credits from vehicles certified to the lower bin during the same model year.

* * * * *

(5) Except for the situation where an ICI desires to bank, sell or use NO_x credits as described in paragraph (c)(3) of this section, the requirements of 40 CFR 86.1811 related to fleet average standards and requirements to comply with such standards do not apply to vehicles modified under this subpart.

(6) ICIs using Tier 2 bins higher than those specified in paragraph (c)(2) of this section must monitor their production so that they do not produce more vehicles certified to the standards of such bins than their available credits can cover. ICIs must not have a credit deficit at the end of a model year and are not permitted to use the deficit carryforward provisions provided in 40 CFR 86.1860–04(e).

* * * * *

(8) The following provisions apply for cold temperature emission standards:

(i) Nonconforming LDV/LLDTs originally manufactured in OP years 2010 and later must meet the cold temperature emission standards in 40 CFR 86.1811. ICIs may comply with the cold temperature PM standard based on an engineering evaluation.

(ii) Nonconforming HLDTs and MDPVs originally manufactured in OP years 2012 and later must meet the cold temperature emission standards in 40 CFR 86.1811. ICIs may comply with the cold temperature PM standard based on an engineering evaluation.

(iii) ICIs, which qualify as small-volume manufacturers, are exempt from the cold temperature NMHC phase-in intermediate percentage requirements described in 40 CFR 86.1811–10(g)(3). See 40 CFR 86.1811–04(k)(5)(vi) and (vii).

(iv) The provisions of this paragraph (c)(8)(iv) apply for Tier 2 vehicles. As an alternative to the requirements of paragraphs (c)(8)(i) and (ii) of this section, ICIs may elect to meet a cold temperature NMHC family emission level below the cold temperature NMHC fleet average standards specified in Table S10–1 of 40 CFR 86.1811–10 and bank or sell credits as permitted in 40 CFR 86.1864–10. An ICI may not meet a higher cold temperature NMHC family

emission level than the fleet average standards in Table S10–1 of 40 CFR 86.1811–10 as specified in paragraphs (c)(8)(i) and (ii) of this section, unless it demonstrates to the Administrator at the time of certification that it has obtained appropriate and sufficient NMHC credits from another manufacturer, or has generated them in a previous model year or in the current model year and not traded them to another manufacturer or used them to address other vehicles as permitted in 40 CFR 86.1864–10.

* * * * *

■ 12. Amend § 85.1702 by revising paragraph (a)(3), adding paragraph (a)(6), and adding a reserved paragraph (b).

The revision and addition read as follows:

§ 85.1702 Definitions.

(a) * * *

(3) *Pre-certification vehicle* means an uncertified vehicle that a certificate holder employs in fleets from year to year in the ordinary course of business for product development, production method assessment, and market promotion, but not involving lease or sale.

* * * * *

(6) *Certificate holder* has the meaning given in 40 CFR 1068.30.

* * * * *

■ 13. Revise § 85.2101 to read as follows:

§ 85.2101 General applicability.

(a) Sections 85.2101 through 85.2111 are applicable to all 1981 and later model year vehicles subject to standards under 40 CFR part 86, subpart S.

(b) References in this subpart to engine families and emission control systems shall be deemed to apply to durability groups and test groups as applicable.

■ 14. Amend § 85.2102 by revising paragraph (a) introductory text and paragraphs (a)(10) and (11) to read as follows:

§ 85.2102 Definitions.

(a) As used in §§ 85.2101 through 85.2111 all terms not defined herein shall have the meaning given them in the Act. All terms additionally not defined in the Act shall have the meaning given in 40 CFR 86.1803, 1065.1001, or 1068.30:

* * * * *

(10) *Useful life* means that period established under 40 CFR 86.1805.

(11) *Vehicle* means any vehicle subject to standards under 40 CFR part 86, subpart S.

* * * * *

■ 15. Revise § 85.2103 to read as follows:

§ 85.2103 Emission performance warranty.

(a) The manufacturer of each vehicle to which this subpart applies must provide a written commitment to meet warranty requirements as described in this section.

(b) The manufacturer must remedy a nonconformity identified in paragraph (c) of this section throughout the warranty period specified in § 85.2108 at no cost to the owner if such nonconformity results or will result in the vehicle owner having to bear any penalty or other sanction (including the denial of the right to use the vehicle) under local, State, or Federal law.

(c) The following failures qualify as a nonconformity for purposes of the warranty requirements of this subpart:

(1) A vehicle fails to conform at any time during its useful life to the applicable emission standards or family emission limits as determined by an EPA-approved emission test.

(2) An electric vehicle or a plug-in hybrid electric vehicle fails to meet the Minimum Performance Requirement for useable battery energy under 40 CFR 86.1815 for the specified period as determined by the vehicle's State of Health Monitor, if applicable.

(d) The warranty periods under this section apply based on the vehicle's age in years and on the vehicle's odometer reading. The warranty period expires based on the specified age or mileage, whichever comes first. The warranty period for a particular vehicle begins on the date the vehicle is delivered to its ultimate purchaser or, if the vehicle is first placed in service as a "demonstrator" or "company" car prior to delivery, on the date it is first placed in service.

(e) The following warranty periods apply for light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles:

(1) The following specified major emission control components have a warranty period of eight years or 80,000 miles:

(i) Catalytic converters and SCR catalysts, and related components.

(ii) Particulate filters and particulate traps, used with both spark-ignition and compression-ignition engines.

(iii) Components related to exhaust gas recirculation with compression-ignition engines.

(iv) Emission control module.

(v) Batteries serving as a Renewable Energy Storage System for electric vehicles and plug-in hybrid electric vehicles, along with related powertrain components.

(2) Nonconformities other than those identified in paragraph (e)(1) of this section have a warranty period of two years or 24,000 miles.

(f) The following warranty periods apply for medium-duty vehicles:

(1) The specific major emission control components identified in paragraph (e)(1) of this section have a warranty period of eight years or 80,000 miles.

(2) Nonconformities other than those identified in paragraph (f)(1) of this section have a warranty period of five years or 50,000 miles.

■ 16. Amend § 85.2104 by revising paragraphs (d), (e), (f), (g) introductory text, (g)(1) and (g)(2) introductory text to read as follows:

§ 85.2104 Owners' compliance with instructions for proper maintenance and use.

(d) the time/mileage interval for scheduled maintenance services shall be the service interval specified for the part in the written instructions for proper maintenance and use. However, in the case of certified parts having a maintenance or replacement interval different from that specified in the written instructions for proper maintenance and use, the time/mileage interval shall be the service interval for which the part was certified.

(e) The owner may perform maintenance or have maintenance performed more frequently than required in the maintenance instructions.

(f) Written instruction for proper use of electric vehicles and plug-in hybrid electric vehicles may identify certain behaviors or vehicle operating modes expected to unreasonably or artificially shorten battery durability. For example, exceeding a vehicle's towing capacity might be considered improper use. However, the manufacturer should not consider actions to be improper use if the vehicle can be designed to prevent the targeted behaviors or operating modes. Evidence of compliance with the requirement to properly use vehicles under this paragraph (f) is generally limited to onboard data logging, though manufacturers may also request vehicle owners to make a statement regarding specific behaviors or vehicle operating modes.

(g) Except as provided in paragraph (h) of this section, a manufacturer may deny an emission performance warranty claim on the basis of noncompliance with the written instructions for proper maintenance and use if and only if:

(1) An owner is not able to comply with a request by a manufacturer for

evidence pursuant to paragraph (c) or (f) of this section; or

(2) Notwithstanding the evidence presented pursuant to paragraph (c) of this section, the manufacturer is able to prove that the vehicle failed because:

* * * * *

■ 17. Amend § 85.2105 by revising paragraph (b)(3) to read as follows:

§ 85.2105 Aftermarket parts.

* * * * *

(b) * * *

(3) List all objective evidence as defined in § 85.2102 that was used in the determination to deny warranty. This evidence must be made available to the vehicle owner or EPA upon request.

* * * * *

■ 18. Amend § 85.2109 by revising paragraph (a)(2) to read as follows:

§ 85.2109 Inclusion of warranty provisions in owners' manuals and warranty booklets.

(a) * * *

(2) A list of all items which are covered by the emission performance warranty for the full useful life of the vehicle. This list shall contain all specified major emission control components. All items listed pursuant to this subsection shall be described in the same manner as they are likely to be described on a service facility work receipt for that vehicle; and

* * * * *

■ 19. Revise § 85.2110 to read as follows:

§ 85.2110 Submission of owners' manuals and warranty statements to EPA.

(a) The manufacturer of each vehicle to which this subpart applies must send to EPA an owner's manual and warranty booklet (if applicable) in electronic format for each model vehicle that completely and accurately represent the warranty terms for that vehicle.

(1) The owner's manuals and warranty booklets should be received by EPA 60 days prior to the introduction of the vehicle for sale.

(2) If the manuals and warranty booklets are not in their final format 60 days prior to the introduction of the vehicle for sale, a manufacturer may submit the most recent draft at that time, provided that the manufacturer promptly submits final versions when they are complete.

(b) All materials described in paragraph (a) of this section shall be sent to the Designated Compliance Officer as specified at 40 CFR 1068.30 (Attention: Warranty Booklet).

PART 86—CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES

■ 20. The authority citation for part 86 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 21. Amend § 86.1 by:

■ a. Adding introductory text.

■ b. Revising paragraphs (a) and (d)(2).

■ c. Removing and reserving paragraphs (d)(3) and (4).

■ d. Revising paragraph (e)(2).

■ e. Removing and reserving paragraph (g)(4).

■ f. Revising paragraph (g)(8).

■ g. Removing and reserving paragraphs (g)(10), (11), (13), and (14).

■ h. Revising paragraphs (g)(15) through (19), (21), (22), and (25).

The addition and revisions read as follows:

§ 86.1 Incorporation by reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, EPA must publish a document in the **Federal Register** and the material must be available to the public. All approved incorporation by reference (IBR) material is available for inspection at EPA and at the National Archives and Records Administration (NARA). Contact EPA at: U.S. EPA, Air and Radiation Docket Center, WJC West Building, Room 3334, 1301 Constitution Ave. NW, Washington, DC 20004; www.epa.gov/dockets; (202) 202–1744. For information on inspecting this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following sources:

(a) UN Economic Commission for Europe, Information Service, Palais des Nations, CH–1211 Geneva 10, Switzerland; unece_info@un.org; www.unece.org;

(1) Addendum 22: United Nations Global Technical Regulation, No. 22, United Nations Global Technical Regulation on In-vehicle Battery Durability for Electrified Vehicles, Adopted April 14, 2022, (“GTR No. 22”); IBR approved for § 86.1815.

(2) [Reserved]

* * * * *

(d) * * *

(2) California Regulatory Requirements known as Onboard Diagnostics II (OBD–II), Title 13, Motor Vehicles, Division 3, Air Resources

Board, Chapter 1, Motor Vehicle Pollution Control Devices, Article 2, Approval of Motor Vehicle Pollution Control Devices (New Vehicles), § 1968.2 Malfunction and Diagnostic System Requirements—2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines; operative November 22, 2022; IBR approved for § 86.1806–27(a).

* * * * *

(e) * * *

(2) ISO 15765–4:2005(E), Road Vehicles—Diagnostics on Controller Area Networks (CAN)—Part 4: Requirements for emissions-related systems, January 15, 2005, IBR approved for § 86.010–18(k).

* * * * *

(g) * * *

(8) SAE J1930, Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations, and Acronyms—Equivalent to ISO/TR 15031–2: April 30, 2002, Revised April 2002, IBR approved for § 86.010–18(k).

* * * * *

(15) SAE J1939–71, Vehicle Application Layer (Through February 2007), Revised January 2008, IBR approved for § 86.010–38(j).

(16) SAE J1939–73, Application Layer—Diagnostics, Revised September 2006, IBR approved for §§ 86.010–18(k); 86.010–38(j).

(17) SAE J1939–81, Network Management, Revised May 2003, IBR approved for § 86.010–38(j).

(18) SAE J1962, Diagnostic Connector Equivalent to ISO/DIS 15031–3; December 14, 2001, Revised April 2002, IBR approved for § 86.010–18(k).

(19) SAE J1978, OBD II Scan Tool—Equivalent to ISO/DIS 15031–4; December 14, 2001, Revised April 2002, IBR approved for § 86.010–18(k).

* * * * *

(21) SAE J1979, (R) E/E Diagnostic Test Modes, Revised May 2007, IBR approved for § 86.010–18(k).

(22) SAE J2012, (R) Diagnostic Trouble Code Definitions Equivalent to ISO/DIS 15031–6: April 30, 2002, Revised April 2002, IBR approved for § 86.010–18(k).

* * * * *

(25) SAE J2403, Medium/Heavy-Duty E/E Systems Diagnosis Nomenclature—Truck and Bus, Revised August 2007, IBR approved for §§ 86.010–18(k); 86.010–38(j).

* * * * *

§ 86.113–04 [Amended]

■ 22. Amend § 86.113–04 by removing and reserving paragraph (a)(2)(i).

■ 23. Add § 86.113–27 to read as follows:

§ 86.113–27 Fuel specifications.

Use the fuels specified in 40 CFR part 1065 to perform valid tests, as follows:

(a) For service accumulation, use the test fuel or any commercially available fuel that is representative of the fuel that in-use vehicles will use.

(b) For diesel-fueled engines, use the ultra low-sulfur diesel fuel specified in 40 CFR part 1065.703 for emission testing.

(c) The following fuel requirements apply for gasoline-fueled engines:

(1) Use the appropriate E10 fuel specified in 40 CFR part 1065.710(b) to demonstrate compliance with all exhaust, evaporative, and refueling emission standards under subpart S of this part.

(2) For vehicles certified for 50-state sale, you may instead use California Phase 3 gasoline (E10) as adopted in California's LEV III program as follows:

(i) You may use California Phase 3 gasoline (E10) as adopted in California's LEV III program for exhaust emission testing.

(ii) If you certify vehicles to LEV III evaporative emission standards with California Phase 3 gasoline (E10), you may use that collection of data to certify to evaporative emission standards. For evaporative emission testing with California test fuels, perform tests based on the test temperatures specified by the California Air Resources Board. Note that this paragraph (c)(2)(ii) does not apply for refueling, spitback, high-altitude, or leak testing.

(iii) If you certify using fuel meeting California's specifications, we may perform testing with E10 test fuel meeting either California or EPA specifications.

(d) Interim test fuel specifications apply for model years 2027 through 2029 as described in 40 CFR 600.117.

(e) Additional test fuel specifications apply as specified in subpart S of this part.

■ 24. Amend § 86.132–96 by revising paragraphs (a), (b), (f), (g), (h) introductory text, and (j) introductory text to read as follows:

§ 86.132–96 Vehicle preconditioning.

(a) Prepare the vehicle for testing as described in this section. Store the vehicle before testing in a way that prevents fuel contamination and preserves the integrity of the fuel system. The vehicle shall be moved into the test area and the following operations performed.

(b)(1) *Gasoline- and Methanol-Fueled Vehicles.* Drain the fuel tank(s) and fill

with test fuel, as specified in § 86.113, to the “tank fuel volume” defined in § 86.082–2. Install the fuel cap(s) within one minute after refueling.

(2) *Gaseous-Fueled Vehicles.* Fill fuel tanks with fuel that meets the specifications in § 86.113. Fill the fuel tanks to a minimum of 85 percent of service pressure for natural gas-fueled vehicles or a minimum of 85 percent of available fill volume for liquefied petroleum gas-fueled vehicles. Prior draining of the fuel tanks is not required if the fuel in the tanks already meets the specifications in § 86.113.

* * * * *

(f) Drain and then fill the vehicle's fuel tank(s) with test fuel, as specified in § 86.113, to the “tank fuel volume” defined in § 86.082–2. Refuel the vehicle within 1 hour after completing the preconditioning drive. Install fuel cap(s) within 1 minute after refueling. Park the vehicle within five minutes after refueling. However, for the following vehicles omit this refueling event and instead drive the vehicle off the dynamometer and park it within five minutes after the preconditioning drive:

(1) Diesel-fueled vehicles.

(2) Gaseous-fueled vehicles.

(3) Fuel economy data vehicles.

(4) In-use vehicles subject to testing under § 86.1845.

(g) The vehicle shall be soaked for not less than 12 hours nor more than 36 hours before the cold start exhaust emission test. The soak period starts at the end of the refueling event, or at the end of the previous drive if there is no refueling.

(h) During the soak period for the three-diurnal test sequence described in § 86.130–96, precondition any evaporative canisters as described in this paragraph (h); however, canister preconditioning is not required for fuel economy data vehicles. For vehicles with multiple canisters in a series configuration, the set of canisters must be preconditioned as a unit. For vehicles with multiple canisters in a parallel configuration, each canister must be preconditioned separately. If production evaporative canisters are equipped with a functional service port designed for vapor load or purge steps, the service port shall be used during testing to precondition the canister. In addition, for model year 1998 and later vehicles equipped with refueling canisters, these canisters shall be preconditioned for the three-diurnal test sequence according to the procedure in paragraph (j)(1) of this section. If a vehicle is designed to actively control evaporative or refueling emissions without a canister, the manufacturer

shall devise an appropriate preconditioning procedure, subject to the approval of the Administrator.

* * * * *

(j) During the soak period for the supplemental two-diurnal test sequence described in § 86.130–96, precondition any evaporative canisters using one of the methods described in this paragraph (j); however, canister preconditioning is not required for fuel economy data vehicles. For vehicles with multiple canisters in a series configuration, the set of canisters must be preconditioned as a unit. For vehicles with multiple canisters in a parallel configuration, each canister must be preconditioned separately. In addition, for model year 1998 and later vehicles equipped with refueling canisters, these canisters shall be preconditioned for the supplemental two-diurnal test sequence according to the procedure in paragraph (j)(1) of this section. Canister emissions are measured to determine breakthrough. Breakthrough is here defined as the point at which the cumulative quantity of hydrocarbons emitted is equal to 2 grams.

* * * * *

§§ 86.165–12 and 86.1801–01 [Removed]

■ 25. Remove §§ 86.165–12 and 86.1801–01.

■ 26. Amend § 86.1801–12 by revising paragraphs (a)(2)(ii), (a)(3)(i) and (ii), (h), (i), (j)(1) introductory text, and (k) and adding paragraph (l) to read as follows:

§ 86.1801–12 Applicability.

(a) * * *

(2) * * *

(ii) Starting in model year 2030, the provisions of this subpart do not apply for vehicles above 22,000 pounds GCWR. The provisions of this subpart are optional for those vehicles in model years 2027 through 2029 as described in paragraph (l) of this section.

* * * * *

(3) * * *

(i) Heavy duty vehicles above 14,000 pounds GVWR may be optionally certified to the exhaust emission standards in this subpart, including the greenhouse gas emission standards, if they are properly included in a test group with similar vehicles at or below 14,000 pounds GVWR. Emission standards apply to these vehicles as if they were Class 3 heavy-duty vehicles. The work factor for these vehicles may not be greater than the largest work factor that applies for vehicles in the test group that are at or below 14,000 pounds GVWR (see § 86.1819–14). Starting in model year 2030, this option

no longer applies for vehicles above 22,000 pounds GCWR.

(ii) Incomplete heavy-duty vehicles at or below 14,000 pounds GVWR may be optionally certified to the exhaust emission standards in this subpart that apply for heavy-duty vehicles. Starting in model year 2030, this option no longer applies for vehicles above 22,000 pounds GCWR.

* * * * *

(h) *Applicability of provisions of this subpart to light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, and heavy-duty vehicles.* Numerous sections in this subpart provide requirements or procedures applicable to a “vehicle” or “vehicles.” Unless otherwise specified or otherwise determined by the Administrator, the term “vehicle” or “vehicles” in those provisions apply equally to light-duty vehicles (LDVs), light-duty trucks (LDTs), medium-duty passenger vehicles (MDPVs), and heavy-duty vehicles (HDVs), as those terms are defined in § 86.1803–01. Note that this subpart also identifies heavy-duty vehicles at or below 14,000 pounds GVWR that are not medium-duty passenger vehicles as medium-duty vehicles.

(i) *Types of pollutants.* Emission standards and related requirements apply for different types of pollutants as follows:

(1) *Criteria pollutants.* Criteria pollutant standards apply for NO_x, HC, PM, and CO, including exhaust, evaporative, and refueling emission standards. These pollutants are sometimes described collectively as “criteria pollutants” because they are either criteria pollutants under the Clean Air Act or precursors to the criteria pollutants ozone and PM.

(2) *Greenhouse gas emissions.* This subpart contains standards and other regulations applicable to the emission of the air pollutant defined as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(3) *Nomenclature.* Numerous sections in this subpart refer to requirements relating to “exhaust emissions.” Unless otherwise specified or otherwise determined by the Administrator, the term “exhaust emissions” refers at a minimum to emissions of all pollutants described by emission standards in this subpart, including carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄).

(j) * * *

(1) Manufacturers that qualify as a small business under the Small Business Administration regulations in

13 CFR part 121 are exempt from certain standards and associated provisions as specified in §§ 86.1815, 86.1818, and 86.1819 and in 40 CFR part 600. This exemption applies to both U.S.-based and non-U.S.-based businesses. The following categories of businesses (with their associated NAICS codes) may be eligible for exemption based on the Small Business Administration size standards in 13 CFR 121.201:

* * * * *

(k) *Conditional exemption from greenhouse gas emission standards.* Manufacturers may request a conditional exemption from compliance with the emission standards described in § 86.1818–12(c) through (e) and associated provisions in this part and in part 600 of this chapter for model years 2012 through 2016. For the purpose of determining eligibility the sales of related companies shall be aggregated according to the provisions of § 86.1838–01(b)(3) or, if a manufacturer has been granted operational independence status under § 86.1838–01(d), eligibility shall be based on that manufacturer’s vehicle production.

(1) [Reserved]

(2) *Maintaining eligibility for exemption from greenhouse gas emission standards.* To remain eligible for exemption under this paragraph (k) the manufacturer’s average sales for the three most recent consecutive model years must remain below 5,000. If a manufacturer’s average sales for the three most recent consecutive model years exceeds 4,999, the manufacturer will no longer be eligible for exemption and must meet applicable emission standards according to the provisions in this paragraph (k)(2).

(i) If a manufacturer’s average sales for three consecutive model years exceeds 4,999, and if the increase in sales is the result of corporate acquisitions, mergers, or purchase by another manufacturer, the manufacturer shall comply with the emission standards described in § 86.1818–12(c) through (e), as applicable, beginning with the first model year after the last year of the three consecutive model years.

(ii) If a manufacturer’s average sales for three consecutive model years exceeds 4,999 and is less than 50,000, and if the increase in sales is solely the result of the manufacturer’s expansion in vehicle production, the manufacturer shall comply with the emission standards described in § 86.1818–12(c) through (e), as applicable, beginning with the second model year after the last year of the three consecutive model years.

(iii) If a manufacturer’s average sales for three consecutive model years

exceeds 49,999, the manufacturer shall comply with the emission standards described in § 86.1818–12 (c) through (e), as applicable, beginning with the first model year after the last year of the three consecutive model years.

(l) *Transition to GHG standards for high-GCWR vehicles.* If manufacturers certify all their engines installed in model year 2027 vehicles with GCWR above 22,000 pounds under 40 CFR part 1036, instead of waiting until model year 2030, the vehicles in which those engines are installed may demonstrate compliance with the appropriate CO₂ target values specified for model year 2026 in § 86.1819–14(k)(4)(i). See 40 CFR 1036.635.

■ 27. Amend § 86.1803–01 by:

■ a. Revising the definition of “Banking”.

■ b. Removing the definitions of “Durability useful life”, “Fleet average cold temperature NMHC standard”, and “Fleet average NO_x standard”.

■ c. Adding definitions of “Incomplete vehicle” and “Light-duty program vehicle” in alphabetical order.

■ d. Revising the definitions of “Light-duty truck” and “Medium-duty passenger vehicle (MDPV)”.

■ e. Adding definitions of “Normal operation” and “Rechargeable Energy Storage System (RESS)”, and “Revoke” in alphabetical order.

■ f. Revising the definition of “Supplemental FTP (SFTP)”.

■ g. Adding definitions of “Suspend”, “Tier 4”, and “United States” in alphabetical order.

■ h. Removing the definition of “Useful life”.

■ i. Adding a definition of “void” in alphabetical order.

The revisions and additions read as follows:

§ 86.1803–01 Definitions.

* * * * *

Banking means the retention of emission credits by the manufacturer generating the emission credits, for use in future model year certification programs as permitted by regulation.

* * * * *

Incomplete vehicle has the meaning given in 40 CFR 1037.801.

* * * * *

Light-duty program vehicle means any medium-duty passenger vehicle and any vehicle subject to standards under this subpart that is not a heavy-duty vehicle. This definition generally applies only for model year 2027 and later vehicles.

Light-duty truck has one of the following meanings:

(1) Except as specified in paragraph (2) of this definition, *Light-duty truck*

means any motor vehicle that is not a heavy-duty vehicle, but is:

(i) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle; or

(ii) Designed primarily for transportation of persons and has a capacity of more than 12 persons; or

(iii) Available with special features enabling off-street or off-highway operation and use.

(2) For vehicles subject to Tier 4 standards, *Light-duty truck* has the meaning given for “Light truck” in 40 CFR 600.002.

* * * * *

Medium-duty passenger vehicle (MDPV) has one of the following meanings:

(1) Except as specified in paragraph (2) of this definition, *Medium-duty passenger vehicle* means any heavy-duty vehicle (as defined in this subpart)

with a gross vehicle weight rating (GVWR) of less than 10,000 pounds that is designed primarily for the transportation of persons. The MDPV definition does not include any vehicle which:

(i) Is an “incomplete truck” as defined in this subpart; or

(ii) Has a seating capacity of more than 12 persons; or

(iii) Is designed for more than 9 persons in seating rearward of the driver’s seat; or

(iv) Is equipped with an open cargo area (for example, a pick-up truck box or bed) of 72.0 inches in interior length or more. A covered box not readily accessible from the passenger compartment will be considered an open cargo area for purposes of this definition.

(2) Starting with model year 2027, or earlier at the manufacturer’s discretion, *Medium-duty passenger vehicle* means any heavy-duty vehicle subject to standards under this subpart that is designed primarily for the transportation of persons, with seating rearward of the driver, except that the MDPV definition does not include any vehicle that

(i) Is an “incomplete truck” as defined in this subpart; or

(ii) Has a seating capacity of more than 12 persons; or

(iii) Is designed for more than 9 persons in seating rearward of the driver’s seat; or

(iv) Is equipped with an open cargo area (for example, a pick-up truck box or bed) with an interior length of 72.0 inches or more for vehicles above 9,899 pounds GVWR with a work factor above 5,000 pounds. A covered box not readily accessible from the passenger

compartment will be considered an open cargo area for purposes of this definition.

(v) Is equipped with an open cargo area of 94.0 inches in interior length or more for vehicles at or below 9,899 pounds GVWR and for vehicles with a work factor at or below 5,000 pounds.

Medium-duty vehicle means any heavy-duty vehicle subject to standards under this subpart, excluding medium-duty passenger vehicles. This definition generally applies only for model year 2027 and later vehicles.

* * * * *

Normal operation means any vehicle operating modes meeting all the following conditions:

(1) Any engine and vehicle settings that are within the physically adjustable range for any adjustable parameters.

(2) Any operator demand that is allowable for engine and vehicle calibrations that are available to the operator for vehicle operation within the manufacturer’s specifications fuel and load (GVWR and GCWR).

(3) Any ambient conditions during any season for operation on public roads in the United States.

* * * * *

Rechargeable Energy Storage System (RESS) has the meaning given in 40 CFR 1065.1001. For electric vehicles and hybrid electric vehicles, this may also be referred to as a Rechargeable Electrical Energy Storage System.

* * * * *

Revoke has the meaning given in 40 CFR 1068.30.

* * * * *

Supplemental FTP (SFTP) means the test procedures designed to measure emissions during aggressive and microtransient driving over the US06 cycle and during driving while the vehicle’s air conditioning system is operating over the SC03 cycle as described in § 86.1811–17.

Suspend has the meaning given in 40 CFR 1068.30.

* * * * *

Tier 4 means relating to the Tier 4 emission standards described in §§ 86.1811–27. Note that a Tier 4 vehicle continues to be subject to Tier 3 evaporative emission standards.

* * * * *

United States has the meaning given in 40 CFR 1068.30.

* * * * *

Void has the meaning given in 40 CFR 1068.30.

* * * * *

§§ 86.1805–04 and 86.1805–12 [Removed]

■ 28. Remove §§ 86.1805–04 and 86.1805–12.

■ 29. Amend § 86.1805–17 by revising paragraphs (c) and (d) and removing paragraph (f). The revisions read as follows:

§ 86.1805–17 Useful life.

* * * * *

(c) *Cold temperature emission standards.* The cold temperature NMHC emission standards in § 86.1811–17 apply for a useful life of 10 years or 120,000 miles for LDV and LLDT, and 11 years or 120,000 miles for HLDT and HDV. The cold temperature CO emission standards in § 86.1811 apply for a useful life of 5 years or 50,000 miles.

(d) *Criteria pollutants.* The useful life provisions of this paragraph (d) apply for all emission standards not covered by paragraph (b) or (c) of this section. This paragraph (d) applies for the cold temperature emission standards in § 86.1811–27(c). Except as specified in paragraph (f) of this section and in §§ 86.1811, 86.1813, and 86.1816, the useful life for LDT2, HLDT, MDPV, and HDV is 15 years or 150,000 miles. The useful life for LDV and LDT1 is 10 years or 120,000 miles. Manufacturers may optionally certify LDV and LDT1 to a useful life of 15 years or 150,000 miles, in which case the longer useful life would apply for all the standards and requirements covered by this paragraph (d).

* * * * *

§ 86.1806–05 [Removed]

■ 30. Remove § 86.1806–05.

■ 31. Amend § 86.1806–17 by revising paragraphs (b)(4)(ii) and (e) to read as follows:

§ 86.1806–17 Onboard diagnostics.

* * * * *

(b) * * *

(4) * * *

(ii) Design your vehicles to display information related to engine derating and other inducements in the cab as specified in 40 CFR 1036.110(c)(1).

* * * * *

(e) Onboard diagnostic requirements apply for alternative-fuel conversions as described in 40 CFR part 85, subpart F.

* * * * *

■ 32. Add § 86.1806–27 to read as follows:

§ 86.1806–27 Onboard diagnostics.

Model year 2027 and later vehicles must have onboard diagnostic (OBD) systems as described in this section. OBD systems must generally detect malfunctions in the emission control system, store trouble codes corresponding to detected malfunctions, and alert operators appropriately.

Vehicles may optionally comply with the requirements of this section instead of the requirements of § 86.1806–17 before model year 2027.

(a) Vehicles must comply with the 2022 OBD requirements adopted for California as described in this paragraph (a). California's 2022 OBD–II requirements are part of Title 13, section 1968.2 of the California Code of Regulations, approved on November 22, 2022 (incorporated by reference, see § 86.1). We may approve your request to certify an OBD system meeting a later version of California's OBD requirements if you demonstrate that it complies with the intent of this section. The following clarifications and exceptions apply for vehicles certified under this subpart:

(1) For vehicles not certified in California, references to vehicles meeting certain California Air Resources Board emission standards are understood to refer to the corresponding EPA emission standards for a given family, where applicable. Use good engineering judgment to correlate the specified standards with the bin standards that apply under this subpart.

(2) Vehicles must comply with OBD requirements throughout the useful life as specified in § 86.1805. If the specified useful life is different for evaporative and exhaust emissions, the useful life specified for evaporative emissions applies for monitoring related to fuel-system leaks and the useful life specified for exhaust emissions applies for all other parameters.

(3) The purpose and applicability statements in 13 CCR 1968.2(a) and (b) do not apply.

(4) The anti-tampering provisions in 13 CCR 1968.2(d)(1.4) do not apply.

(5) The requirement to verify proper alignment between the camshaft and crankshaft described in 13 CCR 1968.2(e)(15.2.1)(C) applies only for vehicles equipped with variable valve timing.

(6) The deficiency provisions described in paragraph (c) of this section apply instead of 13 CCR 1968.2(k).

(7) [Reserved]

(8) Apply thresholds for exhaust emission malfunctions from Tier 4 vehicles based on the thresholds calculated for the corresponding bin standards in the California LEV III program as prescribed for the latest model year in 13 CCR 1968.2(d). For example, for Tier 4 Bin 10 standards, apply the threshold that applies for the LEV standards. For cases involving Tier 4 standards that have no corresponding bin standards from the California LEV III program, use the next highest LEV III

bin. For example, for Tier 4 Bin 50 standards, apply the threshold that applies for the ULEV standards. You may apply thresholds that are more stringent than we require under this paragraph (a)(8).

(9) Apply thresholds as specified in 40 CFR 1036.110(b)(5) for engines certified to emission standards under 40 CFR part 1036.

(b) For vehicles with installed compression-ignition engines that are subject to standards and related requirements under 40 CFR 1036.104 and 1036.111, you must comply with the following additional requirements:

(1) Make parameters related to engine derating and other inducements available for reading with a generic scan tool as specified in 40 CFR 110(b)(9)(vi).

(2) Design your vehicles to display information related to engine derating and other inducements in the cab as specified in 40 CFR 1036.110(c)(1).

(c) You may ask us to accept as compliant a vehicle that does not fully meet specific requirements under this section. Such deficiencies are intended to allow for minor deviations from OBD standards under limited conditions. We expect vehicles to have functioning OBD systems that meet the objectives stated in this section. The following provisions apply regarding OBD system deficiencies:

(1) Except as specified in paragraph (d) of this section, we will not approve a deficiency that involves the complete lack of a major diagnostic monitor, such as monitors related to exhaust aftertreatment devices, oxygen sensors, air-fuel ratio sensors, NO_x sensors, engine misfire, evaporative leaks, and diesel EGR (if applicable).

(2) We will approve a deficiency only if you show us that full compliance is infeasible or unreasonable considering any relevant factors, such as the technical feasibility of a given monitor, or the lead time and production cycles of vehicle designs and programmed computing upgrades.

(3) Our approval for a given deficiency applies only for a single model year, though you may continue to ask us to extend a deficiency approval in renewable one-year increments. We may approve an extension if you demonstrate an acceptable level of effort toward compliance and show that the necessary hardware or software modifications would pose an unreasonable burden.

(d) For alternative-fuel vehicles, manufacturers may request a waiver from specific requirements for which monitoring may not be reliable for operation with the alternative fuel. However, we will not waive

requirements that we judge to be feasible for a particular manufacturer or vehicle model.

(e) OBD-related requirements for alternative-fuel conversions apply as described in 40 CFR part 85, subpart F.

(f) You may ask us to waive certain requirements in this section for emergency vehicles. We will approve your request for an appropriate duration if we determine that the OBD requirement in question could harm system performance in a way that would impair a vehicle's ability to perform its emergency functions.

(g) The following interim provisions describe an alternate implementation schedule for the requirements of this section in certain circumstances:

(1) Manufacturers may delay complying with all the requirements of this section, and instead meet all the requirements that apply under § 86.1806–17 for any vehicles above 6,000 pounds GVWR that are not yet subject to all the Tier 4 standards in § 86.1811.

(2) Except as specified in this paragraph (g)(2), small-volume manufacturers may delay complying with all the requirements of this section until model year 2030, and instead meet all the requirements that apply under § 86.1806–17 during those years.

(3) Manufacturers may disregard the requirements of this section that apply above 8,500 pounds GVWR before model year 2019 and instead meet all the requirements that apply under § 86.1806–05. This also applies for model year 2019 vehicles from a test group with vehicles that have a Job 1 date on or before March 3, 2018 (see 40 CFR 85.2304).

(h) Manufacturers must meet the following requirements to monitor PM filters installed on vehicles with spark-ignition engines:

(1) For vehicles that have hardware dedicated to active regeneration strategies, such as secondary air or fuel injection or burners in the exhaust stream, monitor those systems for proper performance. Meet requirements for comprehensive monitoring in 13 CCR 1968.2(e)(15) for injectors, valves, sensors, pumps, and other individual components associated with such active regeneration systems.

(2) Systems must detect malfunctions as follows:

(i) The system must detect a malfunction before filtering decreases to the point that PM emissions exceed 10 mg/mile over the FTP. If there is no failure or deterioration of the PM filter that could cause a vehicle to exceed the specified PM emission level, the system must detect a malfunction if the PM

filter allows free flow of exhaust through the PM filter assembly where 30 percent or less of the normal filtration is occurring; this may occur if someone tampers with the PM filter assembly by damaging it or replacing it with a straight pipe or if the PM filter substrate degrades to allow exhaust gases to bypass the filter.

(ii) The system must detect a malfunction before PM filter regeneration frequency increases to the point that HC, CO, or NO_x emissions exceed 1.5 times the applicable FTP standard. If there is no failure or deterioration that could cause a vehicle to exceed the specified emission level, the system must detect a malfunction when PM filter regeneration frequency exceeds the manufacturer's specified design limits for allowable regeneration frequency.

(iii) The system must detect a malfunction if regeneration does not properly restore the PM filter when regeneration is designed to occur based on the manufacturer's specified conditions.

(3) Manufacturers must define monitoring conditions for malfunctions under paragraph (h)(2) of this section in accordance with 13 CCR 1968.2(d)(3.1) and (d)(3.2), except that monitoring of malfunctions under paragraph (h)(2)(i) and (ii) of this section must occur every time the monitoring conditions are met during the driving cycle. The required minimum ratio for gasoline particulate filters is 0.150. Manufacturers must track and report the in-use performance of PM filter monitors in accordance with 13 CCR 1968.2(d)(3.2.2). Separately track all monitors detecting malfunctions and report malfunctions as a single set of values as specified in 13 CCR 1968.2(d)(5.2.1)(B), except that manufacturers may need to report malfunctions separately for vehicles using SAE J1979–2 as specified in 13 CCR 1968.2(d)(5.1.3) and (5.2.2).

(4) Manufacturers must meet general requirements for MIL illumination and fault code storage for all the malfunctions in paragraph (h)(2) of this section in accordance with 13 CCR 1968.2(d)(2).

§ 86.1807–01 [Amended]

■ 33. Amend § 86.1807–01 by removing and reserving paragraph (d).

§ 86.1808–01 [Amended]

■ 34. Amend § 86.1808–01 by removing and reserving paragraph (e).

§ 86.1809–01 and 86.1809–10 [Removed]

■ 35. Remove §§ 86.1809–01 and 86.1809–10.

■ 36. Revise § 86.1809–12 to read as follows:

§ 86.1809–12 Prohibition of defeat devices.

(a) No new vehicle shall be equipped with a defeat device.

(b) EPA may test or require testing on any vehicle at a designated location, using driving cycles and conditions that may reasonably be expected to be encountered in normal operation and use, for the purposes of investigating a potential defeat device.

(c) For cold temperature CO, NMHC, and NMOG+NO_x emission control, EPA will use a guideline to determine the appropriateness of the CO emission control and the NMHC or NMOG+NO_x emission control at ambient temperatures between 25 °F (the upper bound of the range for cold temperature testing) and 68 °F (the lower bound of the FTP test temperature range). The guideline for CO and NMOG+NO_x emission congruity across the intermediate temperature range is the linear interpolation between the CO or NMOG+NO_x standard applicable at 25 °F and the corresponding standard applicable at 68 °F. The guideline for NMHC emission congruity across the intermediate temperature range is the linear interpolation between the NMHC FEL pass limit (e.g., 0.3499 g/mi for a 0.3 g/mi FEL) applicable at 20 °F and the Tier 2 NMOG standard or the Tier 3 or Tier 4 NMOG+NO_x bin standard to which the vehicle was certified at 68 °F, where the intermediate temperature NMHC level is rounded to the nearest 0.01 g/mile for comparison to the interpolated line. The following provisions apply for vehicles that exceed the specified emission guideline during intermediate temperature testing:

(1) If the CO emission level is greater than the 20 °F emission standard, the vehicle will automatically be considered to be equipped with a defeat device without further investigation. If the intermediate temperature NMHC or NMOG+NO_x emission level, rounded to the nearest 0.01 g/mile or the nearest 10 mg/mile, is greater than the 20 °F FEL pass limit, the vehicle will be presumed to have a defeat device unless the manufacturer provides evidence to EPA's satisfaction that the cause of the test result in question is not due to a defeat device.

(2) If the conditions in paragraph (c)(1) of this section do not apply, EPA may investigate the vehicle design for the presence of a defeat device under paragraph (d) of this section.

(d) The following provisions apply for vehicle designs EPA designates for investigation as possible defeat devices:

(1) The manufacturer must show to EPA's satisfaction that the vehicle design does not incorporate strategies that unnecessarily reduce emission

control effectiveness exhibited during the certification test procedures specified in this subpart, the fuel economy test procedures in 40 CFR part 600, or the air conditioning efficiency test in 40 CFR 1066.845, when the vehicle is operated under conditions that may reasonably be expected to be encountered in normal operation and use.

(2) EPA has determined that it is not necessary for spark-ignition engines that control air-fuel ratios at or near stoichiometry to use commanded enrichment to maintain power or to protect the engine or its aftertreatment components from damage. This determination is effective for all vehicles certified to Tier 4 standards. This paragraph (d)(2) does not apply for the following examples of commanded enrichment:

- (i) Engine starting.
 - (ii) Catalyst rewetting after deceleration fuel cutoff.
 - (iii) Limp-home operation when the check engine light is on.
 - (iv) Intrusive OBD monitoring.
- (3) The following information requirements apply:

(i) Upon request by EPA, the manufacturer must provide an explanation containing detailed information regarding test programs, engineering evaluations, design specifications, calibrations, on-board computer algorithms, and design strategies incorporated for operation both during and outside of the Federal emission test procedures.

(ii) For purposes of investigation of possible cold temperature CO, NMHC, or NMOG+NO_x defeat devices under this paragraph (d), the manufacturer must provide an explanation to show to EPA's satisfaction that CO emissions and NMHC or NMOG+NO_x emissions are reasonably controlled in reference to the linear guideline across the intermediate temperature range.

(e) For each test group the manufacturer must submit an engineering evaluation with the Part II certification application demonstrating

to EPA's satisfaction that a discontinuity in emissions of non-methane organic gases, particulate matter, carbon monoxide, carbon dioxide, oxides of nitrogen, nitrous oxide, methane, and formaldehyde measured on the Federal Test Procedure (40 CFR 1066.801(c)(1)) and on the Highway Fuel Economy Test Procedure (40 CFR 1066.801(c)(5)) does not occur in the temperature range of 20 to 86 °F.

■ 37. Amend § 86.1810–17 by revising paragraphs (g) and (h)(1) to read as follows:

§ 86.1810–17 General requirements.

* * * * *

(g) The cold temperature standards in this subpart refer to test procedures set forth in subpart C of this part and 40 CFR part 1066, subpart H. All other emission standards in this subpart rely on test procedures set forth in subpart B of this part and 40 CFR part 1066, subpart H. These procedures rely on the test specifications in 40 CFR parts 1065 and 1066 as described in subparts B and C of this part.

(h) * * *

(1) For criteria exhaust emissions, we may identify the worst-case fuel blend for testing in addition to what is required for gasoline-fueled vehicles. The worst-case fuel blend may be the fuel specified in 40 CFR 1065.725, or it may consist of a combination of the fuels specified in 40 CFR 1065.710(b) and 1065.725. We may waive testing with the worst-case blended fuel for US06 and/or SC03 duty cycles; if we waive only SC03 testing for Tier 3 vehicles, substitute the SC03 emission result using the standard test fuel for gasoline-fueled vehicles to calculate composite SFTP emissions.

* * * * *

■ 38. Amend § 86.1811–17 by revising paragraphs (b)(8)(iii)(B), (d) introductory text, and (g)(2)(ii) to read as follows:

§ 86.1811–17 Exhaust emission standards for light-duty vehicles, light-duty trucks and medium-duty passenger vehicles.

* * * * *

(b) * * *
(8) * * *
(iii) * * *

(B) You may continue to use the E0 test fuel specified in § 86.113 as described in 40 CFR 600.117.

* * * * *

(d) *Special provisions for Otto-cycle engines.* The following special provisions apply for vehicles with Otto-cycle engines:

* * * * *

(g) * * *
(2) * * *

(ii) The manufacturer must calculate its fleet average cold temperature NMHC emission level(s) as described in § 86.1864–10(b).

* * * * *

■ 39. Add § 86.1811–27 to read as follows:

§ 86.1811–27 Criteria exhaust emission standards.

(a) *Applicability and general provisions.* This section describes criteria exhaust emission standards that apply for model year 2027 and later vehicles.

(1) A vehicle meeting all the requirements of this section is considered a Tier 4 vehicle meeting the Tier 4 standards.

(2) See § 86.1813 for evaporative and refueling emission standards.

(3) See § 86.1818 for greenhouse gas emission standards.

(b) *Exhaust emission standards over bin driving cycles.* Exhaust emissions may not exceed standards over bin driving cycles, as follows:

(1) Measure emissions using the chassis dynamometer procedures of 40 CFR part 1066, as follows:

(i) Establish appropriate load settings based on loaded vehicle weight for light-duty program vehicles and adjusted loaded vehicle weight for medium-duty vehicles (see § 86.1803).

(ii) Emission standards under this paragraph (b) apply for all the following driving cycles unless otherwise specified:

The driving cycle . . .	is identified in . . .
(A) FTP	40 CFR 1066.801(c)(1).
(B) US06	40 CFR 1066.801(c)(2).
(C) SC03	40 CFR 1066.801(c)(3).
(D) HFET	40 CFR 1066.801(c)(5).
(E) ACC II—Mid-temperature intermediate soak	40 CFR 1066.801(c)(8).
(F) ACC II—Early driveway	40 CFR 1066.801(c)(9).
(G) ACC II High-load PHEV engine starts	40 CFR 1066.801(c)(10).

(iii) Hydrocarbon emission standards are expressed as NMOG; however, for certain vehicles you may measure

exhaust emissions based on nonmethane hydrocarbon instead of

NMOG as described in 40 CFR 1066.635.

(iv) Measure emissions from hybrid electric vehicles (including plug-in hybrid electric vehicles) as described in 40 CFR part 1066, subpart F, except that

these procedures do not apply for plug-in hybrid electric vehicles during charge-depleting operation.

(2) Fully phased-in standards apply as specified in the following table:

TABLE 1 TO PARAGRAPH (b)(2)—FULLY PHASED-IN TIER 4 CRITERIA EXHAUST EMISSION STANDARDS

	NMOG+NO _x (mg/mile) ^a	PM (mg/mile) ^b	CO (g/mile) ^c	Formaldehyde (mg/mile) ^d
Light-duty program vehicles	12	0.5	1.7	4
Medium-duty vehicles	60	0.5	3.2	6

^a The NMOG+NO_x standards apply on a fleet-average basis using discrete bin standards as described in paragraphs (b)(4) and (6) of this section. The specified fleet-average standards apply for model year 2032 and later vehicles; see paragraph (b)(6) of this section for fleet-average NMOG+NO_x standards that apply for model years 2027 through 2031.

^b PM standards under this paragraph (b) apply only for the FTP and US06 driving cycles.

^c CO standards do not apply for the ACC II driving cycles specified in paragraph (b)(1)(ii)(E) through (G) of this section.

^d Formaldehyde standards apply only for the FTP driving cycle.

(3) The FTP standards specified in this paragraph (b) apply equally for testing at low-altitude conditions and high-altitude conditions. The US06, SC03, and HFET standards apply only for testing at low-altitude conditions.

(4) The NMOG + NO_x emission standard is based on a fleet average for a given model year.

(i) You must specify a family emission limit (FEL) for each test group based on the FTP emission standard corresponding to each named bin. The FEL serves as the emission standard for the test group with respect to all

specified driving cycles. Calculate your fleet-average emission level as described in § 86.1860 to show that you meet the specified fleet-average standard. For multi-fueled vehicles, calculate fleet-average emission levels based only on emission levels for testing with gasoline or diesel fuel. You may generate emission credits for banking and trading, and you may use banked or traded credits as described in § 86.1861 for demonstrating compliance with the NMOG + NO_x fleet-average emission standard. You comply with the fleet-average emission standard for a given

model year if you have enough credits to show that your fleet-average emission level is at or below the applicable standard.

(ii) Select one of the identified values from table 2 of this section for demonstrating that your fleet-average emission level complies with the NMOG+NO_x fleet-average emission standard. These FEL values define emission bins that also determine corresponding emission standards for NMOG+NO_x emission standards for ACC II driving cycles, as follows:

TABLE 2 TO PARAGRAPH (b)(4)(ii)—TIER 4 NMOG+NO_x BIN STANDARDS
[mg/mile]

FEL name	FTP, US06, SC03, HFET	ACC II—Mid- temperature intermediate soak (3–12 hours)	ACC II—Mid- temperature intermediate soak (40 minutes) ^a	ACC II—Mid- temperature intermediate soak (10 minutes)	ACC II—Early driveaway ^b	ACC II—High- power PHEV engine starts ^{b,c}
Bin 160 ^d	160	.....	.....	.....	.....	.....
Bin 125 ^d	125	.....	.....	.....	.....	.....
Bin 70	70	70	54	35	82	200
Bin 60	60	60	46	30	72	175
Bin 50	50	50	38	25	62	150
Bin 40	40	40	31	20	52	125
Bin 30	30	30	23	15	42	100
Bin 20	20	20	15	10	32	67
Bin 10	10	10	8	5	22	34
Bin 0	0	0	0	0	0	.....

^a Calculate the bin standard for a soak time between 10 and 40 minutes based on a linear interpolation between the corresponding bin values for a 10-minute soak and a 40-minute soak. Similarly, calculate the bin standard for a soak time between 40 minutes and 3 hours based on a linear interpolation between the corresponding bin values for a 40-minute soak and a 3-hour soak.

^b Qualifying vehicles are exempt from standards for early driveaway and high-power PHEV engine starts as described in paragraph (b)(5) of this section.

^c Alternative standards apply for high-power PHEV engine starts for model years 2027 and 2028 as described in paragraph (b)(6)(v) of this section.

^d Bin 160 and Bin 125 apply only for medium-duty vehicles.

(5) Qualifying vehicles are exempt from certain ACC II bin standards as follows:

(i) Vehicles are exempt from the ACC II bin standards for early driveaway if the vehicle prevents engine starting during the first 20 seconds of a cold-start FTP test interval and the vehicle

does not use an electrically heated catalyst or other technology to precondition the engine or emission controls such that NMOG+NO_x emissions would be higher during the first 505 seconds of the early driveaway driving cycle compared to the first 505

seconds of the conventional FTP driving cycle.

(ii) Vehicles are exempt from the ACC II bin standards for high-power PHEV engine starts if their all-electric range on the cold-start US06 driving cycles is at or above 10 miles for model years 2027

and 2028, and at or above 40 miles for model year 2029 and later.

(6) The Tier 4 standards phase in over several years, as follows:

(i) *NMOG+NO_x fleet average standards for light-duty program vehicles.* Include all light-duty program vehicles at or below 6,000 pounds GVWR in the calculation to comply with the Tier 4 fleet average NMOG+NO_x standard. You must meet all the other Tier 4 requirements with 40 and 80 percent of your projected nationwide sales in model years 2027 and 2028, respectively. A vehicle counts toward meeting the phase-in percentage only if it meets all the requirements of this section. NMOG+NO_x fleet average standards apply as follows for model year 2027 through 2031 light-duty program vehicles:

TABLE 3 TO PARAGRAPH (b)(6)(i)—DECLINING FLEET AVERAGE NMOG+NO_x STANDARDS FOR LIGHT-DUTY PROGRAM VEHICLES

Model year	Fleet average NMOG+NO _x standard (mg/mile)
2027	22
2028	20
2029	18
2030	16
2031	14

(ii) *Default phase-in for vehicles above 6,000 pounds GVWR.* The default approach for phasing in the Tier 4 standards for vehicle above 6,000 pounds GVWR is for all those vehicles to meet the Tier 4 standards of this section starting in model year 2030. Manufacturers using this default phase-in for medium-duty vehicles may not use credits generated from Tier 3 medium-duty vehicles for demonstrating compliance with the Tier 4 NMOG+NO_x standards under this paragraph (b).

(iii) *Alternative early phase-in for vehicles above 6,000 pounds GVWR.* Manufacturers may use the following alternative early phase-in provisions to transition to the Tier 4 exhaust emission standards on an earlier schedule for vehicles above 6,000 pounds GVWR.

(A) If you select the alternative early phase-in for light-duty program vehicles above 6,000 pounds GVWR, you must demonstrate that you meet the phase-in requirements in paragraph (b)(6)(i) of this section based on all your light-duty program vehicles.

(B) If you select the alternative early phase-in for medium-duty vehicles, include all medium-duty vehicles at or below 22,000 pounds GVWR in the

calculation to comply with the Tier 4 fleet average NMOG+NO_x standard. You must meet all the other Tier 4 requirements with 40 and 80 percent of a manufacturer's projected nationwide sales in model years 2027 and 2028, respectively. A vehicle counts toward meeting the phase-in percentage only if it meets all the requirements of this section. Medium-duty vehicles complying with the alternative early phase-in are subject to the following NMOG+NO_x fleet-average standards for model years 2027 through 2031:

TABLE 4 TO PARAGRAPH (b)(6)(iii)(B)—DECLINING FLEET AVERAGE NMOG+NO_x STANDARDS FOR MEDIUM-DUTY VEHICLES

Model year	Fleet average NMOG+NO _x standard (mg/mile)
2027	160
2028	140
2029	120
2030	100
2031	80

(iv) *Interim Tier 4 vehicles.* Vehicles not meeting all the requirements of this section during the phase-in are considered “interim Tier 4 vehicles”. Interim Tier 4 vehicles are subject to all the requirements of this subpart that apply for Tier 3 vehicles except for the fleet average NMOG+NO_x standards in §§ 86.1811–17 and 86.1816–18. Interim Tier 4 vehicles may certify using all available NMOG+NO_x bins under §§ 86.1811–17 and 86.1816–18. Note that manufacturers complying with the default phase-in specified in paragraph (b)(6)(ii) of this section for vehicles above 6,000 pounds GVWR will need to meet a Tier 3 fleet average NMOG+NO_x standard in model years 2027 through 2029, in addition to the Tier 4 fleet average for vehicles at or below 6,000 pounds GVWR in those same years.

(v) *Phase-in for high-power PHEV engine starts.* The following bin standards apply for high-power PHEV engine starts in model years 2027 and 2028 instead of the analogous standards specified in paragraph (b)(4)(ii) of this section:

TABLE 5 TO PARAGRAPH (b)(6)(v)—MODEL YEAR 2027 AND 2028 BIN STANDARDS FOR HIGH-POWER PHEV ENGINE STARTS

FEL name	ACC II—High-power PHEV engine starts (mg/mile)
Bin 70	320
Bin 60	280
Bin 50	240
Bin 40	200
Bin 30	150
Bin 20	100
Bin 10	50

(vi) *MDPV.* Any vehicle that becomes an MDPV as a result of the revised definition in § 86.1803 starting in model 2027 remains subject to the heavy-duty Tier 3 standards in § 86.1816–18 under the default phase-in specified in paragraph (b)(6)(ii) of this section for model years 2027 through 2029.

(vii) Keep records as needed to show that you meet the requirements specified in this paragraph (b) for phasing in standards and for complying with declining fleet-average average standards.

(c) *Exhaust emission standards for cold temperature testing.* Exhaust emissions may not exceed standards for cold temperature testing, as follows:

(1) Measure emissions as described in paragraph (b)(1) of this section, but use the driving cycle identified in 40 CFR 1066.801(c)(5).

(2) The standards apply to gasoline-fueled and diesel-fueled vehicles, except as specified. Multi-fuel, bi-fuel or dual-fuel vehicles must comply with requirements using only gasoline and diesel fuel, as applicable. Testing with other fuels such as a high-level ethanol-gasoline blend is not required.

(3) Vehicles must meet the following standards:

(i) The NMOG+NO_x fleet-average standard is a 300 mg/mile. Calculate fleet-average emission levels as described in § 86.1864.

(ii) The PM standard is 0.5 mg/mile.

(iii) The CO standard is 10.0 g/mile.

(4) The CO standard applies at both low-altitude and high-altitude conditions. The NMOG+NO_x and PM standards apply only at low-altitude conditions. However, manufacturers must submit an engineering evaluation indicating that common calibration approaches are utilized at high altitudes. Any deviation from low altitude emission control practices must be included in the auxiliary emission control device (AECD) descriptions submitted at certification. Any AECD

specific to high altitude must require engineering emission data for EPA evaluation to quantify any emission impact and validity of the AECD.

(d) *Special provisions for spark-ignition engines.* The following A/C-on specific calibration provisions apply for vehicles with spark-ignition engines:

(1) A/C-on specific calibrations (e.g., air-fuel ratio, spark timing, and exhaust gas recirculation) that differ from A/C-off calibrations may be used for a given set of engine operating conditions (e.g., engine speed, manifold pressure, coolant temperature, air charge temperature, and any other parameters). Such calibrations must not unnecessarily reduce emission control effectiveness during A/C-on operation when the vehicle is operated under conditions that may reasonably be expected during normal operation and use. If emission control effectiveness decreases as a result of such calibrations, the manufacturer must describe in the Application for Certification the circumstances under which this occurs and the reason for using these calibrations.

(2) For AECs involving commanded enrichment, these AECs must not operate differently for A/C-on operation than for A/C-off operation. This includes both the sensor inputs for triggering enrichment and the degree of enrichment employed.

■ 40. Amend § 86.1813–17 by revising paragraphs (a)(2)(i) introductory text, (b)(1)(i), and (g)(2)(ii)(B) to read as follows:

§ 86.1813–17 Evaporative and refueling emission standards.

* * * * *

(a) * * *

(2) * * *

(i) The emission standard for the sum of diurnal and hot soak measurements from the two-diurnal test sequence and the three-diurnal test sequence is based on a fleet average in a given model year. You must specify a family emission limit (FEL) for each evaporative family. The FEL serves as the emission standard for the evaporative family with respect to all required diurnal and hot soak testing. Calculate your fleet-average emission level as described in § 86.1860 based on the FEL that applies for low-altitude testing to show that you meet the specified standard. For multi-fueled vehicles, calculate fleet-average emission levels based only on emission levels for testing with gasoline. You may generate emission credits for banking and trading, and you may use banked or traded credits for demonstrating compliance with the diurnal plus hot soak emission standard for vehicles

required to meet the Tier 3 standards, other than gaseous-fueled or electric vehicles, as described in § 86.1861 starting in model year 2017. You comply with the emission standard for a given model year if you have enough credits to show that your fleet-average emission level is at or below the applicable standard. You may exchange credits between or among evaporative families within an averaging set as described in § 86.1861. Separate diurnal plus hot soak emission standards apply for each evaporative/refueling emission family as shown for high-altitude conditions. The sum of diurnal and hot soak measurements may not exceed the following Tier 3 standards:

* * * * *

(b) * * *

(1) * * *

(i) Refueling standards apply starting with model year 2027 for incomplete vehicles certified under 40 CFR part 1037 and in model year 2030 for incomplete vehicles certified under this subpart, unless the manufacturer complies with the alternate phase-in specified in paragraph (b)(1)(iii) of this section. If you do not meet the alternative phase-in requirement for model year 2026, you must certify all your incomplete heavy-duty vehicles above 14,000 pounds GVWR to the refueling standard in model year 2027.

(ii) Refueling standards are optional for incomplete heavy-duty vehicles at or below 14,000 pounds GVWR through model year 2029, unless the manufacturer uses the alternate phase-in specified in paragraph (b)(1)(iii) of this section to meet standards together for heavy-duty vehicles above and below 14,000 pounds GVWR.

* * * * *

(g) * * *

(2) * * *

(ii) * * *

(B) All the vehicles meeting the leak standard must also meet the Tier 3 evaporative emission standards. Through model year 2026, all vehicles meeting the leak standard must also meet the OBD requirements in § 86.1806–17(b)(1).

* * * * *

■ 41. Add § 86.1815 to read as follows:

§ 86.1815 Battery-related requirements for electric vehicles and plug-in hybrid electric vehicles.

Electric vehicles and plug-in hybrid electric vehicles must meet requirements related to batteries serving as a Rechargeable Energy Storage System from GTR No. 22 (incorporated by reference, see § 86.1). The requirements of this section apply

starting in model year 2027 for vehicles at or below 6,000 pounds GVWR. These requirements apply vehicles above 6,000 pounds GVWR if they are certified to Tier 4 NMOG+NO_x standards under § 86.1811–27, not later than model year 2030. The following clarifications and adjustments to GTR No. 22 apply for vehicles subject to this section:

(a) Manufacturers must install a customer-accessible display that monitors, estimates, and communicates the vehicle's State of Certified Energy (SOCE) and include information in the application for certification as described in § 86.1844. Manufacturers that qualify as small businesses under § 86.1801–12(j)(1) must meet the requirements of this paragraph (a) but are not subject to the requirements in paragraphs (c) through (g) of this section; however, small businesses may trade credits they generate from electric vehicles and plug-in hybrid electric vehicles for a given model year only if they meet requirements in paragraphs (c) through (g) of this section.

(b) Requirements in GTR No. 22 related to State of Certified Range do not apply.

(c) Evaluate SOCE for electric vehicles based on measured Useable Battery Energy (UBE) values over the Multi-Cycle Range and Energy Consumption Test described in 40 CFR 600.116–12(a). For medium-duty vehicles, perform testing with test weight set to Adjusted Loaded Vehicle Weight. Use good engineering judgment to evaluate SOCE for plug-in hybrid electric vehicles using the procedures specified in 40 CFR 600.116–12.

(d) In-use vehicles must display SOCE values that are accurate within 5 percent of measured values as calculated in GTR No. 22.

(e) Batteries installed in light-duty program vehicles must meet a Minimum Performance Requirement such that measured usable battery energy is at least 80 percent of the vehicle's certified usable battery energy after 5 years or 62,000 miles, and at least 70 percent of certified usable battery energy at 8 years or 100,000 miles.

(f) Manufacturers must perform testing and submit reports as follows:

(1) Perform Part A testing to verify that SOCE monitors meet accuracy requirements as described in § 86.1845. Test the number of vehicles and determine a pass or fail result as specified in Section 6.3 of GTR No. 22.

(2) Perform Part B verification for each battery durability family included in a monitor family subject to Part A testing to verify that batteries have SOCE meeting the Minimum Performance Requirement. Determine

performance by reading SOCE monitors with a physical inspection, remote inspection using wireless technology, or any other appropriate means.

(i) Randomly select test vehicles from at least 10 different U.S. states or territories, with no more than 20 percent of selected vehicles coming from any one state or territory. Select vehicles to represent a wide range of climate conditions and operating characteristics.

(ii) Select at least 500 test vehicles per year from each battery durability family, except that we may approve your request to select fewer vehicles for a given battery durability family based on limited production volumes. If you test fewer than 500 vehicles, you may exclude up to 5 percent of the tested vehicles to account for the limited sample size. Test vehicles may be included from year to year, or test vehicles may change over the course of testing for the battery durability family.

(iii) A battery durability family passes if 90 percent or more of sampled vehicles have reported values above the Minimum Performance Requirement.

(iv) Continue testing for eight years after the end of production for vehicles included in the battery durability family. Note that testing will typically require separate testing from multiple model years in a given calendar year.

(3) You may request our approval to group monitors and batteries differently, or to adjust testing specifications. Submit your request with your proposed alternative specifications, along with technical justification. In the case of broadening the scope of a monitor family, include data demonstrating that differences within the proposed monitor family do not cause error in estimating SOCE.

(4) Submit electronic reports to document the results of testing as described in § 86.1847.

(g) If vehicles do not comply with monitor accuracy requirements under this section, the recall provisions in 40 CFR part 85, subpart S, apply for each affected monitor family. If vehicles do not comply with battery durability requirements under this section, the manufacturer must adjust all credit

balances to account for the nonconformity (see § 86.1850–01).

■ 42. Amend § 86.1818–18 by revising paragraph (a) introductory text to read as follows:

§ 86.1816–18 Emission standards for heavy-duty vehicles.

(a) *Applicability and general provisions.* This section describes Tier 3 exhaust emission standards for complete heavy-duty vehicles. These standards are optional for incomplete heavy-duty vehicles and for heavy-duty vehicles above 14,000 pounds GVWR as described in § 86.1801. Greenhouse gas emission standards are specified in § 86.1818 for MDPV and in § 86.1819 for other HDV. See § 86.1813 for evaporative and refueling emission standards. This section starts to apply in model year 2018, except that the provisions may apply to vehicles before model year 2018 as specified in paragraph (b)(11) of this section. This section applies for model year 2027 and later vehicles only as specified in § 86.1811–27. Separate requirements apply for MDPV as specified in § 86.1811. See subpart A of this part for requirements that apply for incomplete heavy-duty vehicles and for heavy-duty engines certified independent of the chassis. The following general provisions apply:

* * * * *

§§ 86.1817–05 and 86.1817–08 [Removed]

■ 43. Remove §§ 86.1817–05 and 86.1817–08.

■ 44. Amend § 86.1818–12 by:

■ a. Revising paragraphs (a)(1), (b) introductory text, and (c).

■ b. Removing and reserving paragraph (e).

■ c. Revising paragraphs (f) introductory text, (g) introductory text, (g)(1) introductory text, (g)(2) introductory text, (g)(4)(i)(B), (g)(4)(iv)(B), (g)(5) and (6), and (h).

The revisions read as follows:

§ 86.1818–12 Greenhouse gas emission standards for light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles.

(a) * * *

(1) The greenhouse gas standards and related requirements in this section apply to 2012 and later model year LDV, LDT, and MDPV, including multi-fuel vehicles, vehicles fueled with alternative fuels, hybrid electric vehicles, plug-in hybrid electric vehicles, electric vehicles, and fuel cell vehicles. Unless otherwise specified, multi-fuel vehicles must comply with all requirements established for each consumed fuel. Manufacturers that qualify as a small business according to the requirements of § 86.1801–12(j) are exempt from the emission standards in this section.

* * * * *

(b) *Definitions.* The following definitions apply for this section:

* * * * *

(c) *Fleet average CO₂ standards.* Fleet average CO₂ standards apply as follows for passenger automobiles and light trucks:

(1) Each manufacturer must comply with separate fleet average CO₂ standards for passenger automobiles and light trucks. To calculate the fleet average CO₂ standards for passenger automobiles for a given model year, multiply each CO₂ target value by the production volume of passenger automobiles for the corresponding model type-footprint combination, then sum those products and divide the sum by the total production volume of passenger automobiles in that model year. Repeat this calculation using production volumes of light trucks to determine the separate fleet average CO₂ standards for light trucks. Round the resulting fleet average CO₂ emission standards to the nearest whole gram per mile. Averaging calculations and other compliance provisions apply as described in § 86.1865.

(2) A CO₂ target value applies for each unique combination of model type and footprint. The CO₂ target serves as the emission standard that applies throughout the useful life for each vehicle. Determine the CO₂ target values from the following table, or from paragraph (h) of this section for model year 2031 and earlier vehicles:

TABLE 1 TO PARAGRAPH (C)(2)—FOOTPRINT-BASED CO₂ TARGET VALUES

Vehicle type	Footprint cutpoints (ft ²)		CO ₂ target value (g/mile)		
	Low	High	Below low cutpoint	Between cutpoints ^a	Above high cutpoint
Passenger automobile	45	56	71.8	$0.35 \times f + 56.2$	75.6
Light truck	45	70.0	75.7	$1.38 \times f + 13.8$	110.1

^a Calculate the CO₂ target value for vehicles between the footprint cutpoints as shown, using vehicle footprint, *f*, and rounding the result to the nearest 0.1 g/mile.

* * * * *

(f) *Nitrous oxide (N₂O) and methane (CH₄) exhaust emission standards for passenger automobiles and light trucks.* Each manufacturer's fleet of combined passenger automobiles and light trucks must comply with N₂O and CH₄ standards using either the provisions of paragraph (f)(1), (2), or (3) of this section. Except with prior EPA approval, a manufacturer may not use the provisions of both paragraphs (f)(1) and (2) of this section in a model year. For example, a manufacturer may not use the provisions of paragraph (f)(1) of this section for their passenger automobile fleet and the provisions of paragraph (f)(2) for their light truck fleet in the same model year. The manufacturer may use the provisions of both paragraphs (f)(1) and (3) of this section in a model year. For example, a manufacturer may meet the N₂O standard in paragraph (f)(1)(i) of this section and an alternative CH₄ standard determined under paragraph (f)(3) of this section.

* * * * *

(g) *Alternative fleet average standards for manufacturers with limited sales.* Manufacturers meeting the criteria in this paragraph (g) may request alternative fleet average CO₂ standards for model year 2031 and earlier vehicles.

(1) *Eligibility for alternative standards.* Eligibility as determined in this paragraph (g) shall be based on the total nationwide sales of combined passenger automobiles and light trucks. The terms "sales" and "sold" as used in this paragraph (g) shall mean vehicles produced for sale in the states and territories of the United States. For the purpose of determining eligibility the sales of related companies shall be aggregated according to the provisions of § 86.1838–01(b)(3), or, if a manufacturer has been granted operational independence status under § 86.1838–01(d), eligibility shall be based on that manufacturer's vehicle

sales. To be eligible for alternative standards established under this paragraph (g), the manufacturer's average sales for the three most recent consecutive model years must remain below 5,000. If a manufacturer's average sales for the three most recent consecutive model years exceeds 4999, the manufacturer will no longer be eligible for exemption and must meet applicable emission standards starting with the model year according to the provisions in this paragraph (g)(1).

* * * * *

(2) *Requirements for new entrants into the U.S. market.* New entrants are those manufacturers without a prior record of automobile sales in the United States and without prior certification to greenhouse gas emission standards in § 86.1818–12. In addition to the eligibility requirements stated in paragraph (g)(1) of this section, new entrants must meet the following requirements:

* * * * *

(4) * * *

(i) * * *

(B) Vehicle models and projections of sales volumes for each model year.

* * * * *

(iv) * * *

(B) Information regarding ownership relationships with other manufacturers, including details regarding the application of the provisions of § 86.1838–01(b)(3) regarding the aggregation of sales of related companies.

(5) *Alternative standards.* Alternative standards apply as follows:

(i) Where EPA has exercised its regulatory authority to administratively specify alternative standards, those alternative standards approved for model year 2021 continue to apply through model year 2024. Starting in model year 2025, manufacturers must certify to the standards in paragraph (h) of this section on a delayed schedule, as follows:

In model year . . .	Manufacturers must certify to the standards that would otherwise apply in . . .
(A) 2025	2023
(B) 2026	2023
(C) 2027	2025
(D) 2028	2025
(E) 2029	2027
(F) 2030	2028
(G) 2031	2030

(ii) EPA may approve a request from other manufacturers for alternative fleet average CO₂ standards under this paragraph (g). The alternative standards for those manufacturers will apply by model year as specified in paragraph (g)(5)(i) of this section.

(6) *Restrictions on credit trading.* Manufacturers subject to alternative standards approved by the Administrator under this paragraph (g) may not trade credits to another manufacturer. Transfers between car and truck fleets within the manufacturer are allowed, and the carry-forward provisions for credits and deficits apply. Manufacturers may generate credits in a given model year for trading to another manufacturer by certifying to the standards in paragraph (h) of this section for the current model year across the manufacturer's full product line. A manufacturer certifying to the standards in paragraph (h) of this section will no longer be eligible to certify to the alternative standards under this paragraph (g) in later model years.

(7) Starting in model year 2032, all manufacturers must certify to the standards in paragraph (c) of this section.

(h) *Historical and interim standards.* The following CO₂ target values apply for model year 2031 and earlier vehicles:

(1) CO₂ target values apply as follows for passenger automobiles:

TABLE 2 TO PARAGRAPH (h)(1)—HISTORICAL AND INTERIM CO₂ TARGET VALUES FOR PASSENGER AUTOMOBILES

Model year	Footprint cutpoints (ft ²)		CO ₂ target value (g/mile)		
	Low	High	Below low cutpoint	Between cutpoints ^a	Above high cutpoint
2012	41	56	244.0	$4.72 \times f + 50.5$	315.0
2013	41	56	237.0	$4.72 \times f + 43.3$	307.0
2014	41	56	228.0	$4.72 \times f + 34.8$	299.0
2015	41	56	217.0	$4.72 \times f + 23.4$	288.0
2016	41	56	206.0	$4.72 \times f + 12.7$	277.0
2017	41	56	195.0	$4.53 \times f + 8.9$	263.0
2018	41	56	185.0	$4.35 \times f + 6.5$	250.0
2019	41	56	175.0	$4.17 \times f + 4.2$	238.0
2020	41	56	166.0	$4.01 \times f + 1.9$	226.0
2021	41	56	161.8	$3.94 \times f + 0.2$	220.9

TABLE 2 TO PARAGRAPH (h)(1)—HISTORICAL AND INTERIM CO₂ TARGET VALUES FOR PASSENGER AUTOMOBILES—Continued

Model year	Footprint cutpoints (ft ²)		CO ₂ target value (g/mile)		
	Low	High	Below low cutpoint	Between cutpoints ^a	Above high cutpoint
2022	41	56	159.0	$3.88 \times f - 0.1$	217.3
2023	41	56	145.6	$3.56 \times f - 0.4$	199.1
2024	41	56	138.6	$3.39 \times f - 0.4$	189.5
2025	41	56	130.5	$3.26 \times f - 3.2$	179.4
2026	41	56	114.3	$3.11 \times f - 13.1$	160.9
2027	42	56	130.9	$0.64 \times f + 104.0$	139.8
2028	43	56	114.1	$0.56 \times f + 90.2$	121.3
2029	44	56	96.9	$0.47 \times f + 76.3$	102.5
2030	45	56	89.5	$0.43 \times f + 70.1$	94.2
2031	45	56	81.2	$0.39 \times f + 63.6$	85.5

^a Calculate the CO₂ target value for vehicles between the footprint cutpoints as shown, using vehicle footprint, f , and rounding the result to the nearest 0.1 g/mile.

(2) CO₂ target values apply as follows for light trucks:

TABLE 3 TO PARAGRAPH (h)(2)—HISTORICAL AND INTERIM CO₂ TARGET VALUES FOR LIGHT TRUCKS

Model year	Footprint cutpoints (ft ²)		CO ₂ target value (g/mile)		
	Low	High	Below low cutpoint	Between cutpoints ^a	Above high cutpoint
2012	41	66.0	294.0	$4.04 \times f + 128.6$	395.0
2013	41	66.0	284.0	$4.04 \times f + 118.7$	385.0
2014	41	66.0	275.0	$4.04 \times f + 109.4$	376.0
2015	41	66.0	261.0	$4.04 \times f + 95.1$	362.0
2016	41	66.0	247.0	$4.04 \times f + 81.1$	348.0
2017	41	50.7	238.0	$4.87 \times f + 38.3$	.....
2017	50.8	66.0	.....	$4.04 \times f + 80.5$	347.0
2018	41	60.2	227.0	$4.76 \times f + 31.6$	.....
2018	60.3	66.0	.....	$4.04 \times f + 75.0$	342.0
2019	41	66.4	220.0	$4.68 \times f + 27.7$	339.0
2020	41	68.3	212.0	$4.57 \times f + 24.6$	337.0
2021	41	68.3	206.5	$4.51 \times f + 21.5$	329.4
2022	41	68.3	203.0	$4.44 \times f + 20.6$	324.1
2023	41	74.0	181.1	$3.97 \times f + 18.4$	312.1
2024	41	74.0	172.1	$3.77 \times f + 17.4$	296.5
2025	41	74.0	159.3	$3.58 \times f + 12.5$	277.4
2026	41	74.0	141.8	$3.41 \times f + 1.9$	254.4
2027	42	73.0	133.0	$2.56 \times f + 25.6$	212.3
2028	43	72.0	117.5	$2.22 \times f + 22.2$	181.7
2029	44	71.0	101.0	$1.87 \times f + 18.7$	151.5
2030	45	70.0	94.4	$1.72 \times f + 17.2$	137.3
2031	45	70.0	85.6	$1.56 \times f + 15.6$	124.5

^a Calculate the CO₂ target value for vehicles between the footprint cutpoints as shown, using vehicle footprint, f , and rounding the result to the nearest 0.1 g/mile.

■ 45. Amend § 86.1819–14 by:

■ a. Revising the introductory text and paragraphs (a)(1) and (2), (d)(10)(i), (d)(13), (d)(15)(viii), (d)(17) introductory text, (d)(17)(i), (h), (j) introductory text, and (j)(1).

■ b. Adding paragraph (j)(4).

■ c. Removing and reserving paragraphs (k)(1) through (3).

■ d. Revising paragraphs (k)(4), (5), and (7).

■ e. Removing paragraph (k)(10).

The revisions and addition read as follows:

§ 86.1819–14 Greenhouse gas emission standards for heavy-duty vehicles.

This section describes exhaust emission standards for CO₂, CH₄, and N₂O for medium-duty vehicles. The standards of this section apply for model year 2014 and later vehicles that are chassis-certified with respect to criteria pollutants under this subpart S. Additional heavy-duty vehicles may be subject to the standards of this section as specified in paragraph (j) of this section. Any heavy-duty vehicles not subject to standards under this section

are instead subject to greenhouse gas standards under 40 CFR part 1037, and engines installed in these vehicles are subject to standards under 40 CFR part 1036. If you are not the engine manufacturer, you must notify the engine manufacturer that its engines are subject to 40 CFR part 1036 if you intend to use their engines in vehicles that are not subject to standards under this section. Vehicles produced by small businesses may be exempted from the standards of this section as described in paragraph (k)(5) of this section.

(a) * * *

(1) Calculate a work factor, *WF*, for each vehicle subconfiguration (or group of subconfigurations as allowed under paragraph (a)(4) of this section), rounded to the nearest pound, using the following equation:

$$WF = 0.75 \times (GVWR - \text{Curb Weight} + xwd) + 0.25 \times (GCWR - GVWR)$$

Where:

xwd = 500 pounds if the vehicle has four-wheel drive or all-wheel drive; *xwd* = 0 pounds for all other vehicles.

GCWR = the gross combination weight rating as declared by the manufacturer. Starting in model year 2030, set *GCWR* to 22,000 for any vehicle with *GCWR* above 22,000 pounds.

(2) Using the appropriate work factor, calculate a target value for each vehicle subconfiguration (or group of subconfigurations as allowed under paragraph (a)(4) of this section) you produce using the following equation, or the phase-in provisions in paragraph (k)(4) of this section for model year 2031 and earlier vehicles, rounding to the nearest whole g/mile:

$$CO_2 \text{ Target} = 0.0221 \times WF + 170$$

* * *

(d) * * *

(10) * * *

(i) Use either the conventional-fueled *CO₂* emission rate or a weighted average of your emission results as specified in 40 CFR 600.510–12(k) for light-duty trucks.

* * *

(13) This paragraph (d)(13) applies for *CO₂* reductions resulting from technologies that were not in common use before 2010 that are not reflected in the specified test procedures. While you are not required to prove that such technologies were not in common use with heavy-duty vehicles before model year 2010, we will not approve your request if we determine they do not qualify. These may be described as off-cycle or innovative technologies. Through model year 2026 we may allow you to generate emission credits consistent with the provisions of § 86.1869–12(c) and (d). The 5-cycle methodology is not presumed to be

preferred over alternative methodologies described in § 86.1869–12(d).

* * *

(15) * * *

(viii) Total and percent leakage rates under paragraph (h) of this section (through model year 2026 only).

* * *

(17) You may calculate emission rates for weight increments less than the 500-pound increment specified for test weight. This does not change the applicable test weights.

(i) Use the ADC equation in paragraph (g) of this section to adjust your emission rates for vehicles in increments of 50, 100, or 250 pounds instead of the 500 pound test-weight increments. Adjust emissions to the midpoint of each increment. This is the equivalent emission weight. For example, vehicles with a test weight basis of 11,751 to 12,250 pounds (which have an equivalent test weight of 12,000 pounds) could be regrouped into 100-pound increments as follows:

TABLE 1 TO PARAGRAPH (k)(17)(i)—EXAMPLE OF TEST-WEIGHT GROUPINGS

Test weight basis	Equivalent emission weight	Equivalent test weight
11,751–11,850	11,800	12,000
11,851–11,950	11,900	12,000
11,951–12,050	12,000	12,000
12,051–12,150	12,100	12,000
12,151–12,250	12,200	12,000

* * *

(h) *Air conditioning leakage*. Loss of refrigerant from your air conditioning systems may not exceed a total leakage rate of 11.0 grams per year or a percent leakage rate of 1.50 percent per year, whichever is greater. This applies for all refrigerants. Calculate the total leakage rate in g/year as specified in § 86.1867–12(a). Calculate the percent leakage rate as: [total leakage rate (g/yr)] ÷ [total refrigerant capacity (g)] × 100. Round your percent leakage rate to the nearest one-hundredth of a percent. For purpose of this requirement, “refrigerant capacity” is the total mass of refrigerant recommended by the vehicle manufacturer as representing a full charge. Where full charge is specified as a pressure, use good engineering judgment to convert the pressure and system volume to a mass. The leakage standard in this paragraph (h) no longer applies starting with model year 2027.

* * *

(j) *GHG certification of additional vehicles under this subpart*. You may certify certain complete or cab-complete vehicles to the GHG standards of this section. Starting in model year 2027, certain high-*GCWR* vehicles may also be subject to the GHG standards of this section. All vehicles optionally certified under this paragraph (j) are deemed to be subject to the GHG standards of this section. Note that for vehicles above 14,000 pounds *GVWR* and at or below 26,000 pounds *GVWR*, GHG certification under this paragraph (j) does not affect how you may or may not certify with respect to criteria pollutants.

(1) For GHG compliance, you may certify any complete or cab-complete spark-ignition vehicles above 14,000 pounds *GVWR* and at or below 26,000 pounds *GVWR* to the GHG standards of this section even though this section otherwise specifies that you may certify vehicles to the GHG standards of this

section only if they are chassis-certified for criteria pollutants. Starting in model year 2027, this paragraph (j)(1) also applies for vehicles at or below 14,000 pounds *GVWR* with *GCWR* above 22,000 pounds with installed engines that have been certified under 40 CFR part 1036 as described in 40 CFR 1036.635.

* * *

(4) Vehicles above 22,000 pounds *GCWR* may be subject to the GHG standards of this section as described in 40 CFR 1036.635.

(k) * * *

(4) *Historical and interim standards*. The following *CO₂* target values apply for model year 2031 and earlier vehicles:

(i) *CO₂* target values apply as follows for model years 2014 through 2026, except as specified in paragraph (k)(4)(ii) of this section:

TABLE 2 TO PARAGRAPH (k)(4)(i)—CO₂ TARGET VALUES FOR MODEL YEARS 2014 THROUGH 2026

Model year	CO ₂ target (g/mile)	
	Spark-ignition	Compression-ignition
2014	$0.0482 \times WF + 371$	$0.0478 \times WF + 368$
2015	$0.0479 \times WF + 369$	$0.0474 \times WF + 366$
2016	$0.0469 \times WF + 362$	$0.0460 \times WF + 354$
2017	$0.0460 \times WF + 354$	$0.0445 \times WF + 343$
2018–2020	$0.0440 \times WF + 339$	$0.0416 \times WF + 320$
2021	$0.0429 \times WF + 331$	$0.0406 \times WF + 312$
2022	$0.0418 \times WF + 322$	$0.0395 \times WF + 304$
2023	$0.0408 \times WF + 314$	$0.0386 \times WF + 297$
2024	$0.0398 \times WF + 306$	$0.0376 \times WF + 289$
2025	$0.0388 \times WF + 299$	$0.0367 \times WF + 282$
2026	$0.0378 \times WF + 291$	$0.0357 \times WF + 275$

(ii) The following optional alternative CO₂ target values apply for model years 2014 through 2020:

TABLE 3 TO PARAGRAPH (k)(4)(ii)—ALTERNATIVE CO₂ TARGET VALUES FOR MODEL YEARS 2014 THROUGH 2020

Model year	CO ₂ target (g/mile)	
	Spark-ignition	Compression-ignition
2014	$0.0482 \times WF + 371$	$0.0478 \times WF + 368$
2015	$0.0479 \times WF + 369$	$0.0474 \times WF + 366$
2016–2018	$0.0456 \times WF + 352$	$0.0440 \times WF + 339$
2019–2020	$0.0440 \times WF + 339$	$0.0416 \times WF + 320$

(iii) CO₂ target values apply as follows for all engine types for model years 2027 through 2031:

TABLE 4 TO PARAGRAPH (k)(4)(iii)—CO₂ TARGET VALUES FOR MODEL YEARS 2027 THROUGH 2031

Model year	CO ₂ target (g/mile)
2027	$0.0348 \times WF + 268$
2028	$0.0339 \times WF + 261$
2029	$0.0310 \times WF + 239$
2030	$0.0280 \times WF + 216$
2031	$0.0251 \times WF + 193$

(5) *Provisions for small manufacturers.* Standards apply on a delayed schedule for manufacturers meeting the small business criteria specified in 13 CFR 121.201 (NAICS code 336111); the employee and revenue limits apply to the total number employees and total revenue together for affiliated companies. Qualifying small manufacturers are not subject to the greenhouse gas standards of this section for vehicles with a date of manufacture before January 1, 2022, as specified in 40 CFR 1037.150(c). In addition, small manufacturers producing vehicles that run on any fuel other than gasoline, E85, or diesel fuel may delay complying with every later standard under this part by one model year through model year 2026. For

model year 2027 and later, qualifying small manufacturers remain subject to the model year 2026 greenhouse gas standards; however, small manufacturers may trade emission credits generated in a given model year only by certifying to standards that apply for that model year.

* * * * *

(7) *Advanced-technology credits.* Provisions for advanced-technology credits apply as described in 40 CFR 1037.615. If you generate credits from Phase 1 vehicles certified with advanced technology (in model years 2014 through 2020), you may multiply these credits by 1.50. If you generate credits from model year 2021 through 2026 vehicles certified with advanced technology, you may multiply these

credits by 3.5 for plug-in hybrid electric vehicles, 4.5 for electric vehicles, and 5.5 for fuel cell vehicles. Advanced-technology credits from Phase 1 vehicles may be used to show compliance with any standards of this part or 40 CFR part 1036 or part 1037, subject to the restrictions in 40 CFR 1037.740. Similarly, you may use up to 60,000 Mg per year of advanced-technology credits generated under 40 CFR 1036.615 or 1037.615 (from Phase 1 vehicles) to demonstrate compliance with the CO₂ standards in this section. Include vehicles generating credits in separate fleet-average calculations (and exclude them from your conventional fleet-average calculation). You must first apply these advanced-technology vehicle credits to any deficits for other

vehicles in the averaging set before applying them to other averaging sets.

* * * * *

■ 46. Amend § 86.1820–01 by revising paragraphs (b) introductory text and (b)(7) and adding paragraph (b)(8) to read as follows:

§ 86.1820–01 Durability group determination.

* * * * *

(b) To be included in the same durability group, vehicles must be identical in all the respects listed in paragraphs (b)(1) through (7) of this section and meet one of the criteria specified in paragraph (b)(8) of this section:

* * * * *

(7) Type of particulate filter (none, catalyzed, noncatalyzed).

(8) The manufacturer must choose one of the following two criteria:

(i) Grouping statistic:

(A) Vehicles are grouped based upon the value of the grouping statistic determined using the following equation:

$$GS = [(Cat\ Vol)/(Disp)] \times Loading\ Rate$$

Where:

GS = Grouping Statistic used to evaluate the range of precious metal loading rates and relative sizing of the catalysts compared to the engine displacement that are allowable within a durability group. The grouping statistic shall be rounded to a tenth of a gram/liter.

Cat Vol = Total volume of the catalyst(s) in liters. Include the volume of any catalyzed particulate filters.

Disp = Displacement of the engine in liters.

Loading rate = The mass of total precious metal(s) in the catalyst (or the total mass of all precious metal(s) of all the catalysts if the vehicle is equipped with multiple catalysts) in grams divided by the total volume of the catalyst(s) in liters. Include the mass of precious metals in any catalyzed particulate filters.

(B) Engine-emission control system combinations which have a grouping statistic which is either less than 25 percent of the largest grouping statistic value, or less than 0.2 g/liter (whichever allows the greater coverage of the durability group) shall be grouped into the same durability group.

(ii) The manufacturer may elect to use another procedure which results in at least as many durability groups as required using criteria in paragraph (b)(8)(i) of this section providing that only vehicles with similar emission deterioration or durability are combined into a single durability group.

* * * * *

§ 86.1823–01 [Removed]

■ 47. Remove § 86.1823–01.

■ 48. Amend § 86.1823–08 by revising paragraph (f)(1)(iii), adding paragraph (f)(1)(iv), and revising paragraph (n) to read as follows:

§ 86.1823–08 Durability demonstration procedures for exhaust emissions.

* * * * *

(f) * * *

(1) * * *

(iii) For Tier 3 vehicles, the DF calculated by these procedures will be used for determining full and intermediate useful life compliance with FTP exhaust emission standards, SFTP exhaust emission standards, and cold CO emission standards. At the manufacturer's option and using procedures approved by the Administrator, a separate DF may be calculated exclusively using cold CO test data to determine compliance with cold CO emission standards. Also, at the manufacturer's option and using procedures approved by the Administrator, a separate DF may be calculated exclusively using US06 and/or air conditioning (SC03) test data to determine compliance with the SFTP emission standards.

(iv) For Tier 4 vehicles, the DF calculated by these procedures may be used for determining compliance with all the standards identified in § 86.1811–27. At the manufacturer's option and using procedures approved by the Administrator, manufacturers may calculate a separate DF for the following standards and driving schedules:

(A) Testing to determine compliance with cold temperature emission standards.

(B) US06 testing.

(C) SC03 testing.

(D) HFET.

(E) Mid-temperature intermediate soak testing.

(F) Early driveaway testing.

(G) High-power PHEV engine starts.

* * * * *

(n) *Emission component durability.* The manufacturer shall use good engineering judgment to determine that all emission-related components are designed to operate properly for the full useful life of the vehicles in actual use.

§§ 86.1824–01 and 86.1824–07 [Removed]

■ 49. Remove §§ 86.1824–01 and 86.1824–07.

■ 50. Amend § 86.1824–08 by revising paragraphs (c)(1) and (k) to read as follows:

§ 86.1824–08 Durability demonstration procedures for evaporative emissions.

* * * * *

(c) * * *

(1) Mileage accumulation must be conducted using the SRC or any road cycle approved under the provisions of § 86.1823–08(e)(1).

* * * * *

(k) *Emission component durability.* The manufacturer shall use good engineering judgment to determine that all emission-related components are designed to operate properly for the full useful life of the vehicles in actual use.

§ 86.1825–01 [Removed]

■ 51. Remove § 86.1825–01.

■ 52. Amend § 86.1825–08 by revising the introductory text and paragraphs (c)(1) and (h) to read as follows:

§ 86.1825–08 Durability demonstration procedures for refueling emissions.

The durability-related requirements of this section apply for vehicles subject to refueling standards under this subpart. Refer to the provisions of §§ 86.1801 and 86.1813 to determine applicability of the refueling standards to different classes of vehicles. Diesel-fueled vehicles be exempt from the requirements of this section under § 86.1829.

* * * * *

(c) * * *

(1) Mileage accumulation must be conducted using the SRC or a road cycle approved under the provisions of § 86.1823–08(e)(1).

* * * * *

(h) *Emission component durability.* The manufacturer shall use good engineering judgment to determine that all emission-related components are designed to operate properly for the full useful life of the vehicles in actual use.

* * * * *

■ 53. Amend § 86.1827–01 by revising paragraph (a)(5) to read as follows:

§ 86.1827–01 Test group determination.

* * * * *

(a) * * *

(5) Subject to the same emission standards (except for CO₂), or FEL in the case of cold temperature NMHC or NMOG+NO_x standards, except that a manufacturer may request to group vehicles into the same test group as vehicles subject to more stringent standards, so long as all the vehicles within the test group are certified to the most stringent standards applicable to any vehicle within that test group. Light-duty trucks and light-duty vehicles may be included in the same test group if all vehicles in the test group are subject to the same emission standards, with the exception of the CO₂ standard.

* * * * *

■ 54. Amend § 86.1828–01 by revising paragraphs (a), (b)(1), (c), (e), and (f) and removing paragraph (g).

The revisions read as follows:

§ 86.1828–01 Emission data vehicle selection.

(a) *Criteria exhaust testing.* Within each test group, the vehicle configuration shall be selected which is expected to be worst-case for exhaust emission compliance on candidate in-use vehicles, considering all criteria exhaust emission constituents, all exhaust test procedures, and the potential impact of air conditioning on test results. Starting with Tier 4 vehicles, include consideration of cold temperature testing. See paragraph (c) of this section for cold temperature testing with vehicles subject to Tier 3 standards. The selected vehicle will include an air conditioning engine code unless the worst-case vehicle configuration selected is not available with air conditioning. This vehicle configuration will be used as the EDV calibration.

(b) * * *

(1) The vehicle configuration expected to exhibit the highest evaporative and/or refueling emission on candidate in-use vehicles shall be selected for each evaporative/refueling family and evaporative refueling emission system combination from among the corresponding vehicles selected for testing under paragraph (a) of this section. Separate vehicles may be selected to be tested for evaporative and refueling testing.

* * * *

(c) *Cold temperature testing—Tier 3.* For vehicles subject to Tier 3 standards, select test vehicles for cold temperature testing as follows:

(1) For cold temperature CO exhaust emission compliance for each durability group, the vehicle expected to emit the highest CO emissions at 20 degrees F on candidate in-use vehicles shall be selected from the test vehicles selected in accordance with paragraph (a) of this section.

(2) For cold temperature NMHC exhaust emission compliance for each durability group, the manufacturer must select the vehicle expected to emit the highest NMHC emissions at 20 °F on candidate in-use vehicles from the test vehicles specified in paragraph (a) of this section. When the expected worst-case cold temperature NMHC vehicle is also the expected worst-case cold temperature CO vehicle as selected in paragraph (c)(1) of this section, then cold temperature testing is required only for that vehicle; otherwise, testing is required for both the worst-case cold

temperature CO vehicle and the worst-case cold temperature NMHC vehicle.

* * * *

(e) *Alternative configurations.* The manufacturer may use good engineering judgment to select an equivalent or worst-case configuration in lieu of testing the vehicle selected in paragraphs (a) through (c) of this section. Carryover data satisfying the provisions of § 86.1839 may also be used in lieu of testing the configuration selected in paragraphs (a) through (c) of this section.

(f) *Good engineering judgment.* The manufacturer shall use good engineering judgment in making selections of vehicles under this section.

§ 86.1829–01 [Removed]

■ 55. Remove § 86.1829–01.

■ 56. Amend § 86.1829–15 by revising paragraphs (a), (b), (d)(1) introductory text, (d)(6), and (f) to read as follows:

§ 86.1829–15 Durability and emission testing requirements; waivers.

* * * *

(a) Durability requirements apply as follows:

(1) One durability demonstration is required for each durability group. The configuration of the DDV is determined according to § 86.1822. The DDV shall be tested and accumulate service mileage according to the provisions of §§ 86.1823, 86.1824, 86.1825, and 86.1831. Small-volume manufacturers and small-volume test groups may optionally use the alternative durability provisions of § 86.1838.

(2) The following durability testing requirements apply for electric vehicles and plug-in hybrid electric vehicles:

(i) Manufacturers must perform monitor accuracy testing on in-use vehicles as described in § 86.1845–04(g) for each monitor family. Carryover provisions apply as described in § 86.1839–01(c).

(ii) Manufacturers must perform battery durability testing as described in § 86.1815(f)(2).

(b) The manufacturer must test EDVs as follows to demonstrate compliance with emission standards:

(1) Except as specified in this section, test one EDV in each test group using the test procedures specified in this subpart to demonstrate compliance with other exhaust emission standards.

(2) Test one EDV in each durability group using the test procedures in 40 CFR part 1066 to demonstrate compliance with cold temperature exhaust emission standards.

(3) Test one EDV in each test group to each of the three discrete mid-temperature intermediate soak standards identified in § 86.1811–27.

(4) Test one EDV in each evaporative/refueling family and evaporative/refueling emission control system combination using the test procedures in subpart B of this part to demonstrate compliance with evaporative and refueling emission standards.

* * * *

(d) * * *

(1) For vehicles subject to the Tier 3 p.m. standards in § 86.1811–17 (not the Tier 4 p.m. standards in § 86.1811–27), a manufacturer may provide a statement in the application for certification that vehicles comply with applicable PM standards instead of submitting PM test data for a certain number of vehicles. However, each manufacturer must test vehicles from a minimum number of durability groups as follows:

* * * *

(6) Manufacturers may provide a statement in the application for certification that vehicles comply with the mid-temperature intermediate soak standards for soak times not covered by testing.

* * * *

(f) For electric vehicles and fuel cell vehicles, manufacturers may provide a statement in the application for certification that vehicles comply with all the emission standards and related requirements of this subpart instead of submitting test data. Tailpipe emissions of regulated pollutants from vehicles powered solely by electricity are deemed to be zero.

■ 57. Amend § 86.1834–01 by revising paragraph (h) to read as follows:

§ 86.1834–01 Allowable maintenance.

* * * *

(h) When air conditioning exhaust emission tests are required, the manufacturer must document that the vehicle's air conditioning system is operating properly and in a representative condition. Required air conditioning system maintenance is performed as unscheduled maintenance and does not require the Administrator's approval.

■ 58. Amend § 86.1835–01 by revising paragraphs (a)(1)(i), (a)(4), (b)(1), and (d) introductory text to read as follows:

§ 86.1835–01 Confirmatory certification testing.

(a) * * *

(1) * * *

(i) The Administrator may adjust or cause to be adjusted any adjustable parameter of an emission-data vehicle which the Administrator has determined to be subject to adjustment for certification testing in accordance with § 86.1833–01(a)(1), to any setting within the physically adjustable range

of that parameter, as determined by the Administrator in accordance with § 86.1833–01(a)(3), prior to the performance of any tests to determine whether such vehicle or engine conforms to applicable emission standards, including tests performed by the manufacturer. However, if the idle speed parameter is one which the Administrator has determined to be subject to adjustment, the Administrator shall not adjust it to a setting which causes a higher engine idle speed than would have been possible within the physically adjustable range of the idle speed parameter on the engine before it accumulated any dynamometer service, all other parameters being identically adjusted for the purpose of the comparison. The Administrator, in making or specifying such adjustments, will consider the effect of the deviation from the manufacturer's recommended setting on emissions performance characteristics as well as the likelihood that similar settings will occur on in-use light-duty vehicles, light-duty trucks, or complete heavy-duty vehicles. In determining likelihood, the Administrator will consider factors such as, but not limited to, the effect of the adjustment on vehicle performance characteristics and surveillance information from similar in-use vehicles.

* * * * *

(4) Retesting for fuel economy reasons or for compliance with greenhouse gas exhaust emission standards in § 86.1818–12 may be conducted under the provisions of 40 CFR 600.008–08.

(b) * * *

(1) If the Administrator determines not to conduct a confirmatory test under the provisions of paragraph (a) of this section, manufacturers will conduct a confirmatory test at their facility after submitting the original test data to the Administrator under either of the following circumstances:

(i) The vehicle configuration has previously failed an emission standard.

(ii) The test exhibits high emission levels determined by exceeding a percentage of the standards specified by the Administrator for that model year.

* * * * *

(d) *Conditional certification.* Upon request of the manufacturer, the Administrator may issue a conditional certificate of conformity for a test group which has not completed the Administrator testing required under paragraph (a) of this section. Such a certificate will be issued based upon the condition that the confirmatory testing be completed in an expedited manner and that the results of the testing be in

compliance with all standards and procedures.

* * * * *

■ 59. Amend § 86.1838–01 by revising paragraph (b)(1)(i), the paragraph (b)(2) heading, and paragraph (b)(2)(i) to read as follows:

§ 86.1838–01 Small-volume manufacturer certification procedures.

* * * * *

(b) * * *

(1) * * *

(i) Optional small-volume manufacturer certification procedures apply for vehicles produced by manufacturers with the following number of combined sales of vehicles subject to standards under this subpart in all states and territories of the United States in the model year for which certification is sought, including all vehicles and engines imported under the provisions of 40 CFR 85.1505 and 85.1509:

(A) At or below 5,000 units for the Tier 3 standards described in §§ 86.1811–17, 86.1813–17, and 86.1816–18 and the Tier 4 standards described in § 86.1811–27. This volume threshold applies for phasing in the Tier 3 and Tier 4 standards and for determining the corresponding deterioration factors.

(B) No small-volume sales threshold applies for the heavy-duty greenhouse gas standards; alternative small-volume criteria apply as described in § 86.1819–14(k)(5).

(C) At or below 15,000 units for all other requirements. See § 86.1845 for separate provisions that apply for in-use testing.

* * * * *

(2) *Small-volume test groups and small-volume monitor families.* (i) If the aggregated sales in all states and territories of the United States, as determined in paragraph (b)(3) of this section are equal to or greater than 15,000 units, then the manufacturer (or each manufacturer in the case of manufacturers in an aggregated relationship) will be allowed to certify a number of units under the small-volume test group certification procedures in accordance with the criteria identified in paragraphs (b)(2)(ii) through (iv) of this section. Similarly, the manufacturer will be exempt from Part A testing for monitor accuracy as described in § 86.1845–04(g) in accordance with the criteria identified in paragraphs (b)(2)(ii) through (iv) of this section for individual monitor families with aggregated sales up to 5,000 units in the current model year.

* * * * *

■ 60. Amend § 86.1839–01 by revising paragraph (a) and adding paragraph (c) to read as follows:

§ 86.1839–01 Carryover of certification and battery monitoring data.

(a) In lieu of testing an emission-data or durability vehicle selected under § 86.1822, § 86.1828, or § 86.1829, and submitting data therefrom, a manufacturer may submit exhaust emission data, evaporative emission data and/or refueling emission data, as applicable, on a similar vehicle for which certification has been obtained or for which all applicable data required under § 86.1845 has previously been submitted. To be eligible for this provision, the manufacturer must use good engineering judgment and meet the following criteria:

(1) In the case of durability data, the manufacturer must determine that the previously generated durability data represent a worst case or equivalent rate of deterioration for all applicable emission constituents compared to the configuration selected for durability demonstration. Prior to certification, the Administrator may require the manufacturer to provide data showing that the distribution of catalyst temperatures of the selected durability configuration is effectively equivalent or lower than the distribution of catalyst temperatures of the vehicle configuration which is the source of the previously generated data.

(2) In the case of emission data, the manufacturer must determine that the previously generated emissions data represent a worst case or equivalent level of emissions for all applicable emission constituents compared to the configuration selected for emission compliance demonstration.

* * * * *

(c) In lieu of testing electric vehicles or plug-in hybrid electric vehicles for monitor accuracy under § 86.1822–01(a) and submitting the test data, a manufacturer may rely on previously conducted testing on a similar vehicle for which such test data have previously been submitted to demonstrate compliance with monitor accuracy requirements. For vehicles to be eligible for this provision, they must have designs for battery monitoring that are identical in all material respects to the vehicles tested under § 86.1845–04(g). If a monitor family fails to meet accuracy requirements, repeat the testing under § 86.1845–04(g) as soon as practicable.

■ 61. Revise § 86.1840–01 to read as follows:

§ 86.1840–01 Special test procedures.

Provisions for special test procedures apply as described in 40 CFR 1065.10 and 1066.10. For example, manufacturers must propose a procedure for EPA's review and advance approval for testing and certifying vehicles equipped with periodically regenerating aftertreatment devices, including sufficient documentation and data for EPA to fully evaluate the request.

■ 62. Amend § 86.1841–01 by revising paragraphs (a)(1)(iii), (a)(3), and (e) to read as follows:

§ 86.1841–01 Compliance with emission standards for the purpose of certification.

(a) * * *

(1) * * *

(iii) For a composite standard of NMHC + NO_x, the measured results of NMHC and NO_x must each be adjusted by their corresponding deterioration factors before the composite NMHC + NO_x certification level is calculated. Where the applicable FTP exhaust hydrocarbon emission standard is an NMOG standard, the applicable NMOG deterioration factor must be used in place of the NMHC deterioration factor, unless otherwise approved by the Administrator.

* * * * *

(3) Compliance with full useful life CO₂ exhaust emission standards shall be demonstrated at certification by the certification levels on the duty cycles specified for carbon-related exhaust emissions according to § 600.113 of this chapter.

* * * * *

(e) Unless otherwise approved by the Administrator, manufacturers must not use Reactivity Adjustment Factors (RAFs) in their calculation of the certification level of any pollutant for any vehicle.

■ 63. Amend § 86.1844–01 by:

■ a. Revising paragraphs (d)(7)(i) and (ii), (d)(11)(iv), and (d)(15).

■ b. Adding paragraphs (d)(18) through (20).

■ c. Revising paragraphs (e)(1), (3), and (5), (g)(11), and (h).

■ d. Removing paragraph (i).

The revisions and additions read as follows:

§ 86.1844–01 Information requirements: Application for certification and submittal of information upon request.

* * * * *

(d) * * *

(7) * * *

(i) For vehicles certified to any Tier 3 or Tier 4 emission standards, include a comparison of drive-cycle metrics as specified in 40 CFR 1066.425(j) for each drive cycle or test phase, as appropriate.

(ii) For gasoline-fueled vehicles subject to Tier 3 evaporative emission standards, identify the method of accounting for ethanol in determining evaporative emissions, as described in § 86.1813.

* * * * *

(11) * * *

(iv) For Tier 4 vehicles with spark-ignition engines, describe how AECDs comply with the requirements of §§ 86.1809–12(d)(2) and 86.1811–27(d).

* * * * *

(15) For vehicles with fuel-fired heaters, describe the control system logic of the fuel-fired heater, including an evaluation of the conditions under which it can be operated and an evaluation of the possible operational modes and conditions under which evaporative emissions can exist. Use good engineering judgment to establish an estimated exhaust emission rate from the fuel-fired heater in grams per mile for each pollutant subject to a fleet-average standard. Adjust fleet-average compliance calculations in §§ 86.1861, 86.1864, and 86.1865 as appropriate to account for emissions from fuel-fired heaters. Describe the testing used to establish the exhaust emission rate.

* * * * *

(18) For vehicles equipped with RESS, the recharging procedures and methods for determining battery performance, such as state of charge and charging capacity.

(19) The following information for each monitor family for electric vehicles and plug-in hybrid electric vehicles, as applicable:

(1) The monitor, battery, and other specifications that are relevant to establishing monitor families and battery durability families to comply with the requirements of this section.

(2) The certified usable battery energy for each battery durability family.

(3) A statement attesting that the SOCE monitor meets the 5 percent accuracy requirement.

(4) For light-duty program vehicles, a statement that each battery durability family meets the Minimum Performance Requirement.

(20) Acknowledgement, if applicable, that you are including vehicles with engines certified under 40 CFR part 1036 in your calculation to demonstrate compliance with the fleet average CO₂ standard in this subpart as described in § 86.1819–14(j).

(e) * * *

(1) Identify all emission-related components, including those that can affect GHG emissions. Also identify software, AECDs, and other elements of design that are used to control criteria,

GHG, or evaporative/refueling emissions. Identify the emission-related components by part number. Identify software by part number or other convention, as appropriate. Organize part numbers by engine code or other similar classification scheme.

* * * * *

(3) Identification and description of all vehicles covered by each certificate of conformity to be produced and sold within the U.S. The description must be sufficient to identify whether any given in-use vehicle is, or is not, covered by a given certificate of conformity, the test group and the evaporative/refueling family to which it belongs and the standards that are applicable to it, by matching readily observable vehicle characteristics and information given in the emission control information label (and other permanently attached labels) to indicators in the Part 1 Application. For example, the description must include any components or features that contribute to measured or demonstrated control of emissions for meeting criteria, GHG, or evaporative/refueling standards under this subpart. In addition, the description must be sufficient to determine for each vehicle covered by the certificate, all appropriate test parameters and any special test procedures necessary to conduct an official certification exhaust or evaporative emission test as was required by this subpart to demonstrate compliance with applicable emission standards. The description shall include, but is not limited to, information such as model name, vehicle classification (light-duty vehicle, light-duty truck, or complete heavy-duty vehicle), sales area, engine displacement, engine code, transmission type, tire size and parameters necessary to conduct exhaust emission tests such as equivalent test weight, curb and gross vehicle weight, test horsepower (with and without air conditioning adjustment), coast down time, shift schedules, cooling fan configuration, etc. and evaporative tests such as canister working capacity, canister bed volume, and fuel temperature profile. Actual values must be provided for all parameters.

* * * * *

(5) Copies of all service manuals, service bulletins and instructions regarding the use, repair, adjustment, maintenance, or testing of such vehicles relevant to the control of crankcase, exhaust or evaporative emissions, as applicable, issued by the manufacturer for use by other manufacturers, assembly plants, distributors, dealers, and ultimate purchasers. These shall be

submitted in electronic form to the Agency when they are made available to the public and must be updated as appropriate throughout the useful life of the corresponding vehicles.

* * * * *

(g) * * *

(11) A description of all procedures, including any special procedures, used to comply with applicable test requirements of this subpart. Any special procedures used to establish durability data or emission deterioration factors required to be determined under §§ 86.1823, 86.1824 and 86.1825 and to conduct emission tests required to be performed on applicable emission data vehicles under § 86.1829 according to test procedures contained within this Title must also be included.

* * * * *

(h) Manufacturers must submit the in-use testing information required in § 86.1847.

■ 64. Amend § 86.1845–04 by:

■ a. Revising paragraph (a)(3)(i).

■ b. Adding paragraph (a)(4).

■ c. Revising paragraphs (b)(5) through (7), (c)(5), (d), and (e)(2).

■ d. Adding paragraph (f) introductory text.

■ e. Revising paragraph (f)(1).

■ f. Adding paragraph (g).

The revisions and additions read as follows:

§ 86.1845–04 Manufacturer in-use verification testing requirements.

(a) * * *

(3) * * *

(i) Vehicles certified under § 86.1811 must always measure emissions over the FTP, then over the HFET (if applicable), then over the US06. If a vehicle meets all the applicable emission standards except the FTP or HFET emission standard for NMOG + NO_x, and a fuel sample from the tested vehicle (representing the as-received condition) has a measured fuel sulfur level exceeding 15 ppm when measured as described in 40 CFR 1065.710, the manufacturer may repeat the FTP and HFET measurements and use the new emission values as the official results for that vehicle. For all other cases, measured emission levels from the first test will be considered the official results for the test vehicle, regardless of any test results from additional test runs. Where repeat testing is allowed, the vehicle may operate for up to two US06 cycles (with or without measurement) before repeating the FTP and HFET measurements. The repeat measurements must include both FTP and HFET, even if the vehicle failed only one of those tests, unless the HFET is not required for a particular vehicle.

Vehicles may not undergo any other vehicle preconditioning to eliminate fuel sulfur effects on the emission control system, unless we approve it in advance. This paragraph (a)(3)(i) does not apply for Tier 2 vehicles.

* * * * *

(4) Battery-related in-use testing requirements apply for electric vehicles and plug-in hybrid electric vehicles as described in paragraph (g) of this section.

(b) * * *

(5) *Testing.* (i) Each test vehicle of a test group shall be tested in accordance with the FTP and the US06 as described in subpart B of this part, when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart. Test vehicles subject to applicable exhaust CO₂ emission standards under this subpart shall also be tested in accordance with the HFET as described in 40 CFR 1066.840.

(ii) For vehicles subject to Tier 3 p.m. standards, manufacturers must measure PM emissions over the FTP and US06 driving schedules for at least 50 percent of the vehicles tested under paragraph (b)(5)(i) of this section. For vehicles subject to Tier 4 p.m. standards, this test rate increases to 100 percent.

(iii) Starting with model year 2018 vehicles, manufacturers must demonstrate compliance with the Tier 3 leak standard specified in § 86.1813, if applicable, as described in this paragraph (b)(5)(iii). Manufacturers must evaluate each vehicle tested under paragraph (b)(5)(i) of this section, except that leak testing is not required for vehicles tested under paragraph (b)(5)(iv) of this section for diurnal emissions. In addition, manufacturers must evaluate at least one vehicle from each leak family for a given model year. Manufacturers may rely on OBD monitoring instead of testing as follows:

(A) A vehicle is considered to pass the leak test if the OBD system completed a leak check within the previous 750 miles of driving without showing a leak fault code.

(B) Whether or not a vehicle's OBD system has completed a leak check within the previous 750 miles of driving, the manufacturer may operate the vehicle as needed to force the OBD system to perform a leak check. If the OBD leak check does not show a leak fault, the vehicle is considered to pass the leak test.

(C) If the most recent OBD leak check from paragraph (b)(5)(iii)(A) or (B) of this section shows a leak-related fault code, the vehicle is presumed to have failed the leak test. Manufacturers may perform the leak measurement

procedure described in 40 CFR 1066.985 for an official result to replace the finding from the OBD leak check.

(D) Manufacturers may not perform repeat OBD checks or leak measurements to over-ride a failure under paragraph (b)(5)(iii)(C) of this section.

(iv) For vehicles other than gaseous-fueled vehicles and electric vehicles, one test vehicle of each evaporative/refueling family shall be tested in accordance with the supplemental 2-diurnal-plus-hot-soak evaporative emission and refueling emission procedures described in subpart B of this part, when such test vehicle is tested for compliance with applicable evaporative emission and refueling standards under this subpart. For gaseous-fueled vehicles, one test vehicle of each evaporative/refueling family shall be tested in accordance with the 3-diurnal-plus-hot-soak evaporative emission and refueling emission procedures described in subpart B of this part, when such test vehicle is tested for compliance with applicable evaporative emission and refueling standards under this subpart. The test vehicles tested to fulfill the evaporative/refueling testing requirement of this paragraph (b)(5)(iv) will be counted when determining compliance with the minimum number of vehicles as specified in Table S04–06 and Table S04–07 in paragraph (b)(3) of this section for testing under paragraph (b)(5)(i) of this section only if the vehicle is also tested for exhaust emissions under the requirements of paragraph (b)(5)(i) of this section.

(6) *Test condition.* Each test vehicle not rejected based on the criteria specified in appendix II to this subpart shall be tested in as-received condition.

(7) *Diagnostic maintenance.* A manufacturer may conduct subsequent diagnostic maintenance and/or testing of any vehicle. Any such maintenance and/or testing shall be reported to the Agency as specified in § 86.1847.

(c) * * *

(5) *Testing.* (i) Each test vehicle shall be tested in accordance with the FTP and the US06 as described in subpart B of this part when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart. Test vehicles subject to applicable exhaust CO₂ emission standards under this subpart shall also be tested in accordance with the HFET as described in 40 CFR 1066.840. One test vehicle from each test group shall be tested over the FTP at high altitude. The test vehicle tested at high altitude is not required to be one of the same test vehicles tested at low altitude. The test

vehicle tested at high altitude is counted when determining the compliance with the requirements shown in Table S04–06 and Table S04–07 in paragraph (b)(3) of this section or the expanded sample size as provided for in this paragraph (c).

(ii) For vehicles subject to Tier 3 p.m. standards, manufacturers must measure PM emissions over the FTP and US06 driving schedules for at least 50 percent of the vehicles tested under paragraph (c)(5)(i) of this section. For vehicles subject to Tier 4 p.m. standards, this test rate increases to 100 percent.

(iii) Starting with model year 2018 vehicles, manufacturers must evaluate each vehicle tested under paragraph (c)(5)(i) of this section to demonstrate compliance with the Tier 3 leak standard specified in § 86.1813, except that leak testing is not required for vehicles tested under paragraph (c)(5)(iv) of this section for diurnal emissions. In addition, manufacturers must evaluate at least one vehicle from each leak family for a given model year. Manufacturers may rely on OBD monitoring instead of testing as described in paragraph (b)(5)(iii) of this section.

(iv) For vehicles other than gaseous-fueled vehicles and electric vehicles, one test vehicle of each evaporative/refueling family shall be tested in accordance with the supplemental 2-diurnal-plus-hot-soak evaporative emission procedures described in subpart B of this part, when such test vehicle is tested for compliance with applicable evaporative emission and refueling standards under this subpart. For gaseous-fueled vehicles, one test vehicle of each evaporative/refueling family shall be tested in accordance with the 3-diurnal-plus-hot-soak evaporative emission procedures described in subpart B of this part, when such test vehicle is tested for compliance with applicable evaporative emission and refueling standards under this subpart. The vehicles tested to fulfill the evaporative/refueling testing requirement of this paragraph (c)(5)(iv) will be counted when determining compliance with the minimum number of vehicles as specified in Table S04–06 and table S04–07 in paragraph (b)(3) of this section for testing under paragraph (c)(5)(i) of this section only if the vehicle is also tested for exhaust emissions under the requirements of paragraph (c)(5)(i) of this section.

* * * * *

(d) *Test vehicle procurement.* Vehicles tested under this section shall be procured as follows:

(1) *Vehicle ownership.* Vehicles shall be procured from the group of persons

who own or lease vehicles registered in the procurement area. Vehicles shall be procured from persons which own or lease the vehicle, excluding commercial owners/lessees owned or controlled by the vehicle manufacturer, using the procedures described in appendix I to this subpart. See § 86.1838–01(c)(2)(i) for small volume manufacturer requirements.

(2) *Geographical limitations.* (i) Test groups certified to 50-state standards: For low altitude testing no more than fifty percent of the test vehicles may be procured from California. The test vehicles procured from the 49-state area must be procured from a location with a heating degree day 30-year annual average equal to or greater than 4,000.

(ii) Test groups certified to 49-state standards: The test vehicles procured from the 49-state area must be procured from a location with a heating degree day 30-year annual average equal to or greater than 4,000.

(iii) Vehicles procured for high altitude testing may be procured from any area located above 4,000 feet.

(3) *Rejecting candidate vehicles.* Vehicles may be rejected for procurement or testing under this section if they meet one or more of the rejection criteria in appendix II to this subpart. Vehicles may also be rejected after testing under this section if they meet one or more of the rejection criteria in appendix II to this subpart. Any vehicle rejected after testing must be replaced in order that the number of test vehicles in the sample comply with the sample size requirements of this section. Any post-test vehicle rejection and replacement procurement and testing must take place within the testing completion requirements of this section.

(e) * * *

(2) *Notification of test facility.* The manufacturer shall notify the Agency of the name and location of the testing laboratory(s) to be used to conduct testing of vehicles of each model year conducted pursuant to this section. Such notification shall occur at least thirty working days prior to the initiation of testing of the vehicles of that model year.

* * * * *

(f) *NMOG and formaldehyde.* The following provisions apply for measuring NMOG and formaldehyde:

(1) A manufacturer must conduct in-use testing on a test group by determining NMOG exhaust emissions using the same methodology used for certification, as described in 40 CFR 1066.635.

* * * * *

(g) *Battery testing.* Manufacturers of electric vehicles and plug-in hybrid electric vehicles must perform in-use testing related to battery monitor accuracy and battery durability for those vehicles as described in § 86.1815. Perform Part A testing for each monitor family as follows to verify that SOCE monitors meet accuracy requirements:

(1) Determine accuracy by measuring SOCE from in-use vehicles using the procedures specified in § 86.1815(c) and comparing the measured values to the SOCE value displayed on the monitor at the start of testing.

(2) Perform low-mileage testing of the vehicles in a monitor family within 12 months of the end of production of that monitor family for that model year. All test vehicles must have a minimum odometer mileage of 10,000 miles.

(3) Perform intermediate-mileage testing of the vehicles in a monitor family within 3 years of the end of production of that monitor family for that model year. All test vehicles must have a minimum odometer mileage of 30,000 miles.

(4) Perform high-mileage testing of the vehicles in a monitor family by starting the test program within 4 years of the end of production of the monitor family and completing the test program within 5 years of the end of production of the monitor family. All test vehicles must have a minimum odometer mileage of 50,000 miles.

(5) Select test vehicles from the United States as described in paragraphs (b)(6), (c)(6), and (d)(1) and (3) of this section. Send notification regarding test location as described in paragraph (e)(2) of this section.

(6) You may perform diagnostic maintenance as specified in paragraph (b)(7) and (c)(7) of this section.

(7) See § 86.1838–01(b)(2) for a testing exemption that applies for small-volume monitor families.

■ 65. Amend § 86.1846–01 by revising paragraphs (a)(1), (b), (e), and (j) to read as follows:

§ 86.1846–01 Manufacturer in-use confirmatory testing requirements.

(a) * * *

(1) Manufacturers must test, or cause testing to be conducted, under this section when the emission levels shown by a test group sample from testing under § 86.1845 exceeds the criteria specified in paragraph (b) of this section. The testing required under this section applies separately to each test group and at each test point (low and high mileage) that meets the specified criteria. The testing requirements apply separately for each model year. These

provisions do not apply to emissions of CH₄ or N₂O.

* * * * *

(b) *Criteria for additional testing.* (1) A manufacturer shall test a test group, or a subset of a test group, as described in paragraph (j) of this section when the results from testing conducted under § 86.1845 show mean exhaust emissions of any criteria pollutant for that test group to be at or above 1.30 times the applicable in-use standard for at least 50 percent of vehicles tested from the test group.

(2) A manufacturer shall test a test group, or a subset of a test group, as described in paragraph (j) of this section when the results from testing conducted under § 86.1845 show mean exhaust emissions of CO₂ (City-highway combined CREE) for that test group to be at or above the applicable in-use standard for at least 50 percent of vehicles tested from the test group.

(3) Additional testing is not required under this paragraph (b) based on evaporative/refueling testing or based on low-mileage US06 testing conducted under § 86.1845–04(b)(5)(i). Testing conducted at high altitude under the requirements of § 86.1845–04(c) will be included in determining if a test group meets the criteria triggering the testing required under this section.

(4) The vehicle designated for testing under the requirements of § 86.1845–04(c)(2) with a minimum odometer reading of 105,000 miles or 75% of useful life, whichever is less, will not be included in determining if a test group meets the triggering criteria.

(5) The SFTP composite emission levels for Tier 3 vehicles shall include the IUVF FTP emissions, the IUVF US06 emissions, and the values from the SC03 Air Conditioning EDV certification test (without DFs applied). The calculations shall be made using the equations prescribed in § 86.164. If more than one set of certification SC03 data exists (due to running change testing or other reasons), the manufacturer shall choose the SC03 result to use in the calculation from among those data sets using good engineering judgment.

(6) If fewer than 50 percent of the vehicles from a leak family pass either the leak test or the diurnal test under § 86.1845, EPA may require further leak testing under this paragraph (b)(6). Testing under this section must include five vehicles from the family. If all five of these vehicles fail the test, the manufacturer must test five additional vehicles.

EPA will determine whether to require further leak testing under this section after providing the manufacturer

an opportunity to discuss the results, including consideration of any of the following information, or other items that may be relevant:

(i) Detailed system design, calibration, and operating information, technical explanations as to why the individual vehicles tested failed the leak standard.

(ii) Comparison of the subject vehicles to other similar models from the same manufacturer.

(iii) Data or other information on owner complaints, technical service bulletins, service campaigns, special policy warranty programs, warranty repair data, state I/M data, and data available from other manufacturer-specific programs or initiatives.

(iv) Evaporative emission test data on any individual vehicles that did not pass leak testing during IUVF.

* * * * *

(e) *Emission testing.* Each test vehicle of a test group or Agency-designated subset shall be tested in accordance with the driving cycles performed under § 86.1845 corresponding to emission levels requiring testing under this section) as described in subpart B of this part, when such test vehicle is tested for compliance with applicable exhaust emission standards under this subpart.

* * * * *

(j) *Testing a subset.* EPA may designate a subset of the test group for testing under this section in lieu of testing the entire test group when the results for the entire test group from testing conducted under § 86.1845 show mean emissions and a failure rate which meet these criteria for additional testing.

■ 66. Amend § 86.1847–01 by adding paragraph (g) to read as follows:

§ 86.1847–01 Manufacturer in-use verification and in-use confirmatory testing; submittal of information and maintenance of records.

* * * * *

(g) Manufacturers of electric vehicles and plug-in hybrid electric vehicles certified under this subpart must meet the following reporting and recordkeeping requirements related to testing under § 86.1815:

(1) Submit the following records organized by battery durability family and monitor family related to Part A testing to verify accuracy of SOCE monitors within 30 days after completing low-mileage, intermediate-mileage, or high-mileage testing:

(i) A complete record of all tests performed, the dates and location of testing, measured SOCE values for each vehicle, along with the corresponding displayed SOCE values at the start of testing.

(ii) Test vehicle information, including model year, make, model, and odometer reading.

(iii) A summary of statistical information showing whether the testing shows a pass or fail result.

(2) Keep the following records related to testing under paragraph (g)(1) of this section:

(i) Test reports submitted under paragraph (g)(1) of this section.

(ii) Test facility information.

(iii) Routine testing records, such as dynamometer trace, and temperature and humidity during testing.

(3) Submit an annual report related to Part B testing to verify compliance with the Minimum Performance Requirement for SOCE. Submit the report by October 1 for testing you perform over the preceding year or ask us to approve a different annual reporting period based on your practice for starting a new model year. Include the following information in your annual reports, organized by battery durability family and monitor family:

(i) Displayed values of SOCE for each sampled vehicle, along with a description of each vehicle to identify its model year, make, model, odometer reading, and state of registration. Also include the date for assessing each selected vehicle.

(ii) A summary of results to show whether 90 percent of sampled vehicles from each battery durability family meet the Minimum Performance Requirement.

(iii) A description of any selected vehicles excluded from the test results and the justification for excluding them.

(iv) Information regarding warranty claims and statistics on repairs for batteries and for other components or systems for each battery durability family that might influence a vehicle's electric energy consumption.

(4) Keep the following records related to testing under paragraph (g)(3) of this section:

(i) Test reports submitted under paragraph (g)(3) of this section.

(ii) Documentation related to the method of selecting vehicles.

(5) Keep records required under this paragraph (g) for eight years after submitting reports to EPA.

§ 86.1848–01 [Removed]

■ 67. Remove § 86.1848–01.

■ 68. Revise § 86.1848–10 to read as follows:

§ 86.1848–10 Compliance with emission standards for the purpose of certification.

(a)(1) If, after a review of the manufacturer's submitted Part I application, information obtained from

any inspection, such other information as the Administrator may require, and any other pertinent data or information, the Administrator determines that the application is complete and that all vehicles within a test group or monitor family as described in the application meet the requirements of this part and the Clean Air Act, the Administrator shall issue a certificate of conformity.

(2) If, after review of the manufacturer's application, request for certification, information obtained from any inspection, such other information as the Administrator may require, and any other pertinent data or information, the Administrator determines that the application is not complete or the vehicles within a test group or monitor family as described in the application, do not meet applicable requirements or standards of the Act or of this part, the Administrator may deny the issuance of, suspend, or revoke a previously issued certificate of conformity. The Administrator will notify the manufacturer in writing, setting forth the basis for the determination. The manufacturer may request a hearing on the Administrator's determination.

(b) A certificate of conformity will be issued by the Administrator for a period not to exceed one model year and upon such terms as deemed necessary or appropriate to assure that any new motor vehicle covered by the certificate will meet the requirements of the Act and of this part.

(c) Failure to meet any of the following conditions will be considered a failure to satisfy a condition upon which a certificate was issued, and any affected vehicles are not covered by the certificate:

(1) The manufacturer must supply all required information according to the provisions of §§ 86.1843 and 86.1844.

(2) The manufacturer must comply with all certification and in-use emission standards contained in subpart S of this part both during and after model year production. This includes the monitor accuracy and battery durability requirements for electric vehicles and plug-in hybrid electric vehicles as described in § 86.1815.

(3) The manufacturer must comply with all implementation schedules sales percentages as required in this subpart.

(4) New incomplete vehicles must, when completed by having the primary load-carrying device or container attached, conform to the maximum curb weight and frontal area limitations described in the application for certification as required in § 86.1844.

(5) The manufacturer must meet the in-use testing and reporting requirements contained in §§ 86.1815,

86.1845, 86.1846, and 86.1847, as applicable.

(6) Vehicles must in all material respects be as described in the manufacturer's application for certification (Part I and Part II).

(7) Manufacturers must meet all the provisions of §§ 86.1811, 86.1813, 86.1816, and 86.1860 through 86.1862 both during and after model year production, including compliance with the applicable fleet average standard and phase-in requirements. The manufacturer bears the burden of establishing to the satisfaction of the Administrator that the terms and conditions upon which each certificate was issued were satisfied. For recall and warranty purposes, vehicles not covered by a certificate of conformity will continue to be held to the standards stated or referenced in the certificate that otherwise would have applied to the vehicles. A manufacturer may not sell credits it has not generated.

(8) Manufacturers must meet all provisions related to cold temperature standards in §§ 86.1811 and 86.1864 both during and after model year production, including compliance with the applicable fleet average standard and phase-in requirements. The manufacturer bears the burden of establishing to the satisfaction of the Administrator that the terms and conditions upon which each certificate was issued were satisfied. For recall and warranty purposes, vehicles not covered by a certificate of conformity will continue to be held to the standards stated or referenced in the certificate that otherwise would have applied to the vehicles. A manufacturer may not sell credits it has not generated.

(9) Manufacturers must meet all the provisions of §§ 86.1818, 86.1819, and 86.1865 both during and after model year production, including compliance with the applicable fleet average standard. The manufacturer bears the burden of establishing to the satisfaction of the Administrator that the terms and conditions upon which the certificate(s) was (were) issued were satisfied. For recall and warranty purposes, vehicles not covered by a certificate of conformity will continue to be held to the standards stated or referenced in the certificate that otherwise would have applied to the vehicles. A manufacturer may not sell credits it has not generated.

(i) Manufacturers that are determined to be operationally independent under § 86.1838–01(d) must report a material change in their status within 60 days as required by § 86.1838–01(d)(2).

(ii) Manufacturers subject to an alternative fleet average greenhouse gas emission standard approved under

§ 86.1818–12(g) must comply with the annual sales thresholds that are required to maintain use of those standards, including the thresholds required for new entrants into the U.S. market.

(10) Manufacturers must meet all the provisions of § 86.1815 both during and after model year production. The manufacturer bears the burden of establishing to the satisfaction of the Administrator that the terms and conditions related to issued certificates were satisfied.

(d) One certificate will be issued for each test group and evaporative/refueling family combination. For plug-in hybrid electric vehicles, one certificate will be issued for each test group, evaporative/refueling family, and monitor family combination. For electric vehicles, one certificate will be issued for each monitor family. For diesel fueled vehicles, one certificate will be issued for each test group. A certificate of conformity is deemed to cover the vehicles named in such certificate and produced during the model year.

(e) A manufacturer of new light-duty vehicles, light-duty trucks, and complete heavy-duty vehicles must obtain a certificate of conformity covering such vehicles from the Administrator prior to selling, offering for sale, introducing into commerce, delivering for introduction into commerce, or importing into the United States the new vehicle. Vehicles produced prior to the effective date of a certificate of conformity may also be covered by the certificate, once it is effective, if the following conditions are met:

(1) The vehicles conform in all respects to the vehicles described in the application for the certificate of conformity.

(2) The vehicles are not sold, offered for sale, introduced into commerce, or delivered for introduction into commerce prior to the effective date of the certificate of conformity.

(3) EPA is notified prior to the beginning of production when such production will start, and EPA is provided a full opportunity to inspect and/or test the vehicles during and after their production. EPA must have the opportunity to conduct SEA production line testing as if the vehicles had been produced after the effective date of the certificate.

(f) Vehicles imported by an original equipment manufacturer after December 31 of the calendar year for which the model year is named are still covered by the certificate of conformity as long as the production of the vehicle was

completed before December 31 of that year.

(g) For test groups required to have an emission control diagnostic system, certification will not be granted if, for any emission data vehicle or other test vehicle approved by the Administrator in consultation with the manufacturer, the malfunction indicator light does not illuminate as required under § 86.1806.

(h) Vehicles equipped with aftertreatment technologies such as catalysts, otherwise covered by a certificate, which are driven outside the United States, Canada, and Mexico will be presumed to have been operated on leaded gasoline resulting in deactivation of such components as catalysts and oxygen sensors. If these vehicles are imported or offered for importation without retrofit of the catalyst or other aftertreatment technology, they will be considered not to be within the coverage of the certificate unless included in a catalyst or other aftertreatment technology control program operated by a manufacturer or a United States Government agency and approved by the Administrator.

■ 69. Amend § 86.1850–01 by revising the section heading and paragraphs (b) introductory text and (d) and removing paragraph (f).

The revisions read as follows:

§ 86.1850–01 EPA decisions regarding a certificate of conformity.

* * * * *

(b) Notwithstanding the fact that the vehicles described in the application may comply with all other requirements of this subpart, the Administrator may deny issuance of, suspend, revoke, or void a previously issued certificate of conformity if the Administrator finds any one of the following infractions:

* * * * *

(d) If a manufacturer commits any fraudulent act that results in the issuance of a certificate of conformity, or fails to comply with the conditions specified in § 86.1843, the Administrator may deem such certificate void ab initio.

* * * * *

§ 86.1860–04 [Removed]

■ 70. Remove § 86.1860–04.

■ 71. Amend § 86.1860–17 by revising the section heading and paragraphs (a) and (b) and removing paragraph (c)(4).

The revisions read as follows:

§ 86.1860–17 How to comply with the Tier 3 and Tier 4 fleet-average standards.

(a) You must show that you meet the applicable Tier 3 fleet-average NMOG + NO_x standards from §§ 86.1811–17 and 86.1816–18, the Tier 3 fleet-average evaporative emission standards from § 86.1813–17, and the Tier 4 fleet-average NMOG + NO_x standards from § 86.1811–27 as described in this section. Note that separate fleet-average calculations are required for Tier 3 FTP and SFTP exhaust emission standards under § 86.1811–17.

(b) Calculate your fleet-average value for each model year for all vehicle models subject to a separate fleet-average standard using the following equation, rounded to the nearest 0.001 g/mile for NMOG + NO_x emissions and the nearest 0.001 g/test for evaporative emissions:

$$\text{Fleet average value} = \frac{\sum_{i=1}^b (N_i \cdot FEL_i)}{N_{\text{total}}}$$

Where:

I = A counter associated with each separate test group or evaporative family.

B = The number of separate test groups or evaporative families from a given averaging set to which you certify your vehicles.

N_i = The actual nationwide sales for the model year for test group or evaporative family i . Include allowances for evaporative emissions as described in § 86.1813.

FEL_i = The FEL selected for test group or evaporative family i . Disregard any separate standards that apply for in-use testing or for testing under high-altitude conditions.

N_{total} = The actual nationwide sales for the model year for all vehicles from the averaging set, except as described in paragraph (c) of this section. The pool of vehicle models included in N_{total} may vary by model year, and it may be different for evaporative standards, FTP exhaust standards, and SFTP exhaust standards in a given model year.

* * * * *

§ 86.1861–04 [Removed]

■ 72. Remove § 86.1861–04.

■ 73. Amend § 86.1861–17 by revising paragraphs (b) and (c) to read as follows:

§ 86.1861–17 How do the NMOG + NO_x and evaporative emission credit programs work?

* * * * *

(b) The following restrictions apply instead of those specified in 40 CFR 1037.740:

(1) Except as specified in paragraph (b)(2) of this section, emission credits may be exchanged only within an averaging set, as follows:

(i) HDV represent a separate averaging set with respect to all emission standards.

(ii) Except as specified in paragraph (b)(1)(iii) of this section, LDV and LDT represent a single averaging set with respect to all emission standards. Note that FTP and SFTP credits for Tier 3 vehicles are not interchangeable.

(iii) LDV and LDT1 certified to standards based on a useful life of 120,000 miles and 10 years together represent a single averaging set with respect to NMOG + NO_x emission standards. Note that FTP and SFTP credits for Tier 3 vehicles are not interchangeable.

(iv) The following separate averaging sets apply for evaporative emission standards:

(A) LDV and LDT1 together represent a single averaging set.

(B) LDT2 represents a single averaging set.

(C) HLDT represents a single averaging set.

(D) HDV represents a single averaging set.

(2) You may exchange evaporative emission credits across averaging sets as follows if you need additional credits to offset a deficit after the final year of maintaining deficit credits as allowed under paragraph (c) of this section:

(i) You may exchange LDV/LDT1 and LDT2 emission credits.

(ii) You may exchange HLDT and HDV emission credits.

(3) Except as specified in paragraph (b)(4) of this section, credits expire after five years.

For example, credits you generate in model year 2018 may be used only through model year 2023.

(4) For the Tier 3 declining fleet-average FTP and SFTP emission standards for NMOG + NO_x described in § 86.1811–17(b)(8), credits generated in model years 2017 through 2024 expire after eight years, or after model year 2030, whichever comes first; however, these credits may not be

traded after five years. This extended credit life also applies for small-volume manufacturers generating credits under § 86.1811–17(h)(1) in model years 2022 through 2024. Note that the longer credit life does not apply for heavy-duty vehicles, for vehicles certified under the alternate phase-in described in § 86.1811–17(b)(9), or for vehicles generating early Tier 3 credits under § 86.1811–17(b)(11) in model year 2017.

(5) Tier 3 credits for NMOG+NO_x may be used to demonstrate compliance with Tier 4 standards without adjustment, except as specified in § 86.1811–27.

(c) The credit-deficit provisions 40 CFR 1037.745 apply to the NMOG + NO_x and evaporative emission standards for Tier 3 and Tier 4 vehicles.

* * * * *

■ 74. Amend § 86.1862–04 by revising paragraphs (a), (c)(2), and (d) to read as follows:

§ 86.1862–04 Maintenance of records and submittal of information relevant to compliance with fleet-average standards.

(a) *Overview.* This section describes reporting and recordkeeping requirements for vehicles subject to the following standards:

(1) Tier 4 criteria exhaust emission standards, including cold temperature NMOG+NO_x standards, in § 86.1811–27.

(2) Tier 3 evaporative emission standards in § 86.1813–17.

(3) Tier 3 FTP emission standard for NMOG + NO_x for LDV and LDT in § 86.1811–17.

(4) Tier 3 SFTP emission standard for NMOG + NO_x for LDV and LDT (including MDPV) in § 86.1811–17.

(5) Tier 3 FTP emission standard for NMOG + NO_x for HDV (other than MDPV) in § 86.1816–18.

(6) Cold temperature NMHC standards in § 86.1811–17 for vehicles subject to Tier 3 NMOG+NO_x standards.

* * * * *

(c) * * *

(2) When a manufacturer calculates compliance with the fleet-average standard using the provisions in § 86.1860–17(f), the annual report must state that the manufacturer has elected to use such provision and must contain the fleet-average standard as the fleet-average value for that model year.

* * * * *

(d) *Notice of opportunity for hearing.* Any voiding of the certificate under this section will be made only after EPA has offered the manufacturer concerned an opportunity for a hearing conducted in accordance with 40 CFR part 1068, subpart G, and, if a manufacturer requests such a hearing, will be made

only after an initial decision by the Presiding Officer.

§ 86.1863–07 [Removed]

■ 75. Remove § 86.1863–07.

■ 76. Revise § 86.1864–10 to read as follows:

§ 86.1864–10 How to comply with cold temperature fleet-average standards.

(a) *Applicability.* Cold temperature fleet-average standards apply for NMHC or NMOG+NO_x emissions as described in § 86.1811. Certification testing provisions described in this subpart apply equally for meeting cold temperature exhaust emission standards except as specified.

(b) *Calculating the cold temperature fleet-average standard.* Manufacturers must compute separate sales-weighted cold temperature fleet-average emissions at the end of the model year using actual sales and certifying test groups to FELs, as defined in § 86.1803–01. The FEL becomes the standard for each test group, and every test group can have a different FEL. The certification resolution for the FEL is 0.1 grams/mile. Determine fleet-average emissions separately for each set of vehicles subject to different fleet-average emission standards. Do not include electric vehicles or fuel cell vehicles when calculating fleet-average emissions. Starting with Tier 4 vehicles, determine fleet-average emissions based on separate averaging sets for light-duty program vehicles and medium-duty vehicles. Calculate the sales-weighted cold temperature fleet averages using the following equation, rounded to the nearest 0.1 grams/mile:

Cold temperature fleet-average exhaust emissions (grams/mile) = $\Sigma (N \times \text{FEL}) \div \text{Total number of vehicles sold from the applicable cold temperature averaging set}$

Where:

N = The number of vehicles subject to a given fleet-average emission standard based on vehicles counted at the point of first sale.
FEL = Family Emission Limit (grams/mile).

(c) *Certification compliance and enforcement requirements for cold temperature fleet-average standards.* Each manufacturer must comply on an annual basis with fleet-average standards as follows:

(1) Manufacturers must report in their annual reports to the Agency that they met the relevant fleet-average standard by showing that their sales-weighted cold temperature fleet-average emissions are at or below the applicable fleet-average standard for each averaging set.

(2) If the sales-weighted average is above the applicable fleet-average

standard, manufacturers must obtain and apply sufficient credits as permitted under paragraph (d)(8) of this section. A manufacturer must show via the use of credits that they have offset any exceedance of the cold temperature fleet-average standard. Manufacturers must also include their credit balances or deficits.

(3) If a manufacturer fails to meet the cold temperature fleet-average standard for two consecutive years, the vehicles causing the exceedance will be considered not covered by the certificate of conformity (see paragraph (d)(8) of this section). A manufacturer will be subject to penalties on an individual-vehicle basis for sale of vehicles not covered by a certificate.

(4) EPA will review each manufacturer's sales to designate the vehicles that caused the exceedance of the fleet-average standard. EPA will designate as nonconforming those vehicles in test groups with the highest certification emission values first, continuing until reaching a number of vehicles equal to the calculated number of noncomplying vehicles as determined above. In a group where only a portion of vehicles would be deemed nonconforming, EPA will determine the actual nonconforming vehicles by counting backwards from the last vehicle produced in that test group. Manufacturers will be liable for penalties for each vehicle sold that is not covered by a certificate.

(d) *Requirements for the cold temperature averaging, banking, and trading (ABT) program.* (1) Manufacturers must average the cold temperature fleet average emissions of their vehicles and comply with the cold temperature fleet average standard. A manufacturer whose cold temperature fleet average emissions exceed the applicable standard must complete the calculation in paragraph (d)(4) of this section to determine the size of its credit deficit. A manufacturer whose cold temperature fleet average emissions are less than the applicable standard must complete the calculation in paragraph (d)(4) of this section to generate credits.

(2) There are no property rights associated with cold temperature credits generated under this subpart. Credits are a limited authorization to emit the designated amount of emissions. Nothing in this part or any other provision of law should be construed to limit EPA's authority to terminate or limit this authorization through rulemaking.

(3) Cold temperature NMHC credits may be used to demonstrate compliance with the cold temperature NMOG+NO_x emission standards for Tier 4 vehicles.

The value of a cold temperature NMHC credit is deemed to be equal to the value of a cold temperature NMOG+NO_x credit.

(4) Credits are earned on the last day of the model year. Manufacturers must calculate, for a given model year, the number of credits or debits it has generated according to the following equation, rounded to the nearest 0.1 grams/mile:

Fleet average Credits or Debits = (Cold Temperature NMHC or NMOG+NO_x Standard—Manufacturer's Sales-Weighted Cold Temperature Fleet Average Emissions) × (Total Number of Vehicles Sold)

Where:

Manufacturer's Sales-Weighted Cold Temperature Fleet Average Emissions = average calculated according to paragraph (b) of this section.

Total Number of Vehicles Sold = Total 50-State sales based on the point of first sale.

(5) [Reserved]

(6) NMHC credits are not subject to any discount or expiration date except as required under the deficit carryforward provisions of paragraph (d)(8) of this section. There is no discounting of unused credits. NMHC credits have unlimited lives, subject to the limitations of paragraph (d)(2) of this section. Tier 3 to Tier 4.

(7) Credits may be used as follows:

(i) Credits generated and calculated according to the method in paragraph (d)(4) of this section may be used only to offset deficits accrued with respect to the standard in § 86.1811–10(g)(2). Credits may be banked and used in a future model year in which a manufacturer's average cold temperature fleet-average level exceeds the applicable standard. Credits may be exchanged only within averaging sets. Credits may also be traded to another manufacturer according to the provisions in paragraph (d)(9) of this section. Before trading or carrying over credits to the next model year, a manufacturer must apply available credits to offset any credit deficit, where the deadline to offset that credit deficit has not yet passed.

(ii) The use of credits shall not be permitted to address Selective Enforcement Auditing or in-use testing failures. The enforcement of the averaging standard occurs through the vehicle's certificate of conformity. A manufacturer's certificate of conformity is conditioned upon compliance with the averaging provisions. The certificate will be void ab initio if a manufacturer fails to meet the corporate average

standard and does not obtain appropriate credits to cover its shortfalls in that model year or in the subsequent model year (see deficit carryforward provision in paragraph (d)(8) of this section). Manufacturers must track their certification levels and sales unless they produce only vehicles certified with FELs at or below the applicable to cold temperature fleet-average levels below the standard and have chosen to forgo credit banking.

(8) The following provisions apply if debits are accrued:

(i) If a manufacturer calculates that it has negative credits (also called "debts" or a "credit deficit") for a given model year, it may carry that deficit forward into the next model year. Such a carry-forward may only occur after the manufacturer exhausts any supply of banked credits. At the end of that next model year, the deficit must be covered with an appropriate number of credits that the manufacturer generates or purchases. Any remaining deficit is subject to an enforcement action, as described in this paragraph (d)(8). Manufacturers are not permitted to have a credit deficit for two consecutive years.

(ii) If debits are not offset within the specified time period, the number of vehicles not meeting the cold temperature fleet average standards (and therefore not covered by the certificate) must be calculated by dividing the total amount of debits for the model year by the cold temperature fleet average standard applicable for the model year in which the debits were first incurred.

(iii) EPA will determine the number of vehicles for which the condition on the certificate was not satisfied by designating vehicles in those test groups with the highest certification cold temperature NMHC or NMOG+NO_x emission values first and continuing until reaching a number of vehicles equal to the calculated number of noncomplying vehicles as determined above. If this calculation determines that only a portion of vehicles in a test group contribute to the debit, EPA will designate actual vehicles in that test group as not covered by the certificate, starting with the last vehicle produced and counting backwards.

(iv)(A) If a manufacturer ceases production of vehicles affected by a debit balance, the manufacturer continues to be responsible for offsetting any debits outstanding within the required time period. Any failure to offset the debits will be considered a violation of paragraph (d)(8)(i) of this section and may subject the manufacturer to an enforcement action for sale of vehicles not covered by a

certificate, pursuant to paragraphs (d)(8)(ii) and (iii) of this section.

(B) If a manufacturer is purchased by, merges with, or otherwise combines with another manufacturer, the controlling entity is responsible for offsetting any debits outstanding within the required time period. Any failure to offset the debits will be considered a violation of paragraph (d)(8)(i) of this section and may subject the manufacturer to an enforcement action for sale of vehicles not covered by a certificate, pursuant to paragraphs (d)(8)(ii) and (iii) of this section.

(v) For purposes of calculating the statute of limitations, a violation of the requirements of paragraph (d)(8)(i) of this section, a failure to satisfy the conditions upon which a certificate(s) was issued and hence a sale of vehicles not covered by the certificate, all occur upon the expiration of the deadline for offsetting debits specified in paragraph (d)(8)(i) of this section.

(9) The following provisions apply for trading cold temperature credits:

(i) EPA may reject credit trades if the involved manufacturers fail to submit the credit trade notification in the annual report. A manufacturer may not sell credits that are not available for sale pursuant to the provisions in paragraphs (d)(7)(i) of this section.

(ii) In the event of a negative credit balance resulting from a transaction that a manufacturer could not cover by the reporting deadline for the model year in which the trade occurred, both the buyer and seller are liable, except in cases involving fraud by either the buyer or seller. EPA may void ab initio the certificates of conformity of all engine families participating in such a trade.

(iii) A manufacturer may only trade credits that it has generated pursuant to paragraph (d)(4) of this section or acquired from another party.

■ 77. Amend § 86.1865–12 by revising paragraphs (i)(1), (i)(2) introductory text, and (j) and removing paragraph (k)(7)(iii).

The revisions read as follows:

§ 86.1865–12 How to comply with the fleet average CO₂ standards.

* * * * *

(i) * * *

(1) Through model year 2026, manufacturers must compute separate production-weighted fleet average carbon-related exhaust emissions at the end of the model year for passenger automobiles and light trucks, using actual production, where production means vehicles produced and delivered for sale, and certifying model types to standards as defined in § 86.1818–12.

The model type carbon-related exhaust emission results determined according to 40 CFR part 600, subpart F (in units of grams per mile rounded to the nearest whole number) become the certification standard for each model type.

(2) Through model year 2026, manufacturers must separately calculate production-weighted fleet average carbon-related exhaust emissions levels for the following averaging sets according to the provisions of 40 CFR part 600, subpart F:

* * * * *

(j) *Certification compliance and enforcement requirements for CO₂ exhaust emission standards.* (1) Compliance and enforcement requirements are provided in this section and § 86.1848–10(c)(9).

(2) The certificate issued for each test group requires all model types within that test group to meet the in-use emission standards to which each model type is certified. The in-use standards for passenger automobiles and light duty trucks (including MDPV) are described in § 86.1818–12(d). The in-use standards for non-MDPV heavy-duty vehicles are described in § 86.1819–14(b).

(3) EPA will issue a recall order as described in 40 CFR part 85, subpart S, if EPA or the manufacturer determines that a substantial number of a class or category of vehicles produced by that manufacturer, although properly maintained and used, do not conform to in-use CO₂ emission standards, or do not conform to the monitor accuracy requirements in § 86.1815. The recall would be intended to remedy repairable problems to bring the vehicle into compliance; however, if there is no demonstrable, repairable problem that could be remedied to bring the vehicles into compliance, the manufacturer must submit an alternative plan for to address the noncompliance. For example, manufacturers may need to calculate a correction to its emission credit balance based on the GHG emissions of the actual number of vehicles produced. EPA may void credits originally

calculated from noncompliant vehicles, unless traded, and will adjust debits. In the case of traded credits, EPA will adjust the selling manufacturer's credit balance to reflect the sale of such credits and any resulting credit deficit. Manufacturers may voluntarily recall vehicles to remedy such a noncompliance and submit a voluntary recall report as described in 40 CFR part 85, subpart T.

(4) The manufacturer may request a hearing under 40 CFR part 1068, subpart G, regarding any voiding of credits or adjustment of debits under paragraph (j)(3) of this section. Manufacturers must submit such a request in writing describing the objection and any supporting data within 30 days after we make a decision.

(5) Each manufacturer must comply with the applicable CO₂ fleet average standard on a production-weighted average basis, at the end of each model year. Use the procedure described in paragraph (i) of this section for passenger automobiles and light trucks (including MDPV). Use the procedure described in § 86.1819–14(d)(9)(iv) for non-MDPV heavy-duty vehicles.

(6) Each manufacturer must comply on an annual basis with the fleet average standards as follows:

(i) Manufacturers must report in their annual reports to the Agency that they met the relevant corporate average standard by showing that the applicable production-weighted average CO₂ emission levels are at or below the applicable fleet average standards; or

(ii) If the production-weighted average is above the applicable fleet average standard, manufacturers must obtain and apply sufficient CO₂ credits as authorized under paragraph (k)(8) of this section. A manufacturer must show that they have offset any exceedance of the corporate average standard via the use of credits. Manufacturers must also include their credit balances or deficits in their annual report to the Agency.

(iii) If a manufacturer fails to meet the corporate average CO₂ standard for four consecutive years, the vehicles causing

the corporate average exceedance will be considered not covered by the certificate of conformity (see paragraph (k)(8) of this section). A manufacturer will be subject to penalties on an individual-vehicle basis for sale of vehicles not covered by a certificate.

(iv) EPA will review each manufacturer's production to designate the vehicles that caused the exceedance of the corporate average standard. EPA will designate as nonconforming those vehicles in test groups with the highest certification emission values first, continuing until reaching a number of vehicles equal to the calculated number of noncomplying vehicles as determined in paragraph (k)(8) of this section. In a group where only a portion of vehicles would be deemed nonconforming, EPA will determine the actual nonconforming vehicles by counting backwards from the last vehicle produced in that test group. Manufacturers will be liable for penalties for each vehicle sold that is not covered by a certificate.

* * * * *

■ 78. Amend § 86.1866–12 by revising paragraphs (a) and (c)(3) to read as follows:

§ 86.1866–12 CO₂ credits for advanced technology vehicles.

* * * * *

(a) Electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles that are certified and produced for sale in the states and territories of the United States may use a value of zero grams CO₂ per mile to represent the proportion of electric operation of a vehicle that is derived from electricity generated from sources that are not onboard the vehicle.

* * * * *

(c) * * *

(3) Multiplier-based credits for model years 2022 through 2024 may not exceed credit caps, as follows:

(i) Calculate a nominal annual credit cap in Mg using the following equation, rounded to the nearest whole number:

$$CAP_{annual} = 5.0 \frac{\text{g}}{\text{mile}} \cdot [195,264 \text{ miles} \cdot P_{auto} + 225,865 \cdot P_{truck}] \cdot 10^{-6} \frac{\text{tonne}}{\text{g}}$$

Where:

P_{auto} = total number of certified passenger automobiles the manufacturer produced in a given model year for sale in any state or territory of the United States.

P_{truck} = total number of certified light trucks (including MDPV) the manufacturer produced in a given model year for sale in any state or territory of the United States.

(ii) Calculate an annual g/mile equivalent value for the multiplier-based credits using the following equation, rounded to the nearest 0.1 g/mile:

$$\text{annual } g \text{ per mile equivalent value} = 5.0 \cdot \frac{\text{annual credits}}{CAP_{\text{annual}}}$$

Where:

annual credits = a manufacturer's total multiplier-based credits in a given model year from all passenger automobiles and light trucks as calculated under this paragraph (c).

(iii) Calculate a cumulative g/mile equivalent value for the multiplier-based credits in each year by adding the annual g/mile equivalent values calculated under paragraph (c)(3)(ii) of this section.

(iv) The cumulative g/mile equivalent value may not exceed 10.0 in any year.

(v) For every year of certifying with multiplier-based credits, the annual credit report must include the calculated values for the nominal annual credit cap in Mg and the cumulative g/mile equivalent value.

■ 79. Amend § 86.1867–12 by revising the introductory text to read as follows:

§ 86.1867–12 CO₂ credits for reducing leakage of air conditioning refrigerant.

Through model year 2026, manufacturers may generate credits applicable to the CO₂ fleet average program described in § 86.1865–12 by implementing specific air conditioning system technologies designed to reduce air conditioning refrigerant leakage over the useful life of their passenger automobiles and/or light trucks (including MDPV); only the provisions of paragraph (a) of this section apply for non-MDPV heavy-duty vehicles. Credits shall be calculated according to this section for each air conditioning system that the manufacturer is using to generate CO₂ credits. Manufacturers may no longer generate credits under this section starting in model year 2027.

* * * * *

■ 80. Amend § 86.1868–12 by:

■ a. Revising the introductory text.

■ b. Removing paragraph (a)(1).

■ c. Redesignating paragraph (a)(2) as paragraph (a).

■ d. Revising the redesignated paragraph (a).

■ e. Adding a heading to the table in newly redesignated paragraph (a).

■ f. Revising paragraph (b).

■ g. Removing and reserving paragraphs (e) and (f).

■ h. Adding paragraph (g) introductory text.

The revisions and addition read as follows:

§ 86.1868–12 CO₂ credits for improving the efficiency of air conditioning systems.

Manufacturers may generate credits applicable to the CO₂ fleet average program described in § 86.1865–12 by implementing specific air conditioning system technologies designed to reduce air conditioning-related CO₂ emissions over the useful life of their passenger automobiles and light trucks (including MDPV). The provisions of this section do not apply for non-MDPV heavy-duty vehicles. Credits shall be calculated according to this section for each air conditioning system that the manufacturer is using to generate CO₂ credits. Manufacturers must validate credits under this section based on testing as described in paragraph (g) of this section. Starting in model year 2027, manufacturers may generate credits under this section only for vehicles propelled by internal combustion engines.

(a) Air conditioning efficiency credits are available for the following technologies in the gram per mile amounts indicated for each vehicle category in the following table:

Table 1 to Paragraph (a)

* * * * *

(b) Air conditioning efficiency credits are determined on an air conditioning system basis. For each air conditioning system that is eligible for a credit based on the use of one or more of the items listed in paragraph (a) of this section, the total credit value is the sum of the gram per mile values for the appropriate model year listed in paragraph (a) for each item that applies to the air conditioning system. The total credit value for an air conditioning system may not be greater than 5.0 grams per mile for any passenger automobile or 7.2 grams per mile for any light truck.

* * * * *

(g) *AC17 validation testing and reporting requirements.* Manufacturers must validate air conditioning credits by using the AC17 Test Procedure in 40 CFR 1066.845 as follows:

* * * * *

■ 81. Amend § 86.1869–12 by revising the introductory text and paragraph (b)(2) to read as follows:

§ 86.1869–12 CO₂ credits for off-cycle CO₂ reducing technologies.

This section describes how manufacturers may generate credits for off-cycle CO₂-reducing technologies through model year 2030. The provisions of this section do not apply for non-MDPV heavy-duty vehicles, except that § 86.1819–14(d)(13) describes how to apply paragraphs (c) and (d) of this section for those vehicles. Manufacturers may no longer generate credits under this section starting in model year 2027 for vehicles deemed to have zero tailpipe emissions and in model year 2031 for all other vehicles. Manufacturers may no longer generate credits under paragraphs (c) and (d) of this section for any type of vehicle starting in model year 2027.

* * * * *

(b) * * *

(2) The maximum allowable decrease in the manufacturer's combined passenger automobile and light truck fleet average CO₂ emissions attributable to use of the default credit values in paragraph (b)(1) of this section is specified in paragraph (b)(2)(v) of this section. If the total of the CO₂ g/mi credit values from paragraph (b)(1) of this section does not exceed the specified off-cycle credit cap for any passenger automobile or light truck in a manufacturer's fleet, then the total off-cycle credits may be calculated according to paragraph (f) of this section. If the total of the CO₂ g/mi credit values from paragraph (b)(1) of this section exceeds the specified off-cycle credit cap for any passenger automobile or light truck in a manufacturer's fleet, then the gram per mile decrease for the combined passenger automobile and light truck fleet must be determined according to paragraph (b)(2)(ii) of this section to determine whether the applicable limitation has been exceeded.

(i) Determine the gram per mile decrease for the combined passenger automobile and light truck fleet using the following formula:

$$\text{Decrease} = \frac{\text{Credits} \times 1,000,000}{[(\text{Prod}_C \times 195,264) + (\text{Prod}_T \times 225,865)]}$$

Where:

Credits = The total of passenger automobile and light truck credits, in Megagrams, determined according to paragraph (f) of this section and limited to those credits accrued by using the default gram per mile values in paragraph (b)(1) of this section.

Prod_C = The number of passenger automobiles produced by the manufacturer and delivered for sale in the U.S.
 Prod_T = The number of light trucks produced by the manufacturer and delivered for sale in the U.S.
 (ii) If the value determined in paragraph (b)(2)(i) of this section is

greater than the off-cycle credit cap specified in paragraph (b)(2)(v) of this section, the total credits, in Megagrams, that may be accrued by a manufacturer using the default gram per mile values in paragraph (b)(1) of this section shall be determined using the following formula:

$$\text{Credit (Megagrams)} = \frac{[\text{cap} \times ((\text{Prod}_C \times 195,264) + (\text{Prod}_T \times 225,865))]}{1,000,000}$$

Where:

cap = the off-cycle credit cap specified in paragraph (b)(2)(v) of this section.

Prod_C = The number of passenger automobiles produced by the manufacturer and delivered for sale in the U.S.

Prod_T = The number of light trucks produced by the manufacturer and delivered for sale in the U.S.

(iii) If the value determined in paragraph (b)(2)(i) of this section is not greater than the off-cycle credit cap specified in paragraph (b)(2)(v) of this section, then the credits that may be accrued by a manufacturer using the default gram per mile values in paragraph (b)(1) of this section do not exceed the allowable limit, and total credits may be determined for each category of vehicles according to paragraph (f) of this section.

(iv) If the value determined in paragraph (b)(2)(i) of this section is greater than the off-cycle credit cap specified in paragraph (b)(2)(v) of this section, then the combined passenger automobile and light truck credits, in Megagrams, that may be accrued using the calculations in paragraph (f) of this section must not exceed the value determined in paragraph (b)(2)(ii) of this section. This limitation should generally be done by reducing the amount of credits attributable to the vehicle category that caused the limit to be exceeded such that the total value does not exceed the value determined in paragraph (b)(2)(ii) of this section.

(v) The manufacturer's combined passenger automobile and light truck fleet average CO₂ emissions attributable to use of the default credit values in paragraph (b)(1) of this section may not exceed the specific values as described in this paragraph (b)(2)(v). Starting in model year 2027, adjust the credit contribution from PHEVs in the fleet-average calculation by dividing the PHEV off-cycle credit value by the utility factor established under 40 CFR 600.116–12(c)(1) or (c)(10)(iii) (weighted 55 percent city, 45 percent highway). For example, if a PHEV has utility factor

of 0.3 and an off-cycle credit of 3.0, count it as having a credit value of 10 (3/0.3) for calculating the fleet average value. The following maximum values apply for off-cycle credits:

Model year	Off-cycle credit cap (g/mile)
(A) 2023–2026	15
(B) 2027	10
(C) 2028	8.0
(D) 2029	6.0
(E) 2030	3.0

* * * * *

§ 86.1871–12 [Removed]

■ 82. Remove § 86.1871–12.

PART 600—FUEL ECONOMY AND GREENHOUSE GAS EXHAUST EMISSIONS OF MOTOR VEHICLES

■ 83. The authority citation for part 1036 continues to read as follows:

Authority: 49 U.S.C. 32901–23919q, Pub. L. 109–58.

■ 84. Amend § 600.007 by revising paragraph (b)(4) introductory text to read as follows:

§ 600.007 Vehicle acceptability.

* * * * *

(b) * * *

(4) Each fuel economy data vehicle must meet the same exhaust emission standards as certification vehicles of the respective engine-system combination during the test in which the fuel economy test results are generated. This may be demonstrated using one of the following methods:

* * * * *

■ 85. Amend § 600.113–12 by revising the introductory text and paragraph (n) to read as follows:

§ 600.113–12 Fuel economy, CO₂ emissions, and carbon-related exhaust emission calculations for FTP, HFET, US06, SC03 and cold temperature FTP tests.

The Administrator will use the calculation procedure set forth in this section for all official EPA testing of

vehicles fueled with gasoline, diesel, alcohol-based or natural gas fuel. The calculations of the weighted fuel economy and carbon-related exhaust emission values require input of the weighted grams/mile values for total hydrocarbons (HC), carbon monoxide (CO), and carbon dioxide (CO₂); and, additionally for methanol-fueled automobiles, methanol (CH₃OH) and formaldehyde (HCHO); and, additionally for ethanol-fueled automobiles, methanol (CH₃OH), ethanol (C₂H₅OH), acetaldehyde (C₂H₄O), and formaldehyde (HCHO); and additionally for natural gas-fueled vehicles, non-methane hydrocarbons (NMHC) and methane (CH₄). For manufacturers selecting the fleet averaging option for N₂O and CH₄ as allowed under § 86.1818 of this chapter the calculations of the carbon-related exhaust emissions require the input of grams/mile values for nitrous oxide (N₂O) and methane (CH₄). Emissions shall be determined for the FTP, HFET, US06, SC03, and cold temperature FTP tests. Additionally, the specific gravity, carbon weight fraction and net heating value of the test fuel must be determined. The FTP, HFET, US06, SC03, and cold temperature FTP fuel economy and carbon-related exhaust emission values shall be calculated as specified in this section. An example fuel economy calculation appears in Appendix II of this part.

* * * * *

(n) Manufacturers may use a value of 0 grams CO₂ and CREE per mile to represent the emissions of fuel cell vehicles and the proportion of electric operation of a electric vehicles and plug-in hybrid electric vehicles that is derived from electricity that is generated from sources that are not onboard the vehicle.

* * * * *

■ 86. Amend § 600.116–12 by revising paragraphs (c)(1), (c)(2)(i) and (iii), and (c)(5) and (10) and adding paragraph (c)(11) to read as follows:

§ 600.116–12 Special procedures related to electric vehicles and hybrid electric vehicles.

* * * * *

(c) * * *

(1) To determine CREE values to demonstrate compliance with GHG standards, calculate composite values representing combined operation during

charge-depleting and charge-sustaining operation using the following utility factors, except as otherwise specified in this paragraph (c):

TABLE 1 TO PARAGRAPH (c)(1)—FLEET UTILITY FACTORS FOR URBAN “CITY” DRIVING

Schedule range for UDDS phases, miles	Model year 2026 and earlier		Model year 2027 and later	
	Cumulative UF	Sequential UF	Cumulative UF	Sequential UF
3.59	0.125	0.125	0.062	0.062
7.45	0.243	0.117	0.125	0.062
11.04	0.338	0.095	0.178	0.054
14.90	0.426	0.088	0.232	0.053
18.49	0.497	0.071	0.278	0.046
22.35	0.563	0.066	0.324	0.046
25.94	0.616	0.053	0.363	0.040
29.80	0.666	0.049	0.403	0.040
33.39	0.705	0.040	0.437	0.034
37.25	0.742	0.037	0.471	0.034
40.84	0.772	0.030	0.500	0.029
44.70	0.800	0.028	0.530	0.029
48.29	0.822	0.022	0.555	0.025
52.15	0.843	0.021	0.580	0.025
55.74	0.859	0.017	0.602	0.022
59.60	0.875	0.016	0.624	0.022
63.19	0.888	0.013	0.643	0.019
67.05	0.900	0.012	0.662	0.019
70.64	0.909	0.010	0.679	0.017

TABLE 2 TO PARAGRAPH (c)(1)—FLEET UTILITY FACTORS FOR HIGHWAY DRIVING

Schedule range for HFET, miles	Model year 2026 and earlier		Model year 2027 and later	
	Cumulative UF	Sequential UF	Cumulative UF	Sequential UF
10.3	0.123	0.123	0.168	0.168
20.6	0.240	0.117	0.303	0.136
30.9	0.345	0.105	0.414	0.110
41.2	0.437	0.092	0.503	0.090
51.5	0.516	0.079	0.576	0.073
61.8	0.583	0.067	0.636	0.060
72.1	0.639	0.056	0.685	0.049

(2) * * *

(i) For vehicles that are not dual fueled automobiles, determine fuel economy using the utility factors specified in paragraph (c)(1) of this

section for model year 2026 and earlier vehicles. Do not use the petroleum-equivalence factors described in 10 CFR 474.3.

* * * * *

(iii) For 2016 and later model year dual fueled automobiles, you may determine fuel economy based on the following equation, separately for city and highway driving:

$$MPGe_{CAFE} = \frac{1}{\left(\frac{UF}{MPG_{elec}} + \frac{(1-UF)}{MPGe_{gas}} \right)}$$

Where:

UF = The appropriate utility factor for city or highway driving specified in paragraph (c)(1) of this section for model year 2026 and earlier vehicles.

* * * * *

(5) Instead of the utility factors specified in paragraphs (c)(1) through (3) of this section, calculate utility factors using the following equation for vehicles whose maximum speed is less than the maximum speed specified in

the driving schedule, where the vehicle's maximum speed is determined, to the nearest 0.1 mph, from observing the highest speed over the first duty cycle (FTP, HFET, etc.):

$$UF_i = 1 - \left[\exp \left(- \sum_{j=1}^K \left(\left(\frac{d_i}{ND} \right)^j \times C_j \right) \right) \right] - \sum_{i=1}^n UF_{i-1}$$

Where:

UF_i = the utility factor for phase i . Let $UF_0 = 0$.

J = a counter to identify the appropriate term in the summation (with terms numbered consecutively).

K = the number of terms in the equation (see Table 5 of this section).

d_i = the distance driven in phase i .

ND = the normalized distance. Use 399 for both FTP and HFET operation for fleet values CAFE, and for GHG through model year 2026. Use 583 for both FTP

and HFET operation for GHG fleet values starting in model year 2027. Use 399 for both FTP and HFET operation for multi-day individual value for labeling.

C_j = the coefficient for term j from the following table:

TABLE 5 TO PARAGRAPH (c)(5)—CITY/HIGHWAY SPECIFIC UTILITY FACTOR COEFFICIENTS

Coefficient	Fleet values for I, and for GHG through MY 2026		Fleet values for GHG starting in MY 2027	Multi-day individual value for labeling
	City	Highway	City or highway	City or highway
1	14.86	4.8	10.52	13.1
2	2.965	13	− 7.282	− 18.7
3	− 84.05	− 65	− 26.37	5.22
4	153.7	120	79.08	8.15
5	− 43.59	− 100.00	− 77.36	3.53
6	− 96.94	31.00	26.07	− 1.34
7	14.47	.....	.....	− 4.01
8	91.70	.....	.....	− 3.90
9	− 46.36	.....	.....	− 1.15
10	.....	.....	.....	3.88

n = the number of test phases (or bag measurements) before the vehicle reaches the end-of-test criterion.

* * * * *

(10) The utility factors described in this paragraph (c) and in § 600.510 are derived from equations in SAE J2841. You may alternatively calculate utility factors from the corresponding equations in SAE J2841 as follows:

(i) Calculate utility factors for labeling directly from the equation in SAE J2841 Section 6.2 using the Table 2 MDIUF Fit Coefficients (C1 through C10) and a normalized distance (norm_dist) of 399 miles.

(ii) Calculate utility factors for fuel economy standards from the equation in SAE J2841 Section 6.2 using the Table 5 Fit Coefficients for city/Hwy Specific FUF curves weighted 55 percent city, 45 percent highway and a normalized distance (norm_dist) of 399 miles.

(iii) Starting in model year 2027, calculate utility factors for GHG compliance with emission standards from the equation in SAE J2841 Section 6.2 using the Table 2 FUF Fit Coefficients (C1 through C6) and a normalized distance (norm_dist) of 583 miles. For model year 2026 and earlier, calculate utility factors for compliance with GHG emission standards as described in paragraph (c)(10)(ii) of this section.

(11) The following methodology is used to determine the useable battery energy (UBE) for a PHEV using data

obtained during either the UDDS Full Charge Test (FCT) or the HFET Full Charge Test as described in SAE J1711:

(i) Perform the measurements described in SAE J1711 Section 4.3.2.3.d. Record initial and final SOC of the RESS for each cycle in the FCT.

(ii) Calculate utility factors for fuel economy standards from the equation in SAE J2841 Section 6.2 using the Table 5 Fit Coefficients for city/Hwy Specific FUF curves (weighted 55 percent city, 45 percent highway) and a normalized distance (norm_dist) of 399 miles.

(iii) Determine average RESS voltage during each cycle of the FCT by averaging the results of either the continuous voltage measurement or by averaging the initial and final voltage measurement.

(iv) Determine the DC discharge energy for each cycle of the FCT by multiplying the change in SOC of each cycle by the average voltage for the cycle. You may instead use a DC wideband power analyzer meeting the requirements of SAE J1711 Section 4.2.a. to directly measure the DC discharge energy of the RESS during each cycle of the FCT.

(v) After completing the FCT, determine the cycles comprising the Charge-Depleting Cycle Range (Rcdc) as described in SAE J1711 Section 3.1.13. Rcdc includes the transitional cycle or

cycles where the vehicle may have operated in both charge-depleting and charge-sustaining modes. Do not include charge-sustaining cycles in Rcdc.

(vi) Determine the UBE of the PHEV by summing the measured DC discharge energy for each cycle comprising Rcdc. Following the charge-depleting cycles and during the transition to charge-sustaining operation, one or more of the transition cycles may involve vehicle charging without discharging the RESS. Include these negative discharge results in the summation.

* * * * *

■ 87. Revise § 600.117 to read as follows:

§ 600.117 Interim provisions.

(a) The following provisions apply instead of other provisions specified in this part through model year 2026:

(1) Except as specified in paragraphs (a)(5) and (6) of this section, manufacturers must demonstrate compliance with greenhouse gas emission standards and determine fuel economy values using E0 gasoline test fuel as specified in 40 CFR 86.113–04(a)(1), regardless of any testing with E10 test fuel specified in 40 CFR 1065.710(b) under paragraph (a)(2) of this section.

(2) Manufacturers may demonstrate that vehicles comply with emission standards for criteria pollutants as specified in 40 CFR part 86, subpart S, during fuel economy measurements using the E0 gasoline test fuel specified in 40 CFR 86.113–04(a)(1), as long as this test fuel is used in fuel economy testing for all applicable duty cycles specified in 40 CFR part 86, subpart S. If a vehicle fails to meet an emission standard for a criteria pollutant using the E0 gasoline test fuel specified in 40 CFR 86.113–04(a)(1), the manufacturer must retest the vehicle using the E10 test fuel specified in 40 CFR 1065.710(b) (or the equivalent LEV III test fuel for California) to demonstrate compliance with all applicable emission standards over that test cycle.

(3) If a manufacturer demonstrates compliance with emission standards for criteria pollutants over all five test cycles using the E10 test fuel specified in 40 CFR 1065.710(b) (or the equivalent LEV III test fuel for California), the manufacturer may use test data with the same test fuel to determine whether a test group meets the criteria described in § 600.115 for derived 5-cycle testing for fuel economy labeling. Such vehicles may be tested over the FTP and HFET cycles with the E0 gasoline test fuel specified in 40 CFR 86.113–04(a)(1) under this paragraph (a)(3); the vehicles must meet the emission standards for criteria pollutants over those test cycles as described in paragraph (a)(2) of this section.

(4) Manufacturers may perform testing with the appropriate gasoline test fuels specified in 40 CFR 86.113–04(a)(1), 86.213(a)(2), and 1065.710(b) to evaluate whether their vehicles meet the criteria for derived 5-cycle testing under § 600.115. All five tests must use test fuel with the same nominal ethanol concentration.

(5) For IUVP testing under 40 CFR 86.1845, manufacturers may demonstrate compliance with greenhouse gas emission standards using a test fuel meeting specifications for demonstrating compliance with emission standards for criteria pollutants.

(6) Manufacturers may alternatively demonstrate compliance with greenhouse gas emission standards and determine fuel economy values using E10 gasoline test fuel as specified in 40 CFR 1065.710(b). However, manufacturers must then multiply measured CO₂ results by 1.0166 and round to the nearest 0.01 g/mile and calculate fuel economy using the equations appropriate equation for testing with E10 test fuel.

(7) If a vehicle uses an E10 test fuel for evaporative emission testing and E0 is the applicable test fuel for exhaust emission testing, exhaust measurement and reporting requirements apply over the course of the evaporative emission test, but the vehicle need not meet the exhaust emission standards during the evaporative emission test run.

(b) Manufacturers may certify model year 2027 through 2029 vehicles to greenhouse gas emission standards using data with E0 test fuel from testing for earlier model years, subject to the carryover provisions of 40 CFR 86.1839. In the case of the fleet average CO₂ standard, manufacturers must divide the measured CO₂ results by 1.0166 and round to the nearest 0.01 g/mile.

PART 1036—CONTROL OF EMISSIONS FROM NEW AND IN-USE HEAVY-DUTY HIGHWAY ENGINES

■ 88. The authority citation for part 1036 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 89. Add § 1036.635 to read as follows:

§ 1036.635 Certification requirements for high-GCWR medium-duty vehicles.

This section describes provisions that apply for engines certified under this part for installation in vehicles at or below 14,000 pounds GVWR that have GCWR above 22,000 pounds.

(a) Engines that will be installed in complete vehicles must meet the criteria pollutant emission standards specified in § 1036.104. Those engines are exempt from the greenhouse gas emission standards in § 1036.108, but engine certification under this part 1036 depends on the following conditions:

(1) The vehicles in which the engines are installed must meet the following vehicle-based standards under 40 CFR part 86, subpart S:

(i) Evaporative and refueling emission standards as specified in 40 CFR 86.1813–17.

(ii) Greenhouse gas emission standards as specified in 40 CFR 86.1819–14.

(iii) For electric vehicles, battery durability standards in 40 CFR 86.1815.

(2) Additional provisions related to greenhouse gas emission standards from 40 CFR part 86, subpart S, apply for certifying engines under this part, as illustrated in the following examples:

(i) The engine's emission control information label must state that the vehicle meets evaporative and refueling emission standards under 40 CFR 86.1813–17 and greenhouse gas emission standards under 40 CFR 86.1819–14.

(ii) The application for certification must include the information related to complying with evaporative, refueling, and greenhouse gas emission standards.

(iii) We may require you to perform testing on in-use vehicles as specified in 40 CFR 86.1845–04 and 86.1846–01.

(iv) Demonstrate compliance with the fleet average CO₂ standard as described in 40 CFR 86.1865–12 by including vehicles certified under this section in the compliance calculations as part of the averaging set for medium-duty vehicles certified under 40 CFR part 86, subpart S.

(3) State in the application for certification that you are using the provisions of this section to meet the fleet average CO₂ standard in 40 CFR 86.1819–14 instead of meeting the standards of § 1036.108 and instead of certifying the vehicle to standards under 40 CFR part 1037.

(b) The provisions of this section are optional for engines installed in incomplete vehicles at or below 14,000 pounds GVWR that have GCWR above 22,000 pounds.

PART 1037—CONTROL OF EMISSIONS FROM NEW HEAVY-DUTY MOTOR VEHICLES

■ 90. The authority citation for part 1037 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 91. Amend § 1037.150 by revising paragraph (l) to read as follows:

§ 1037.150 Interim provisions.

* * * * *

(l) *Optional certification to GHG standards under 40 CFR part 86.* The greenhouse gas standards in 40 CFR part 86, subpart S, may apply instead of the standards of § 1037.105 as follows:

(1) Complete or cab-complete vehicles may optionally meet alternative standards as described in 40 CFR 86.1819–14(j).

(2) Complete high-GCWR vehicles must meet the greenhouse gas standards of 40 CFR part 86, subpart S, as described in 40 CFR 1036.635.

(3) Incomplete high-GCWR vehicles may meet the greenhouse gas standards of 40 CFR part 86, subpart S, as described in 40 CFR 1036.635.

* * * * *

PART 1066—VEHICLE-TESTING PROCEDURES

■ 92. The authority citation for part 1066 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

■ 93. Amend § 1066.801 by revising the introductory text and paragraphs (c) and (e) to read as follows:

§ 1066.801 Applicability and general provisions.

This subpart I specifies how to apply the test procedures of this part for light-duty vehicles, light-duty trucks, and heavy-duty vehicles at or below 14,000 pounds GVWR that are subject to chassis testing for exhaust emissions under 40 CFR part 86, subpart S. For these vehicles, references in this part 1066 to the standard-setting part include this subpart I.

* * * * *

(c) This subpart covers the following test procedures:

(1) The Federal Test Procedure (FTP), which includes the general driving cycle. This procedure is also used for measuring evaporative emissions. This may be called the conventional test since it was adopted with the earliest emission standards.

(i) The FTP consists of one Urban Dynamometer Driving Schedule (UDDS) as specified in paragraph (a) of appendix I of 40 CFR part 86, followed by a 10-minute soak with the engine off and repeat driving through the first 505 seconds of the UDDS. Note that the UDDS represents about 7.5 miles of driving in an urban area. Engine startup (with all accessories turned off), operation over the initial UDDS, and engine shutdown make a complete cold-start test. The hot-start test consists of the first 505 seconds of the UDDS following the 10-minute soak and a hot-running portion of the UDDS after the first 505 seconds. The first 505 seconds of the UDDS is considered the transient portion; the remainder of the UDDS is considered the stabilized (or hot-stabilized) portion. The hot-stabilized portion for the hot-start test is generally measured during the cold-start test; however, in certain cases, the hot-start test may involve a second full UDDS following the 10-minute soak, rather than repeating only the first 505 seconds. See §§ 1066.815 and 1066.820.

(ii) Evaporative emission testing includes a preconditioning drive with the UDDS and a full FTP cycle, including exhaust measurement, followed by evaporative emission measurements. In the three-day diurnal test sequence, the exhaust test is followed by a running loss test

consisting of a UDDS, then two New York City Cycles as specified in paragraph (e) of appendix I of 40 CFR part 86, followed by another UDDS; see 40 CFR 86.134. Note that the New York City Cycle represents about 1.18 miles of driving in a city center. The running loss test is followed by a high-temperature hot soak test as described in 40 CFR 86.138 and a three-day diurnal emission test as described in 40 CFR 86.133. In the two-day diurnal test sequence, the exhaust test is followed by a low-temperature hot soak test as described in 40 CFR 86.138–96(k) and a two-day diurnal emission test as described in 40 CFR 86.133–96(p).

(iii) Refueling emission tests for vehicles that rely on integrated control of diurnal and refueling emissions includes vehicle operation over the full FTP test cycle corresponding to the three-day diurnal test sequence to precondition and purge the evaporative canister. For non-integrated systems, there is a preconditioning drive over the UDDS and a refueling event, followed by repeated UDDS driving to purge the evaporative canister. The refueling emission test procedures are described in 40 CFR 86.150 through 86.157.

(2) The US06 driving cycle is specified in paragraph (g) of appendix I of 40 CFR part 86. Note that the US06 driving cycle represents about 8.0 miles of relatively aggressive driving.

(3) The SC03 driving cycle is specified in paragraph (h) of appendix I of 40 CFR part 86. Note that the SC03 driving schedule represents about 3.6 miles of urban driving with the air conditioner operating.

(4) The hot portion of the LA–92 driving cycle is specified in paragraph (c) of appendix I of 40 CFR part 86. Note that the hot portion of the LA–92 driving cycle represents about 9.8 miles of relatively aggressive driving for commercial trucks. This driving cycle applies for heavy-duty vehicles above 10,000 pounds GVWR and at or below 14,000 pounds GVWR only for vehicles subject to Tier 3 standards.

(5) The Highway Fuel Economy Test (HFET) is specified in appendix I of 40 CFR part 600. Note that the HFET represents about 10.2 miles of rural and freeway driving with an average speed

of 48.6 mi/hr and a maximum speed of 60.0 mi/hr. See § 1066.840.

(6) Cold temperature standards apply for CO and NMHC emissions when vehicles operate over the FTP at a nominal temperature of -7°C . See 40 CFR part 86, subpart C, and subpart H of this part.

(7) Emission measurement to determine air conditioning credits for greenhouse gas standards. In this optional procedure, manufacturers operate vehicles over repeat runs of the AC17 test sequence to allow for calculating credits as part of demonstrating compliance with CO₂ emission standards. The AC17 test sequence consists of a UDDS preconditioning drive, followed by emission measurements over the SC03 and HFET driving cycles. See § 1066.845.

(8) The mid-temperature intermediate soak FTP is specified as the procedure for Partial Soak Emission Testing in Section E4.4 of CARB's PHEV Test Procedures for plug-in hybrid electric vehicles, in Part II Section I.7 of CARB's LMDV Test Procedures for other hybrid electric vehicles, and in Part II, Section B.9.1 and B.9.3 of CARB's LMDV Test Procedures for other vehicles (both incorporated by reference, see § 1066.1010).

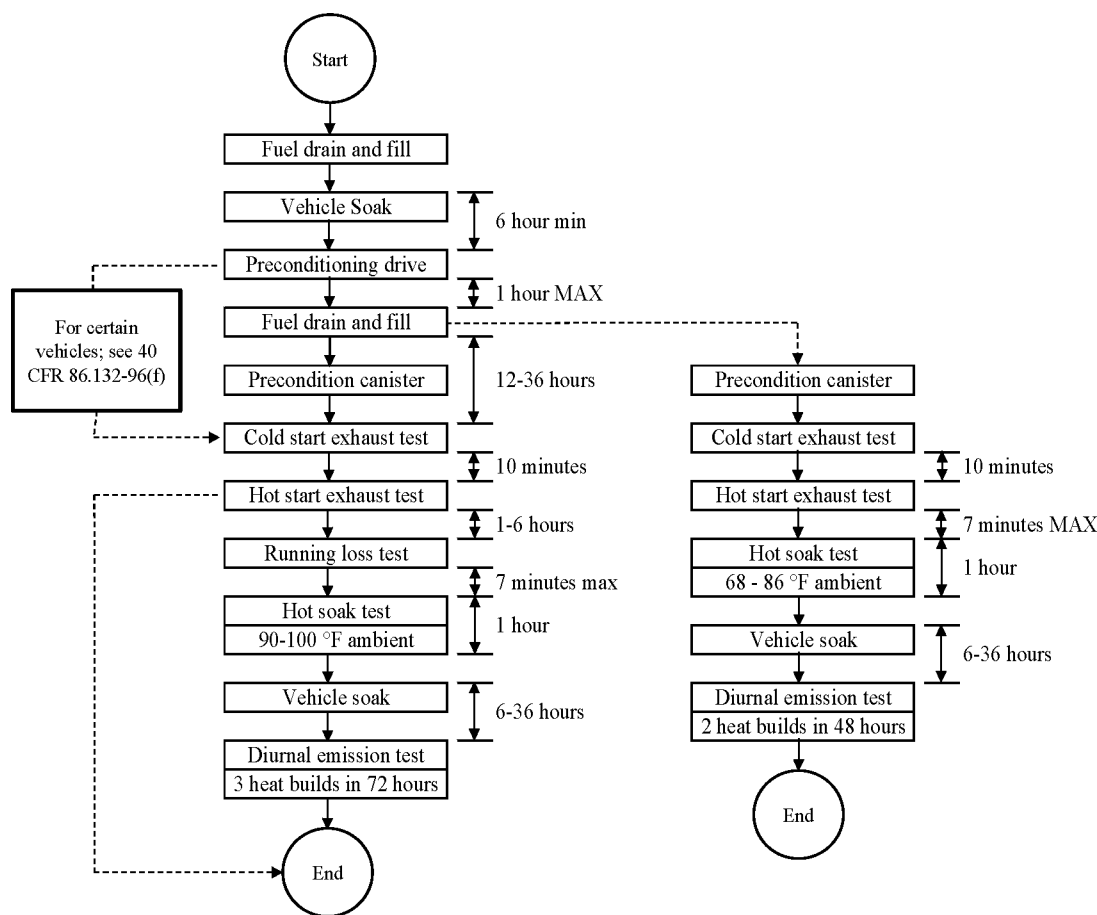
(9) The early driveaway FTP is specified as the procedure for Quick Drive-Away Emission Testing in Section E4.5 of CARB's PHEV Test Procedures for plug-in hybrid electric vehicles, in Part II Section I.8 of CARB's LMDV Test Procedures for other hybrid electric vehicles, and in Part II, Section B.9.2 and B.9.4 of CARB's LMDV Test Procedures for other vehicles (both incorporated by reference, see § 1066.1010).

(10) The high-load PHEV engine starts US06 is specified in Section E7.2 of CARB's PHEV Test Procedures using the cold-start US06 Charge-Depleting Emission Test (incorporated by reference, see § 1066.1010).

* * * * *

(e) The following figure illustrates the FTP test sequence for measuring exhaust and evaporative emissions:

Figure 1 to Paragraph (e)



■ 94. Amend § 1066.805 by revising paragraph (c) to read as follows:

§ 1066.805 Road-load power, test weight, and inertia weight class determination.

(c) For FTP, US06, SC03, New York City Cycle, HFET, and LA-92 testing, determine road-load forces for each test vehicle at speeds between 9.3 and 71.5 miles per hour. The road-load force must represent vehicle operation on a smooth, level road with no wind or calm winds, no precipitation, an ambient temperature of approximately 20 °C, and atmospheric pressure of 98.21 kPa. You may extrapolate road-load force for speeds below 9.3 mi/hr.

■ 95. Revise § 1066.830 to read as follows:

§ 1066.830 Supplemental Federal Test Procedures; overview.

Sections 1066.831 and 1066.835 describe the detailed procedures for the Supplemental Federal Test Procedure (SFTP). This testing applies for Tier 3 vehicles subject to the SFTP standards in 40 CFR 86.1811–17 or 86.1816–18. The SFTP test procedure consists of FTP testing and two additional test elements—a sequence of vehicle operation with more aggressive driving

and a sequence of vehicle operation that accounts for the impact of the vehicle's air conditioner. Tier 4 vehicles subject to 40 CFR 86.1811–27 must meet standards for each individual driving cycle.

(a) The SFTP standard applies as a composite representing the three test elements. The emission results from the aggressive driving test element (§ 1066.831), the air conditioning test element (§ 1066.835), and the FTP test element (§ 1066.820) are analyzed according to the calculation methodology and compared to the applicable SFTP emission standards as described in 40 CFR part 86, subpart S.

(b) The test elements of the SFTP may be run in any sequence that includes the specified preconditioning steps.

■ 96. Amend § 1066.831 by revising paragraph (e)(2) to read as follows:

§ 1066.831 Exhaust emission test procedures for aggressive driving.

* * * * *

(e) * * *

(2) Operate the vehicle over the full US06 driving schedule, with the following exceptions that apply only for Tier 3 vehicles:

(i) For heavy-duty vehicles above 10,000 pounds GVWR, operate the

vehicle over the Hot LA-92 driving schedule.

(ii) Heavy-duty vehicles at or below 10,000 pounds GVWR with a power-to-weight ratio at or below 0.024 hp/pound may be certified using only the highway portion of the US06 driving schedule as described in 40 CFR 86.1816.

* * * * *

■ 97. Amend § 1066.1001 by removing the definition of “SFTP” and adding a definition of “Supplemental FTP (SFTP)” in alphabetical order.

The addition reads as follows:

§ 1066.1001 Definitions.

* * * * *

Supplemental FTP (SFTP) means the collection of test cycles as given in 1066.830.

* * * * *

■ 98. Amend § 1066.1010 by adding paragraph (c) to read as follows:

§ 1066.1010 Incorporation by reference.

* * * * *

(c) *California Air Resources Board.* The following documents are available from the California Air Resources Board, 1001 I Street, Sacramento, CA 95812, (916) 322–2884, or <http://www.arb.ca.gov>:

(1) California 2026 and Subsequent Model Year Criteria Pollutant Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, And Medium-Duty Vehicles (“CARB’s LMDV Test

Procedures”); adopted August 25, 2022; IBR approved for § 1066.801(c).
(2) California Test Procedures for 2026 and Subsequent Model Year Zero-Emission Vehicles and Plug-In Hybrid Electric Vehicles, in the Passenger Car,

Light-Duty Truck and Medium-Duty Vehicle Classes (“CARB’s PHEV Test Procedures”); adopted August 25, 2022; IBR approved for § 1066.801(c).
[FR Doc. 2023-07974 Filed 5-4-23; 8:45 am]
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Part III

Securities and Exchange Commission

17 CFR Parts 232, 240, 242, et al.

Supplemental Information and Reopening of Comment Period for
Amendments Regarding the Definition of “Exchange”; Proposed Rule

SECURITIES AND EXCHANGE COMMISSION

17 CFR Parts 232, 240, 242, and 249

[Release No. 34–97309; File No. S7–02–22]

RIN 3235–AM45

Supplemental Information and Reopening of Comment Period for Amendments Regarding the Definition of “Exchange”

AGENCY: Securities and Exchange Commission.

ACTION: Proposed rule; reopening of comment period.

SUMMARY: The Securities and Exchange Commission (“Commission”) is reopening the comment period for its proposal (“Proposed Rules”) to amend the rule under the Securities Exchange Act of 1934 (“Exchange Act”) that defines certain terms used in the statutory definition of “exchange.” The reopening provides supplemental information and economic analysis regarding trading systems that trade crypto asset securities that would be newly included in the definition of “exchange” under the Proposed Rules. The Commission is requesting further information and public comment on certain aspects of the Proposed Rules as applicable to all securities and the compliance dates and other alternatives for the Proposed Rules. The Proposed Rules were set forth in Release No. 34–94062 (“Proposing Release”), and the related comment period, which was reopened in Release No. 34–94868 on May 9, 2022, ended on June 13, 2022. The reopening of this comment period is intended to allow interested persons further opportunity to analyze and comment on the Proposed Rules in light of the supplemental information provided herein (“Reopening Release”).

DATES: The comment period for the proposed amendments published on March 18, 2022, at 87 FR 15496, which was initially reopened on May 12, 2022, at 87 FR 29059, is again reopened. Comments should be received on or before June 13, 2023.

ADDRESSES: Comments may be submitted by any of the following methods:

Electronic Comments

- Use the Commission’s internet comment form (<https://www.sec.gov/regulatory-actions/how-to-submit-comments>); or
- Send an email to rule-comments@sec.gov. Please include File Number S7–02–22 on the subject line.

Paper Comments

- Send paper comments to Secretary, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–1090.

All submissions should refer to File Number S7–02–22. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method of submission. The Commission will post all comments on the Commission’s website (<https://www.sec.gov/rules/proposed.shtml>). Comments are also available for website viewing and printing in the Commission’s Public Reference Room, 100 F Street NE, Washington, DC 20549, on official business days between the hours of 10 a.m. and 3 p.m. Operating conditions may limit access to the Commission’s Public Reference Room. All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly.

Studies, memoranda, or other substantive items may be added by the Commission or staff to the comment file during this rulemaking. A notification of the inclusion in the comment file of any materials will be made available on the Commission’s website. To ensure direct electronic receipt of such notifications, sign up through the “Stay Connected” option at www.sec.gov to receive notifications by email.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

I. Background

A. Exchange Regulatory Framework

Exchange Act section 3(a)(1) states that the term “exchange” means any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that

term is generally understood, and includes the market place and the market facilities maintained by such exchange.¹

Title 17 section 240.3b–16(a) (“Rule 3b–16(a)”) defines certain terms in the definition of “exchange” under section 3(a)(1) of the Exchange Act to include any organization, association, or group of persons that: (1) brings together the orders for securities of multiple buyers and sellers; and (2) uses established, non-discretionary methods (whether by providing a trading facility or by setting rules) under which such orders interact with each other, and the buyers and sellers entering such orders agree to the terms of a trade.² Title 17 section 240.3b–16(b) (“Rule 3b–16(b)”) explicitly excludes certain systems from the definition of “exchange.”³ Title 17 section 240.3b–16 (“Rule 3b–16”) provides a functional test to assess whether a trading platform meets the definition of exchange and, if so, triggers exchange registration. Section 5 of the Exchange Act⁴ requires an organization, association, or group of persons that meets the definition of “exchange” under section 3(a)(1) of the Exchange Act, unless otherwise exempt, to register with the Commission as a national securities exchange pursuant to section 6 of the Exchange Act.⁵

Title 17 section 240.3a1–1(a)(2) (“Rule 3a1–1(a)(2)”) exempts from the Exchange Act section 3(a)(1) definition of “exchange” an organization, association, or group of persons that complies with Regulation ATS, which requires, among other things, meeting the definition of an alternative trading system (“ATS”) and registering as a broker-dealer.⁶ As a result of the exemption, an organization, association, or group of persons that meets the definition of an exchange and complies with Regulation ATS is not required by section 5 of the Exchange Act to register

¹ See 15 U.S.C. 78c(a)(1).

² See 17 CFR 240.3b–16(a).

³ See Securities Exchange Act Release No. 40760 (Dec. 8, 1998), 63 FR 70844, 70852 (Dec. 22, 1998) (“Regulation ATS Adopting Release”). Specifically, Rule 3b–16(b) excludes from the definition of “exchange” systems that perform only traditional broker-dealer activities, including: systems that route orders to a national securities exchange, a market operated by a national securities association, or a broker-dealer for execution, or systems that allow persons to enter orders for execution against the bids and offers of a single dealer if certain additional conditions are met. 17 CFR 240.3b–16(b).

⁴ 15 U.S.C. 78e. Registered national securities exchanges are also self-regulatory organizations (“SROs”), and must comply with regulatory requirements applicable to both national securities exchanges and SROs.

⁵ 15 U.S.C. 78f.

⁶ “Regulation ATS” consists of 17 CFR 242.300 through 242.304 (Rules 300 through 304 under the Exchange Act).

as a national securities exchange pursuant to section 6 of the Exchange Act, is not an SRO, and, therefore, is not required to comply with the regulatory requirements applicable to national securities exchanges and SROs.⁷

B. January 2022 Proposed Amendments to Exchange Act Rule 3b-16

As described more fully in the Proposing Release,⁸ the Commission proposed to amend Exchange Act Rule 3b-16 to, among other things, replace “orders” with “trading interest” and define “trading interest”;⁹ remove the term “multiple” before “buyers and sellers”;¹⁰ add “communication protocols” as an example of an established, non-discretionary method that an organization, association, or group of persons can provide to bring together buyers and sellers of securities; simplify and align the rule text with the statutory definition of “exchange” under section 3(a)(1) of the Exchange Act; and add an exclusion under

⁷ An ATS that fails to comply with the requirements of Regulation ATS would no longer qualify for the exemption provided under Rule 3a1-1(a)(2), and thus, risks operating as an unregistered exchange in violation of section 5 of the Exchange Act. See Securities Exchange Act Release No. 83663 (July 18, 2018), 83 FR 38768, 38772 n.36 (Aug. 7, 2018) (“NMS Stock ATS Adopting Release”).

⁸ See Securities Exchange Act Release No. 94062 (Jan. 26, 2022), 87 FR 15496 (Mar. 18, 2022). The Proposed Rules also: (1) re-proposed amendments to Regulation ATS for ATSs that trade government securities as defined under section 3(a)(42) of the Exchange Act or repurchase and reverse repurchase agreements on government securities (“Government Securities ATSs”); (2) proposed amendments to Form ATS-N for NMS Stock ATSs and Government Securities ATSs; (3) proposed amendments to 17 CFR 242.301(b)(5) (“Rule 301(b)(5)”) of Regulation ATS (“Fair Access Rule”) for ATSs; (4) proposed to require electronic filing of and to modernize Form ATS and Form ATS-R; and (5) re-proposed amendments to regulations regarding systems compliance and integrity to apply to ATSs that meet certain volume thresholds in U.S. Treasury Securities or in a debt security issued or guaranteed by a U.S. executive agency, or government-sponsored enterprise.

⁹ As proposed, “trading interest” (defined in proposed Rule 300(g) of Regulation ATS) would include “orders,” as the term is defined under 17 CFR 240.3b-16(c) (“Rule 3b-16(c)”), or any non-firm indication of a willingness to buy or sell a security that identifies at least the security and either quantity, direction (buy or sell), or price. See Proposing Release at 15540.

¹⁰ The Commission proposed removing the word “multiple” from Exchange Act Rule 3b-16(a)(1) to mitigate confusion as to its application to non-firm trading interest, including request-for-quote (“RFQ”) systems, and align the rule more closely with the statutory definition of “exchange,” which does not contain the word “multiple” but includes the plural terms “purchasers and sellers.” See *id.* at 15506. The Commission also stated in the Proposing Release that the use of plural terms in “buyers and sellers” in Rule 3b-16(a) and “purchasers and sellers” in the statutory definition of “exchange” makes sufficiently clear that an exchange need only have more than one buyer and more than one seller participating on the system to meet this prong. See *id.* at 15506 n.105.

Exchange Act Rule 3b-16(b) for systems that allow an issuer to sell its securities to investors.

Specifically, the Commission proposed to amend Exchange Act Rule 3b-16(a) to include within the definition of “exchange” an organization, association, or group of persons that constitutes, maintains, or provides a market place or facilities for bringing together buyers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange if it is not subject to an exception under Rule 3b-16(b) and it: (1) brings together buyers and sellers of securities using trading interest; and (2) makes available established, non-discretionary methods (whether by providing a trading facility or communication protocols, or by setting rules) under which buyers and sellers can interact and agree to the terms of a trade. For purposes of this Reopening Release, trading systems that meet the criteria of Exchange Act Rule 3b-16(a), as proposed to be amended (*i.e.*, offer the use of non-firm trading interest and provide non-discretionary protocols),¹¹ are referred to throughout the release as “New Rule 3b-16(a) Systems.” New Rule 3b-16(a) Systems would be subject to the definition of “exchange” and be required to register as a national securities exchange or comply with the conditions to an exemption to such registration, such as Regulation ATS.

C. Purpose of the Reopening Release

In response to the Proposing Release, the Commission received many comments.¹² In particular, the Commission received requests for information about the application of the Proposed Rules to trading systems for crypto asset securities¹³ and trading systems that use distributed ledger or blockchain technology (broadly referred to as “DLT”),¹⁴ including systems commenters characterize as

¹¹ Such systems were referred to as “Communication Protocol Systems” in the Proposing Release. See *id.* at 15497 n.5.

¹² See *infra* sections II.A and II.B. Comment letters cited in this Reopening Release are comment letters received in response to the Proposing Release, which are available at <https://www.sec.gov/comments/s7-02-22/s70222.htm>.

¹³ See *infra* note 26.

¹⁴ The terms DLT and blockchain, a type of DLT, generally refer to databases that maintain information across a network of computers in a decentralized or distributed manner. Blockchain networks commonly use cryptographic protocols to ensure data integrity. See, *e.g.*, World Bank Group, “Distributed Ledger Technology (DLT) and Blockchain,” FinTech Note No. 1 (2017), available at <https://openknowledge.worldbank.org/bitstream/handle/10986/29053/WP-PUBLIC-Distributed-LedgerTechnology-and-Blockchain-Fintech-Notes.pdf?sequence=1&isAllowed=y>.

decentralized finance or “DeFi.”¹⁵ Commenters request information about whether and how such systems can comply with existing federal securities laws and the Proposed Rules.¹⁶ Given these comments, the Commission is issuing this Reopening Release regarding the potential effects of the proposed amendments to Exchange Act Rule 3b-16 on trading systems for crypto asset securities and trading systems using DLT, including systems commenters characterize as various forms of “DeFi,” and requesting further information and public comment on aspects of the Proposed Rules, more generally. This Reopening Release also supplements the economic analysis in the Proposing Release by providing additional analysis on the estimated impact of the Proposed Rules on trading systems for crypto asset securities and those using DLT, which include various so-called “DeFi” trading systems, and requests further comment.

II. Exchange Activity Involving Crypto Asset Securities and DLT Under the Proposed Rules

A. Crypto Asset Securities

Commenters reflecting a broad range of market participants shared feedback on the application of the Proposed Rules to all securities, including crypto assets that are securities. Some commenters agree with the Commission’s view¹⁷ that the Proposed Rules should apply to trading in any type of security, regardless of the specific technology used to issue and/or transfer the security.¹⁸ Several commenters request

¹⁵ Commenters vary in their definitions of “DeFi,” or what makes a product, service, arrangement or activity “decentralized.” See generally The Board of the International Organization of Securities Commissions, IOSCO Decentralized Finance Report (Mar. 2022) (“IOSCO Decentralized Finance Report”), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD699.pdf>. Trading systems for crypto assets that are colloquially referred to as “decentralized” typically combine more traditional technology (such as web-based systems that accept and display orders and servers that store orders) with distributed ledger technology (such as “smart contract” provisioned blockchains—self-executing code run on distributed ledgers that carry out “if/then” type computations). See *id.* at 1. See also *infra* note 44.

¹⁶ See, *e.g.*, *infra* notes 25, 58, 80, 82–84, and 86–87.

¹⁷ See Proposing Release at 15503.

¹⁸ See, *e.g.*, Letters from Marcia E. Asquith, Executive Vice President, Board and External Relations, FINRA, dated Apr. 19, 2022 (“FINRA Letter”) at 4; Stephen W. Hall, Legal Director and Securities Specialist, and Scott Farnin, Legal Counsel, Better Markets, Inc., dated Apr. 18, 2022 (“Better Markets Letter”) at 8; Tyler Gellach, Executive Director, Healthy Markets Association, dated June 13, 2022 (“Healthy Markets Letter”) at 6 n.21 (stating that the Proposed Rules should apply

Continued

that the Commission clarify whether the Proposed Rules apply to crypto asset securities.¹⁹ Commenters point to the lack of any explicit references in the Proposing Release to systems that trade crypto asset securities, including so-called “DeFi” trading systems, with some suggesting that such systems would be outside the scope of the Proposed Rules.²⁰ One commenter states that the Proposed Rules should not apply to crypto asset securities.²¹ Some commenters state their view that there is supposed regulatory uncertainty as to which crypto assets are securities.²² Some commenters state that as a result of such supposed uncertainty, it is unclear whether the Proposed Rules would apply to so-called “DeFi” protocols.²³ One

only to crypto assets that meet the definition of a security under the Exchange Act “to avoid unnecessarily creating regulatory inconsistencies and loopholes, and fulfill its investor protection mandate”).

¹⁹ See, e.g., Letters from Jai Ramaswamy, Chief Legal Officer and Miles Jennings, General Counsel, a16zCrypto, A.H. Capital Management, LLC, dated Apr. 18, 2022 (“a16z Letter”) at 3; Kristin Smith, Executive Director and Jake Chervinsky, Head of Policy, Blockchain Association, dated Apr. 18, 2022 (“Blockchain Association Letter II”) at 7–8; Brett Kitt, Associate Vice President, Principal Associate General Counsel, Nasdaq, Inc., dated Apr. 18, 2022 (“Nasdaq Letter”) at 5; Joanna Mallers, Secretary, FIA Principal Traders Group, dated Apr. 21, 2022 (“FIA PTG Letter”) at 2; Sheila Warren, Chief Executive Officer, Crypto Council for Innovation, dated Apr. 18, 2022 (“Crypto Council Letter”) at 2; Sasha Hodder, Hodder Law Firm, P.A., dated Feb. 25, 2022; Tim Lau, dated Apr. 4, 2022; Zachary Stinson, dated Apr. 18, 2022 (“Stinson Letter”); Karthik Mahalingam, dated Apr. 19, 2022.

²⁰ See, e.g., Letters from Michelle Bond, Chief Executive Officer, Association for Digital Asset Markets, dated Apr. 18, 2022 (“ADAM Letter II”) at 14; Gus Coldebella and Gregory Xethalis, dated Apr. 18, 2022 (“Coldebella and Xethalis Letter”) at 1–2; Crypto Council Letter at 3; a16z Letter at 7.

²¹ See ADAM Letter II at 3, 9–12.

²² See, e.g., a16z Letter at 3, 15–16 (stating that the Commission has not made clear which digital assets it believes are “securities”); Blockchain Association Letter II at 3, 9 (stating whether and when a given digital asset may qualify as a security under federal securities laws remains unclear); Letter from LeXpunk, dated Apr. 18, 2022 (“LeXpunk Letter”) at 2 n.4 (stating that given the “lack of clarity with respect to the Commission’s classification of digital assets and transactions involving digital assets,” “there remains a looming uncertainty as to whether the same would be regarded as securities and securities transactions, respectively”).

²³ See, e.g., a16z Letter at 3, 15–16 (stating that given the uncertainty on which digital assets are “securities,” some so-called “DeFi systems or protocols” that do not clearly meet the definition of “Communication Protocol Systems” or facilitate transactions in digital assets could endeavor to comply with the Proposed Rules while other “DeFi systems or protocols” might not, which raises the danger of inconsistency and could create unforeseen consequences in the market for digital assets); Blockchain Association Letter II at 3, 9 (stating that given the Commission’s “expansive view of what may be deemed a security, there remains a risk that certain digital assets that users trade through Decentralized Protocols may (ex post)

commenter states that the Commission should defer action on any rulemaking impacting crypto assets until, among things, such supposed uncertainty is eliminated.²⁴ Some commenters state that the existing exchange regulatory framework is incompatible with systems that trade crypto asset securities using so-called “DeFi protocols.”²⁵

Crypto assets²⁶ generally use DLT as a method to record ownership and

be deemed by the [Commission] to be securities”). See also Damien G. Scott, Deputy General Counsel, CoinList, dated Apr. 18, 2022 (“CoinList Letter”) at 1–2 (explaining that crypto asset industry needs clarity about how the rules written for traditional paper securities secured and validated by intermediaries apply in practice to new digital technology).

²⁴ See Letter from Jay H. Knight, Chair of the Federal Regulation of Securities Committee, Federal Regulation of Securities Committee of the Business Law Section of the American Bar Association, dated Apr. 18, 2022 (“ABA Letter”) at 5–6 (suggesting the Commission defer the application of the Proposed Rules to digital asset intermediaries and their underlying technology pending completion of coordination among a broad range of government agencies to develop an appropriate approach to digital assets, pursuant to the Executive Order on Ensuring the Responsible Development of Digital Assets).

²⁵ See, e.g., a16z Letter at 9 (“But even casting aside the practical challenges that DeFi protocols would confront in attempting to follow Regulation ATS, the Commission seems to overlook the fact that the purposes behind Regulation ATS would not be served by imposing its requirements on DeFi protocols.”); Letter from William C. Hughes, Senior Counsel & Director of Global Regulatory Matters, ConsenSys Software Inc., dated Apr. 14, 2022 (“ConsenSys Letter”) at 8 (“The ‘34 Act’s requirements, tailored as they are to the centralized nature of exchanges, make no sense when applied to decentralized blockchain-based systems.”); Letter from Delphi Digital, dated Apr. 18, 2022 (“Delphi Digital Letter”) at 6 (stating that “systems lacking order-book logic, or which are sufficiently decentralized (i.e., lacking any particular owner/operator who could rationally be expected to comply with the SEC’s intermediaries-based regulatory regime)” have been viewed by participants in the digital asset marketplace as outside the scope of securities exchange regulation). One commenter cites a paper stating that “[s]ome characteristics of DeFi may be incompatible with the existing regulatory framework, particularly given that the current framework is designed for a system that has financial intermediaries at its core.” See Letter from Jake Chervinsky, Head of Policy, Blockchain Association and Miller Whitehouse-Levine, Policy Director, DeFi Education Fund, dated June 13, 2022 (“Blockchain Association/DeFi Education Fund Letter”) at 4 (citing Org. for Econ. Cooperation and Dev., Why Decentralised Finance (DeFi) Matters and the Policy Implications (2022) at 12).

²⁶ For purposes of this Reopening Release, the Commission does not distinguish between the terms “digital asset securities” and “crypto asset securities.” The term “digital asset” refers to an asset that is issued and/or transferred using distributed ledger or blockchain technology, including, but not limited to, so-called “virtual currencies,” “coins,” and “tokens.” See Securities Exchange Act Release No. 90788 (Dec. 23, 2020), 86 FR 11627, 11627 n.1 (Feb. 26, 2021) (“Commission Statement on Custody of Digital Asset Securities by Special Purpose Broker-Dealers”). A digital asset may or may not meet the definition of a “security” under the federal securities laws. See, e.g., Report

transfers.²⁷ Further, a crypto asset that is a security is not a separate type or category of security (e.g., NMS stock, corporate bond) for purposes of federal securities laws based solely on the use of DLT. The definition of “exchange” under section 3(a)(1) of the Exchange Act and *existing* Rule 3b–16 thereunder, and the requirement that an exchange register with the Commission pursuant to section 5 of the Exchange Act, apply to all securities, including crypto assets that are securities, which include investment contracts or any other type of security.²⁸ The Commission understands that currently certain trading systems for crypto assets, including so-called “DeFi” systems, operate like an exchange as defined under federal securities laws—that is, they bring together orders of multiple buyers and sellers using established, non-discretionary methods (by providing a trading facility, for example) under which such orders interact and the buyers and sellers entering such orders agree upon the terms of a trade.²⁹ Because it is unlikely that systems trading a large number of different crypto assets are not trading any crypto assets that are securities,³⁰ these

of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, Securities Exchange Act Release No. 81207 (July 25, 2017) (“DAO 21(a) Report”), available at <https://www.sec.gov/litigation/investreport/34-81207.pdf>. See also SEC v. W.J. Howey Co., 328 U.S. 293 (1946). To the extent digital assets rely on cryptographic protocols, these types of assets also are commonly referred to as “crypto assets.”

²⁷ See Investment Advisers Act Release No. 6240 (Feb. 15, 2023), 88 FR 14672, 14676 n.25 and accompanying text (Mar. 9, 2023); Securities Exchange Act Release No. 96496 (Dec. 14, 2022), 88 FR 5440, 5448 n.94 and accompanying text (Jan. 27, 2023).

²⁸ Section 3(a)(1) of the Exchange Act and Rule 3b–16 thereunder do not apply to market places or facilities that do not trade securities. This would also remain unchanged under Exchange Act Rule 3b–16, as proposed to be amended.

²⁹ In addition to its exchange obligations, depending on the facts and circumstances, an organization, association, or group of persons engaging in crypto asset securities business may also have legal and regulatory obligations under the federal securities laws for broker-dealer, custodial, clearing, or lending activities, among others. See *U.S. Securities and Exchange Commission v. Beaxy Digital, Ltd., et al.*, No. 23–cv–1962 (N.D. Ill. Mar. 29, 2023) (Docket Entries 1, 4) (final judgment entered on consent enjoining crypto asset trading platform from operating an unregistered exchange, broker, and clearing agency).

³⁰ See Fin. Stability Oversight Council, Report on Digital Asset Financial Stability Risks and Regulation 119 (2022) (“FSOC Report”) at 97, available at <https://home.treasury.gov/system/files/261/FSOC-Digital-Assets-Report-2022.pdf>. Each system should analyze whether the crypto assets that it offers for trading meet the definition of a security under the federal securities laws and prior Commission statements. See *supra* note 26. The Commission will continue to evaluate whether currently operating systems are acting consistent with federal securities laws and the rules thereunder.

systems likely meet the current criteria of Exchange Act Rule 3b-16(a) and are subject to the exchange regulatory framework.³¹ Indeed, the President's Executive Order on Ensuring Responsible Development of Digital Assets acknowledged that "many activities involving digital assets are within the scope of existing domestic laws and regulations" and systems trading such assets "should, as appropriate, be subject to and in compliance with regulatory and supervisory standards that govern traditional market infrastructures and financial firms."³² The proposed amendments to Exchange Act Rule 3b-16 do not change any existing obligation for these systems to register as a national securities exchange or comply with the conditions to an exemption to such registration, such as Regulation ATS.³³

The Commission preliminarily believes that some amount of crypto asset securities trade on New Rule 3b-16(a) Systems, and that such systems may use DLT or be "DeFi" trading systems, as described by some commenters. Depending on facts and circumstances, systems that offer the use of non-firm trading interest and provide non-discretionary protocols to bring together buyers and sellers of crypto assets securities³⁴ can perform a market place function like that of an exchange—that is, they allow participants to discover prices, find liquidity, locate counterparties, and agree upon terms of a trade for securities. The exchange regulatory framework would provide market participants that use New Rule 3b-16(a) Systems for crypto asset securities with transparency, fair and orderly markets, and investor protections that apply to today's registered exchanges or ATSs.³⁵ These benefits, in turn, promote capital formation, competition, and market efficiencies.³⁶ An organization, association, or group of persons that

constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of crypto asset securities or performs with respect to crypto asset securities the functions commonly performed by a stock exchange as that term is generally understood under the criteria of Exchange Act Rule 3b-16(a), as proposed to be amended, would be an exchange under section 3(a)(1) of the Exchange Act and would be required to register as a national securities exchange or comply with the conditions of Regulation ATS.

Some commenters question the application of the proposed amendments to Exchange Act Rule 3b-16 to assets that may not be securities.³⁷ In addition, commenters indicate that many crypto asset trading systems offer pairs trading,³⁸ which typically involves two crypto assets (which may or may not be securities) that can be exchanged directly for each other using their relative price ("trading pair").³⁹ Trading pairs consist of both a base and quote asset; the base asset is the asset quoted in terms of the value of the other (*i.e.*, quote) asset in the trading pair.⁴⁰ Today, trading pairs can include a combination

of securities and non-securities and frequently include so-called stablecoins, bitcoin, or ether as the base asset, quote asset, or both.⁴¹ Users entering a trading pair on a system can exchange one crypto asset for another without exchanging the crypto asset for U.S. dollars (or other fiat currency) by simultaneously selling one asset while buying another on the system without exchanging either crypto asset for U.S. dollars first.

Section 3(a)(1) of the Exchange Act and Rule 3b-16 state that an exchange is any organization, association, or group of persons which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood.⁴² An organization, association, or group of persons that meets the criteria of existing Exchange Act Rule 3b-16(a), and Rule 3b-16(a), as proposed to be amended, and makes available for trading a security and a non-security would meet the definition of "exchange" notwithstanding the fact that the entity traded non-securities. For its securities activities, the organization, association, or group of person must register as a national securities exchange or comply with the conditions of Regulation ATS.⁴³ Market places or facilities of, and the functions performed by, national securities exchanges and ATSs trade only securities quoted in and paid for in U.S. dollars.

The Commission is soliciting additional comment on Rule 3b-16, as proposed to be amended, and in

³⁷ See ADAM Letter II at 9 (stating that "it is premature of the SEC to include digital assets within the scope of the exchange regulatory framework until such time as there is a better understanding regarding the appropriate regulatory approach for such assets"); LeXpunch Letter at 2 n.4 (stating "where digital asset transactions do not involve securities, U.S. securities laws (and the instant proposed rulemaking) would be inapplicable" and that "in light of the lack of clarity with respect to the Commission's classification of digital assets and transactions involving digital assets, however, there remains a looming uncertainty as to whether the same would be regarded as securities and securities transactions, respectively"); a16z Letter at 15-16 (stating that the Proposing Release "does not mention 'digital asset securities' or 'investment contracts,' two of the terms the Commission uses to describe digital assets believed to be securities" and that the "omissions will further compound the uncertainty over whether the Proposal was meant to cover digital assets").

³⁸ See LeXpunch Letter at 4 and 4 n.19; Delphi Digital Letter at 7 (stating that, in the context of systems that use "technology in DeFi," automated market makers ("AMMs") use "liquidity pools," which "represents assets in (and a market for) a single token pair" that are "'locked' within smart contracts").

³⁹ See Fan Fang, Carmine Ventre, Michail Basios et al., *Cryptocurrency Trading: A Comprehensive Survey*, 8 Fin. Innovation 13 (2022), available at <https://doi.org/10.1186/s40854-021-00321-6> (stating that in general, pairs trading involves two similar assets with a stable long-run relationship and slightly different spreads, and if the spread widens, investors short the high-priced crypto asset and buy the low-priced crypto asset).

⁴⁰ See A Review of Cryptoasset Market Structure and Regulation in the United States, Feb. 2023, Program on International Financial Systems, available at <https://www.pifsinternational.org/cryptoasset-market-structure-and-regulation-in-the-u-s/> ("PIFS Crypto Review").

⁴¹ Crypto asset trading pairs offered by trading systems today also include other combinations (*e.g.*, crypto asset (security or non-security) for another crypto asset (security or non-security)). While some of the major crypto asset trading systems available in the U.S. allow trading in U.S. dollars, others only allow trading between different crypto assets and not fiat currencies. The main base asset used on certain of these other systems is Tether (USDT). See Igor Makarov & Antoinette Schoar, *Trading and Arbitrage in Cryptocurrency Markets*, 135 J. Fin. Econ. 293 (2020). See also PIFS Crypto Review at 10-11 (stating that most global bitcoin trading is conducted with stablecoins rather than fiat currency).

⁴² See 15 U.S.C. 78c(a)(1).

⁴³ Section 5 of the Exchange Act states that "[i]t shall be unlawful for any . . . exchange, directly or indirectly, to make use of the mails or any means or instrumentality of interstate commerce for the purpose of using any facility of an exchange within or subject to the jurisdiction of the United States to effect any transaction in a security, or to report any such transaction, unless such exchange (1) is registered as national securities exchange under [section 6 of the Exchange Act], or (2) is exempted from such registration" See 15 U.S.C. 78e.

³¹ See, *e.g.*, DAO 21(a) Report at 17 ("The Platforms that traded DAO Tokens appear to have satisfied the criteria of Rule 3b-16(a) and do not appear to have been excluded from Rule 3b-16(b)."); In the Matter of Zachary Coburn, Securities Exchange Act Release No. 84553 (Nov. 8, 2018) (settled cease-and-desist order); In the Matter of Poloniex, LLC, Securities Exchange Act Release No. 92607 (Aug. 9, 2021) (settled cease-and-desist order).

³² See President's Executive Order on Ensuring Responsible Development of Digital Assets, dated Mar. 9, 2022, available at <https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets/>.

³³ 17 CFR 242.300 through 242.304.

³⁴ See Proposing Release at 15503.

³⁵ See Regulation ATS Adopting Release at 70847.

³⁶ See 15 U.S.C. 78c(f).

particular responses to the following questions:

1. Should a New Rule 3b–16(a) System that trades crypto asset securities have the choice of registering as a national securities exchange or complying with the conditions of Regulation ATS? Why or why not?

2. Please describe any trading systems that currently offer the use of non-firm trading interest and provide non-discretionary protocols to bring together buyers and sellers of crypto asset securities, including a description of trading interest used, functionalities or protocols, requirements, limitations, types of market participants that use the systems, transaction volume, crypto asset securities offered for trading, and any other services offered by the system. Please provide any data, literature, or other information that you consider relevant to the Commission's analysis of New Rule 3b–16(a) Systems for crypto asset securities, including but not limited to, the types of systems, the amount of trading volume on such systems, the number of participants on such systems (as well as the participant types, such as institutional and retail), and the types of crypto asset securities they trade.

3. Do organizations, associations, or groups of persons that meet the criteria of New Rule 3b–16(a) Systems and trade crypto asset securities quote a security in an asset other than in U.S. dollars, such as a non-security crypto asset, and provide for the purchase or sale of that asset on the system or off-system? How do investors and trading systems use pairs trading involving non-security crypto assets and crypto asset securities? Are there significant differences between investors' use of pairs trading on centralized trading systems versus trading systems that commenters describe as "DeFi"? Please explain. For example, approximately how much trading volume for crypto asset securities is executed using trading pairs on various types of platforms discussed above? What percentage of trading in crypto asset securities, in terms of volume executed, is in exchange for U.S. dollars? Please provide any data, literature, or other information that you consider relevant to the Commission's analysis.

B. Exchange Activity Using DLT, Including "DeFi" Systems

1. Technology Neutral and Functional Test of the "Exchange" Definition

The Commission received comments regarding whether the proposed amendments to Exchange Act Rule 3b–16 were intended to apply to what

commenters characterize as "DeFi," and comments stating that the Proposed Rules could be interpreted to cover a broad range of technologies, including technologies used by so-called "DeFi" trading systems.⁴⁴ Some commenters state that so-called "DeFi" trading systems should be excluded from Exchange Act Rule 3b–16(a), as proposed to be amended.⁴⁵

⁴⁴ See, e.g., ConsenSys Letter at 8–9 (requesting that any final rule make clear that "blockchain-based systems" would not be exchanges); a16z Letter at 1, 2, 28 (stating, among other things, that the Proposed Rules could be interpreted as applying to a broad array of technologies, including "DeFi systems and protocols"); Crypto Council Letter at 2, 4 (stating, in part, that the Proposed Rules could apply to the "crypto and decentralized finance markets"); LeXpunk Letter at 3 (stating, in part, its belief that many "DeFi protocols and applications" would meet the definition of a "communication protocol system" under the Proposed Rules); Global Digital Asset & Cryptocurrency Association, dated Apr. 18, 2022 ("GDCA Letter II") at 11 (questioning whether "decentralized exchanges" would fall under the definition of "exchange"); Letter from Miller Whitehouse-Levine, Policy Director, DeFi Education Fund, dated Apr. 18, 2022 ("DeFi Education Fund Letter") at 3, 15 (stating, in part, that, without clarification, the Proposed Rules could be interpreted to regulate certain "DeFi protocols"); Letter from Dante Disparte, Chief Strategy Officer and Head of Global Policy, Circle Internet Financial, LLC, dated Apr. 18, 2022 ("Circle Letter") at 3; Letter from Michelle Bond, Chief Executive Officer, Association for Digital Asset Markets, dated Feb. 2, 2022 ("ADAM Letter I") at 1–2 (stating that the Proposed Rules could expand Commission authority over "spot digital asset markets and peer-to-peer decentralized networks" in ways not discussed in the Proposing Release); Letter from Kimberly Unger, The Security Traders Association of New York, dated Feb. 3, 2022 ("STANY Letter") at 2; Letter from Andrew Vollmer, Mercatus Center at George Mason University, dated Mar. 11, 2022 ("Vollmer Letter") at 2. Two commenters also state their belief that there is a lack of clarity as to the application of the Proposed Rules to "decentralized finance" or "DeFi protocols" that raises administrative due process concerns for industry participants. See ConsenSys Letter at 18; DeFi Education Fund Letter at 19. The foregoing commenters describe systems that use DLT with varying definitions and terminology (some of which the commenters do not define). As discussed above, there is no generally agreed upon definition of "DeFi" or decentralization. See IOSCO Decentralized Finance Report at 1, 9. Nonetheless, as discussed below, the Proposed Rules, like the existing exchange framework, regulate exchange activity, and not the technology underlying such activity.

⁴⁵ See, e.g., a16z Letter at 3 (stating that "DeFi protocols eliminate the need for a central operator that could implement regulatory requirements applicable to traditional securities exchanges or broker-dealers" and therefore the Commission should "clarify that the [p]roposal does not apply to DeFi systems by explicitly excluding them"); LeXpunk Letter at 2 (stating that the Proposed Rules would improperly expand the Commission's authority to regulate "technologists with neither the resources nor the reasonable expectation of being so regulated, nor 'make available' peer-to-peer 'communication protocols' used in DeFi"); ConsenSys Letter at 8–12 (stating its belief that the term "communication protocols" does not cover "blockchain-based systems"); Delphi Digital Letter at 6 (stating that, unless "decentralized-in-actuality software systems—including 'automatic market-making' smart contract systems" are carved out of

When adopting Exchange Act Rule 3b–16, the Commission stated that the exchange framework is based on the functions performed by a trading system, not on its use of technology.⁴⁶ Notwithstanding how an entity may characterize itself or the technology it uses, a functional approach (taking into account the relevant facts and circumstances) will be applied when assessing whether the activities of a trading system meet the definition of an exchange. These principles continue to apply today under existing Rule 3b–16 and would equally apply under Rule 3b–16, as proposed to be amended.⁴⁷ Accordingly, an organization, association, or group of persons that uses any form or forms of technology (e.g., DLT, including technologies used by so-called "DeFi" trading systems, computers, networks, the internet, cloud, telephones, algorithms, a

the term "communication protocols," the Proposed Rules would impose "impossible compliance obligations on persons who may merely write open-source 'communications protocol' code or publish information about the contents of communications systems which they do not control"); Blockchain Association Letter II at 3 (stating that application of the Proposed Rules to "decentralized exchange protocols through which digital assets may be traded, [and] operate[d] autonomously and automatically through smart contracts and the participation of their users" would exceed the Commission's statutory authority under the Exchange Act); Letter from Spence Purnell, Director of Technology Policy, Reason Foundation, dated Feb. 23, 2022 at 2 (stating that the Proposed Rules should not apply to "technologies such as decentralized finance and smart-contracts" because they were not explicitly considered in the Proposing Release); Letter from Bryant Eisenbach, dated Feb. 2, 2022 ("Eisenbach Letter"). See also Letter from Rep. Patrick McHenry, Ranking Member, and Rep. Bill Huizenga, Ranking Member Subcommittee on Investor Protection, Entrepreneurship and Capital Markets, House Committee on Financial Services, dated Apr. 18, 2022 ("McHenry/Huizenga Letter") (expressing concern that the Proposed Rules "can be interpreted to expand the SEC's jurisdiction beyond its existing statutory authority to regulate market participants in the digital asset ecosystem, including in decentralized finance").

⁴⁶ See Regulation ATS Adopting Release at 70902.

⁴⁷ See, e.g., DAO 21(a) Report (stating that "any entity or person engaging in the activities of an exchange, such as bringing together the orders for securities of multiple buyers and sellers using established non-discretionary methods under which such orders interact with each other and buyers and sellers entering such orders agree upon the terms of the trade, must register as a national securities exchange or operate pursuant to an exemption from such registration," "the automation of certain functions through this technology, 'smart contracts,' or computer code, does not remove conduct from the purview of the U.S. federal securities laws," and that the requirements of the U.S. federal securities laws "apply to those who offer and sell securities in the United States, regardless whether the issuing entity is a traditional company or a decentralized autonomous organization, regardless whether those securities are purchased using U.S. dollars or virtual currencies, and regardless whether they are distributed in certificated form or through distributed ledger technology").

physical trading floor) that constitutes, maintains, or provides a market place for bringing together purchasers and sellers of securities, including crypto asset securities, or for otherwise performing with respect to securities the functions commonly performed by a stock exchange under the current criteria of Exchange Act Rule 3b-16(a), or Exchange Act Rule 3b-16(a), as proposed to be amended, would be an exchange and would be required to register as a national securities exchange or comply with the conditions of Regulation ATS.

2. So-Called “DeFi” Systems and Exchange Act Rule 3b-16

Several commenters state their belief that the Proposed Rules could cause what they describe as “DeFi” trading systems to meet the criteria of Exchange Act Rule 3b-16(a), as proposed to be amended.⁴⁸ So-called “DeFi” trading systems can be used to allow investors to discover prices, find liquidity, locate counterparties, and agree upon terms of a trade for securities, including crypto asset securities, thereby performing market place activities or functions commonly performed by a stock exchange. Today, many systems, some of which are described as “DeFi” by commenters, bring together buyers and sellers of securities, including crypto asset securities, and could meet the existing criteria of Exchange Act Rule 3b-16(a). The Commission understands that so-called “DeFi” trading systems often rely on electronic messages that are exchanged between buyers and sellers so that they can agree upon the terms of a trade without negotiations.⁴⁹

⁴⁸ See DeFi Education Fund Letter at 15; Circle Letter at 3; ADAM Letter I at 1–2; STANY Letter at 2; Vollmer Letter at 2; Crypto Council Letter at 2; LeXpunk Letter at 7–8.

⁴⁹ For example, AMM is a mechanism designed to create liquidity for others seeking to effectuate trades. See President’s Working Group on Financial Markets, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency, Report on Stablecoins (Nov. 2021), available at https://home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf. Liquidity pools of so-called “DeFi” trading systems rely on AMM protocols which typically use preset mathematical equations (e.g., $x \cdot y = k$, where x and y represent the values of tokens in a liquidity pair and k is a constant) to ensure the ratio of assets in the liquidity pools remains balanced and determine prices based on trading volumes. See U.S. Department of the Treasury, Crypto-Assets: Implications for Consumers, Investors, and Businesses (Sept. 2022) (“Crypto-Assets Treasury Report”), available at https://home.treasury.gov/system/files/136/CryptoAsset_EO5.pdf. Some commenters argue that systems that use AMMs do not use trading interest as described in the Proposed Rules. See LeXpunk Letter at 12–13; Delphi Digital Letter at 9–10. One commenter states that AMM users do not interact with each other but with a pool of liquidity resting in a smart contract. See LeXpunk Letter at 12–13. This commenter

If these electronic messages constitute a firm willingness to buy or sell a security, including a crypto asset security, the messages would meet the definition of orders under existing Rule 3b-16(c).⁵⁰ And if established, non-discretionary method(s) under which orders of multiple buyers and sellers interact with each other are provided, such as through the provision of certain smart contract functionality, the activities would be covered under existing Rule 3b-16(a). Accordingly, depending on the facts and circumstances, activities performed today using so-called “DeFi” trading systems could meet the criteria of existing Rule 3b-16 and thus constitute exchange activity. The proposed amendments to Rule 3b-16(a) would not, in any way, change whether such activities constitute exchange activity under section 3(a)(1) and Rule 3b-16(a).

As discussed above, the Commission preliminarily believes that New Rule 3b-16(a) Systems, including some so-called “DeFi” systems, trade some amount of crypto asset securities, and would, under the proposed amendments to Exchange Act Rule 3b-16(a), be required to register as a national securities exchange or comply with the conditions of Regulation ATS.

3. Custodial Services Is Generally Not Relevant to Exchange Analysis

Some commenters state that because so-called “DeFi” trading systems do not custody assets, they should not be subject to exchange regulation.⁵¹ One commenter states that trading conducted using “DeFi” trading systems does not involve users depositing assets with a central authority.⁵² Another commenter states that “custody” with reference to “DeFi” means self-custody, which the commenter states does not fit

states that forms of non-firm trading interest—conditional orders and indications of interest—discussed in the Proposing Release, “do not align with AMMs provision of automated liquidity through the smart contract-based deterministic mechanisms,” where no party imposes such conditions or communicates such interest. See *id.* One commenter states that there are no “orders” on an AMM because, in contrast to a “centralized” platform which permits makers and takers to agree upon a price, an AMM sets the price. See Delphi Digital Letter at 9–10.

⁵⁰ See 17 CFR 240.3b-16(c).

⁵¹ See a16z Letter at 8–9; GDCA Letter II at 11; DeFi Education Fund Letter at 6. See also LeXpunk Letter at 4 n.18 (stating that no “custody” or “transfer” actually occurs” in the context of a “smart contract-based platform”).

⁵² See a16z Letter at 8–9. The commenter cites a paper stating “one of the main advantages of decentralized exchanges over centralized exchanges is the ability for users to keep control of their private keys.” See *id.* at 8 n.41 (citing Igor Makarov & Antoinette Schoar, *Cryptocurrencies and Decentralized Finance (DeFi)* 23 (Brookings Paper on Econ. Activity, Conference Draft, 2022)).

“the Commission’s model, under which all exchanges are centralized.”⁵³ Neither existing Exchange Act Rule 3b-16 nor Rule 3b-16, as proposed to be amended, requires an organization, association, or group of persons to provide custodial services to be considered an exchange under section 3(a)(1) of the Exchange Act and Rule 3b-16 thereunder.⁵⁴ Thus, custodial services generally is not a relevant factor to the exchange analysis.

4. Group of Persons as the Exchange

Some commenters ask that the Commission explain which actor or group of actors would be responsible for compliance and how so-called “DeFi” trading systems should comply with exchange regulatory requirements.⁵⁵ Some commenters express concerns that the proposed amendments to Exchange Act Rule 3b-16(a) would inappropriately apply to systems that purport not to involve intermediaries.⁵⁶ One commenter states that providers of rule sets on how messages should be formed, stored, and relayed on a network are not like “intermediaries of the traditional financial system” because “all they are doing is

⁵³ See GDCA Letter II at 11. See also DeFi Education Fund Letter at 6 (stating “DeFi protocols” present “no financial risk for users from broker activity or custody”). One commenter also states that the Commission has provided no public guidance regarding how a digital asset communication protocol system could arrange for custody and settlement to the Commission’s satisfaction, in order to operate as an exchange. See GDCA Letter II at 10. Further, some commenters question how exchange regulation will apply to trading activities that use “DeFi” and do not involve an intermediary for trading or to custody securities. See *supra* note 52 and *infra* note 56.

⁵⁴ The Customer Protection Rule requires a broker-dealer to promptly obtain and thereafter maintain physical possession or control of all fully-paid and excess margin securities it carries for the account of customers. See 17 CFR 240.15c3-3(b). In 2020, the Commission issued a statement describing its position that, for a period of five years, special purpose broker-dealers operating under the circumstances set forth in the statement will not be subject to a Commission enforcement action on the basis that the broker-dealer deems itself to have obtained and maintained physical possession or control of customer fully-paid and excess margin crypto asset securities for purposes of 17 CFR 240.15c3-3(b)(1) (“Rule 15c3-3(b)(1)”) under the Exchange Act. See Commission Statement on Custody of Digital Asset Securities by Special Purpose Broker-Dealers. To date, no person has been approved to act as a special purpose broker-dealer custodial crypto asset securities.

⁵⁵ See Letter from Paul Grewal, Chief Legal Officer, Coinbase Global, Inc., dated Apr. 18, 2022 (“Coinbase Letter”) at 7; a16z Letter at 3; Blockchain Association Letter II at 8.

⁵⁶ See a16z Letter at 10; ConsenSys Letter at 8; DeFi Education Fund Letter at 3, 11; Blockchain Association Letter II at 3, 5; CoinList Letter at 2; Eisenbach Letter at 2. For example, one commenter states that what it calls “decentralized” systems allow anyone to participate rather than rely on gatekeepers. See ConsenSys Letter at 8.

publishing particular arrangements of 0s and 1s.”⁵⁷ In addition, some commenters state that “DeFi” trading systems may be unable to comply with exchange regulatory requirements because they lack a central operator.⁵⁸ Some commenters interpret Exchange Act Rule 3b-16(a), as proposed to be amended, to mean that each entity that performs any exchange function would need to register as a national securities exchange or comply with the conditions of Regulation ATS.⁵⁹ For example, some commenters state that, under the proposed amendments to Exchange Act Rule 3b-16(a), exchange regulation could extend to persons including open source developers who contribute code to the software repositories where software for so-called “DeFi” trading systems is first published, persons who republish and share this information, and persons who connect to the peer-to-peer networks on which “DeFi” activities takes place.⁶⁰ One commenter states that the group of persons involved in a “DeFi” trading system—including developers, AMMs, and miners—could all comprise essential components of the market infrastructure.⁶¹ This commenter further states that the fact that these roles might be “decentralized” does not change that they would be considered a group of persons who constitutes, maintains, or provides facilities for bringing together purchasers and sellers of securities.⁶²

The existence of smart contracts on a blockchain does not materialize in the absence of human activity or a machine (or code) controlled or deployed by humans. The Commission understands that, typically, including for so-called “DeFi” trading systems, a single organization constitutes, maintains, or

provides the market place or facilities for bringing together buyers and sellers of securities or otherwise performs with respect to securities the functions commonly performed by a stock exchange under section 3(a)(1) and Exchange Act Rule 3b-16 thereunder.⁶³

While it is common today for a single organization to provide a market place or facilities to bring together buyers and sellers of securities and meet the definition of an exchange, an exchange can also exist where a market place or facilities are provided by a group of persons, rather than a single organization.⁶⁴ Under section 3(a)(1), and Exchange Act Rule 3b-16(a), the term exchange “means any organization, association, or *group of persons*, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together buyers and sellers of securities or perform with respect to securities the functions commonly performed by a stock exchange.”⁶⁵ Thus, a group of persons, whether incorporated or unincorporated, can together constitute, maintain, or provide a market place or facilities or perform with respect to securities the functions commonly performed by a stock exchange. In determining which persons would be included in the group of persons that constitutes, maintains, or provides an exchange or performs with respect to securities the functions commonly performed by a stock exchange, important factors would generally include whether the persons act in concert in establishing, maintaining, or providing a market place or facilities for bringing together buyers and sellers of securities or in performing with respect

to securities the functions commonly performed by a stock exchange, or exercise control, or share control, over aspects of such market place or facilities or the performance of functions commonly performed by a stock exchange. In particular, when a group of persons exercises control, or shares control, over the organizational, financial, or operational aspects of a market place or facilities for bringing together buyers and sellers of securities, they are a group of persons that can be deemed to constitute, maintain, or provide the market place or facilities.⁶⁶

Whether persons act in concert or exercise control, or share control, requires an analysis of the activities of each person and the totality of facts and circumstances. In assessing whether a person would be acting in concert with a group of persons, one factor to consider, depending on other facts and circumstances, would be the extent to which a person acts with an agreement (formal or informal) to constitute, maintain, or provide a market place or facilities for bringing together buyers and sellers of securities or to perform with respect to securities a function commonly performed by a stock exchange. For example, if one entity agrees with another entity to combine aspects of each other’s market places or facilities (e.g., order books, display functionalities, or matching engines) to bring together buyers and sellers of securities, both entities could be considered part of the group and thus an exchange.

⁶⁶ In the Proposing Release, the Commission explained that, depending on the activities of the persons involved with the market place or facilities, a group of persons, who may each perform a function of the market place that meets the criteria of Exchange Act Rule 3b-16, can together provide, constitute, or maintain a market place or facilities for bringing together buyers and sellers of securities and together meet the definition of exchange. See Proposing Release at 15506 n.109. See also Regulation ATS Adopting Release at 70891 (“... any subsidiary or affiliate of a registered exchange could not integrate, or otherwise link the alternative trading system with the exchange, including using the premises or property of such exchange for effecting or reporting a transaction, without being considered a ‘facility of the exchange.’”). In determining whether affiliated persons would be a “group of persons” for the purposes of section 3(a)(1) of the Exchange Act and Rule 3b-16 thereunder, an important factor is whether the operations and management of the affiliated persons are separate. For example, an affiliated entity of an exchange might not be considered a group of persons with that exchange if there is independent governance, management, and oversight between affiliated entities; prevention of strategic coordination or information sharing between the affiliated entities by way of information barriers and other procedures; separation of functions relating to technology, operations and infrastructure, sales and marketing, branding, and staffing; and avoidance of business links, such as routing, fees, billing, and membership.

⁵⁷ See Letter from Coin Center, dated Apr. 14, 2022 (“Coin Center Letter”) at 13. Another commenter states that developers of “DeFi protocols” would not qualify as a “group of persons” because they “merely make tools available for parties to communicate.” See DeFi Education Fund Letter at 15.

⁵⁸ See, e.g., a16z Letter at 3; Coin Center Letter at 12; CoinList Letter at 2; GDCA Letter II at 11; Blockchain Association/DeFi Education Fund Letter at 5.

⁵⁹ See, e.g., Letter from Robert Toomey, Managing Director and Associate General Counsel, Securities Industry and Financial Markets Association, dated June 13, 2022 (“SIFMA Letter II”) at 8.

⁶⁰ See Coin Center Letter at 25. See also Delphi Digital Letter at 9 (stating that participants could “number in the hundreds or thousands and be distributed all over the world”).

⁶¹ See Letter from James F. Tierney, Assistant Professor of Law, University of Nebraska College of Law, dated June 13, 2022 (“Tierney Letter”) at 2 (stating that these participants in “blockchain and other DeFi applications” all “might play analogous roles to in-house counsel, market makers, and back-office clearance roles in a traditional exchange setup”).

⁶² See *id.*

⁶³ See IOSCO Decentralization Finance Report at 8 n.13 (stating that “claims about decentralization for many projects may not hold up to scrutiny of the technical reality of what can be changed in the system, who can be involved in the decisions, and who actually is involved”).

⁶⁴ The term “person” means a natural person, company, government, or political subdivision, agency, or instrumentality of a government. 15 U.S.C. 78c(a)(9).

⁶⁵ In a recent decision, the United States Court of Appeals for the District of Columbia Circuit held that the term “group of persons” “certainly includes closely connected corporate affiliates” and noted that “[w]hether two or more persons are or may be acting in concert is likely the key consideration” in determining whether two or more entities may constitute a “group of persons” for purposes of the statute. *Intercontinental Exch., Inc. v. SEC*, 23 F.4th 1013, 1024 (D.C. Cir. 2022). In addition, the court stated that it was “not suggest[ing] the term ‘group of persons’ is synonymous with corporate affiliation” and that “one corporation that is affiliated with but not controlled by another may or may not, depending upon the circumstances, be considered a ‘group of persons’” for the purposes of section 3(a)(1) of the Exchange Act. See *id.*

Control could occur through several means, including, among other things, ownership interest, corporate organizational structure and management, significant financial interest, or the ability to determine or modify participant access, securities traded, operations or trading policies, or non-discretionary methods of the market place or facilities. For example, a person that can determine or modify, either individually or with others, the entering, storing, matching, or display of trading interest (e.g., a matching engine, a smart contract) would be exercising control over the operations of the market place or facilities. In addition, a person that can determine or modify, or grant or limit access to, for example, either individually or with others, the market or other data about the securities and securities transactions available on the market place or facility, order types, order interaction procedures (e.g., counterparty selection, segmentation), the priority or price at which trading interest will execute, or protocols for negotiation, would have the ability to determine trading policies or methods and exercise control over the market place or facilities.

The ability to exercise control over a market place or facilities is not limited solely to the operational control.⁶⁷ Also, a person that, for example, either individually or with others, can determine or modify, with respect to the market place or facilities, the securities made available for trading or the access requirements and conditions for participation would be exercising control. In addition, a person could exercise control by determining who can, and in what amount, share in profits or revenues derived from the market place or facilities, or by having the ability to enter into legal or financial agreements or arrangements on behalf of or in the name of the market place or facilities. Depending on the facts and circumstances, significant holders of governance or other tokens, for example, could also be considered part of the group of persons and thus an exchange if they can control certain aspects of it.⁶⁸

⁶⁷ See, e.g., Regulation ATS Adopting Release at 78052 (stating that a system that standardizes the material terms of instruments traded on the system will be considered to use established, non-discretionary methods).

⁶⁸ This analysis would depend on facts and circumstances. Whether a token holder can exercise control over a market place or facilities and be considered part of a “group of persons” would depend, for example, on the number of total token holders, or, if a holder's votes are weighted proportionally to the size of their holdings of tokens, the size of their holdings, as well as what parameters the governance tokens are set to control (e.g., fundamental operational decisions, strategic

Generally, an entity that engages a service provider or vendor to operate a market place or facilities for bringing together buyers and sellers of securities directs, manages, and oversees the activities of the service provider or vendor. In this instance, the entity, not the service provider or vendor, controls the market place or facilities, and the entity is responsible for compliance with federal securities laws. In certain circumstances, however, a service provider or vendor could exercise control, or share control, over aspects of the market place or facilities along with the entity that procured the service provider or vendor. In that case, the service provider or vendor would be considered a person within a group of persons that constitutes, maintains, or provides the market place or facilities for bringing together buyers and sellers of securities.⁶⁹

The group of persons that constitutes, maintains, or provides a market place or facilities for bringing together buyers and sellers of securities or performs with respect to securities the functions commonly performed by a stock exchange, and is thus an exchange, would collectively have the responsibility for compliance with federal securities laws. A group of persons must consider how they will comply with the Exchange Act registration requirements given their activities, which can include, but are not limited to, designating a member of the group,⁷⁰ to register the group or forming an organization to register as an exchange or, to operate as an ATS, registering as a broker-dealer and becoming a member of Financial Industry Regulatory Authority (“FINRA”) to ensure compliance with the requirements of the Exchange Act, Commission rules, and FINRA rules.⁷¹

direction of the company, budgetary decisions, and ability to change the underlying code), among other things.

⁶⁹ See Proposing Release at 15548. This would not encompass purely administrative items, such as human resources support, or basic overhead items, such as phone services, electricity, and other utilities. In the Proposing Release, the Commission recognized that an ATS may engage an entity other than the broker-dealer operator to perform an operation or function of the ATS or a subscriber may be directed to use an entity to access a service of the ATS, such as order entry, disseminating market data, or display, for example. See Proposing Release at 15548. In such instances, the ATS must ensure that the entity performing the ATS function complies with Regulation ATS with respect to the ATS activities performed. See *id.*

⁷⁰ The group of persons would be collectively responsible for ensuring that the designated member of the group fulfills its regulatory responsibilities.

⁷¹ An ATS that complies with Regulation ATS and registers as a broker-dealer would be required to, among other things, comply with the anti-money

5. Group of Persons and So-Called “DeFi” Systems

One commenter states users of what it characterizes as “DeFi” protocols should not be considered part of a group of persons as they act independently of each other.⁷² The commenter states that developers and users of “DeFi” protocols would not qualify as a “group of persons” because the developers have no ongoing relationship with either market participants or other financial providers and merely make tools available for parties to communicate, and users are acting independently of each other.⁷³ Another commenter describes that the “DeFi protocols” deploying AMM functionality rely on many distinct groups or participants, which may not be “affiliated or extrinsically coordinated” with one another.⁷⁴

Trading on so-called “DeFi” systems can involve multiple actors. These actors can include, for example, the provider(s) of the DeFi application or user interface, developers of AMMs or other DLT code, decentralized autonomous organizations (“DAO”),

laundering and countering the financing of terrorism (AML/CFT) obligations under the Bank Secrecy Act. 31 CFR 1023.210; 31 CFR 1023.320. The Bank Secrecy Act is codified at 31 U.S.C. 5311–5314; 5316–5332 and 12 U.S.C. 1829b, 1951–1959. Additionally, sections 5(a) and 5(c) of the Securities Act of 1933 (“Securities Act”) generally prohibit any person, including broker-dealers, from selling a security unless a registration statement is in effect or has been filed with the Commission as to the offer and sale of such security. See 15 U.S.C. 77e(a) and (c). A New Rule 3b–16(a) System that operates as an ATS, which is a registered broker-dealer, could be subject to liability under section 5 of the Securities Act for facilitating the sale of a security by its customer on the ATS if the sale of such security is not registered or an exemption from the registration provisions does not apply. Section 4(a)(4) of the Securities Act provides an exemption for “brokers’ transactions, executed upon customers’ orders on any exchange or in the over-the-counter market but not the solicitation of such orders.” See 15 U.S.C. 77d(a)(4). To rely on this exemption, a broker-dealer is required to conduct a “reasonable inquiry” into the facts surrounding a proposed unregistered sale of securities before selling the securities to form reasonable grounds for believing that a selling customer's part of the transaction is exempt from section 5 of the Securities Act. The Commission has stated that broker-dealers “have a responsibility to be aware of the requirements necessary to establish an exemption from the registration requirements of the Securities Act and should be reasonably certain such an exemption is available.” *In the Matter of World Trade Financial Corp.*, Securities Exchange Act Release No. 66114, 13 (Jan. 6, 2012) (quoting *Stone Summers & Co.*, Securities Exchange Act Release No. 9839, 3 (Nov. 3, 1972)).

⁷² See DeFi Education Fund Letter at 15.

⁷³ See *id.*

⁷⁴ See Delphi Digital Letter at 9 (describing that “[t]hey do not co-own assets or operate a single enterprise for profit, do not know each other's identities, and have diverse (and often competing) motivations”).

validators or miners,⁷⁵ and issuers or holders of governance or other tokens. Often, a single organization constitutes, maintains, or provides a DLT-based market place or facilities for bringing together buyers and sellers of securities or performs with respect to securities the functions commonly performed by a stock exchange; however, a group of persons can likewise do so. As indicated above, one possible avenue for determining which persons comprise a group of persons can include whether such persons act in concert to establish, provide, or maintain a market place or facilities for securities or to perform with respect to securities the functions commonly performed by a stock exchange, or exercise control, or share control, over aspects of the market place or facilities or the performance of functions commonly performed by a stock exchange.⁷⁶ These actors can form a group of persons if they act in concert to perform, or exercise control or share control over, different functions of a market place or facilities for bringing together buyers and sellers of securities that, taken together, satisfy the elements of existing Exchange Act Rule 3b–16(a) or Rule 3b–16(a), as proposed to be amended.

As discussed above, in assessing whether a person would be acting in concert with a group of persons, one factor to consider, depending on other facts and circumstances, would be the extent to which a person acts with an agreement (formal or informal) to perform a function of a market place or facilities for bringing together buyers and sellers of securities.⁷⁷ A software developer who, acting independently and separate from an organization, publishes or republishes code without any agreement (formal or informal) with any person for that code to be used for a function of a market place or facilities for bringing together buyers and sellers of securities may be less likely to be acting in concert to provide a market place or facilities for bringing together buyers and sellers.⁷⁸ This could be the

case even if the software developer's code is subsequently adopted and implemented into a market place or facilities for securities by an unrelated person. Whether the activities of actors amount to a group of persons requires an analysis of the totality of facts and circumstances and the activities of each actor. If the activities of any combination of actors constitute, maintain, or provide, together, a market place or facilities for bringing together buyers and sellers for securities or perform with respect to securities a function commonly performed by a stock exchange, they could today be considered a group of persons and thus an exchange under section 3(a)(1) of the Exchange Act and Rule 3b–16 thereunder and therefore be required to register as an exchange under section 5 of the Exchange Act.⁷⁹

One commenter states that attributing the function of constituting, maintaining, or providing an exchange to persons who initially created or deployed the system's code may not be practicable or advance the Commission's policy objectives because according to the commenter, the system, once deployed, typically cannot be significantly altered or controlled by any such persons.⁸⁰ A smart contract deployed to, and run on, a blockchain is typically accompanied by other

independently from an organization, code for a trading facility to match orders or a protocol for buyers and sellers to negotiate a trade, the software developer could be acting in concert with a group of persons to provide a market place or facilities for bringing together buyers and sellers.

⁷⁹ See, e.g., Regulation ATS Adopting Release at 70852 (“[I]f an organization arranges for separate entities to provide different pieces of a trading system, which together meet the definition contained in paragraph (a) of Rule 3b–16, the organization responsible for arranging the collective efforts will be deemed to have established a trading facility.”). See also Proposing Release at 15506 (stating the proposed change to use the phrase “makes available” is intended to make clear that, in the event that a party other than the organization, association, or group of persons performs a function of the exchange, the function performed by that party would still be captured for purposes of determining the scope of the exchange under Exchange Act Rule 3b–16). The Proposing Release also stated that, “[d]epending on the activities of the persons involved with the market place, a group of persons, who may each perform a part of the 3b–16 system, can together provide, constitute, or maintain a market place or facilities for bringing together purchasers and sellers of securities and together meet the definition of exchange. In such a case, the group of persons would have the regulatory responsibility for the exchange.” See *id.* at 15506 n.109. See also *infra* notes 101–103 and accompanying text.

⁸⁰ See Coinbase Letter at 6. Likewise, some commenters state that software developers cannot modify or control the code they have developed after it is launched. See Delphi Digital Letter at 8–9; Blockchain Association/DeFi Education Fund Letter at 5; DeFi Education Fund Letter at 11; Stinson Letter; Letter from Roman Scher, dated Apr. 18, 2022.

functionality to bring together buyers and sellers of securities (e.g., a user interface or website), and these functionalities can be provided and maintained by more than one party. If, for example, an organization deploys a smart contract that the organization cannot significantly alter or control but constitutes a market place for securities under existing Exchange Act Rule 3b–16 or Rule 3b–16, as proposed to be amended, then that organization would be an exchange and would be responsible for compliance with federal securities laws for that market place.⁸¹ Given that such a market place could be publicly available to bring together buyers and sellers of securities, requiring the organization to be responsible in this case would advance the Commission's policy objectives by ensuring the exchange complies with federal securities laws and regulations, including, among other things, the oversight, investor protection, and fair and orderly market principles applicable to registered exchanges and ATSs.

6. Feasibility of Compliance With Exchange Regulatory Requirements

Some commenters state that so-called “DeFi” trading systems may have difficulty complying with certain exchange regulatory requirements.⁸² For example, one commenter states it is unclear that any party would have the necessary information to comply with Regulation ATS.⁸³ In addition, some commenters question how DeFi trading systems would comply with broker-dealer requirements.⁸⁴

The investor protection, fair and orderly markets, transparency, and oversight benefits of the federal securities laws are just as relevant to a system that uses DLT and meets the existing criteria of Exchange Act Rule

⁸¹ See also *supra* 78 and accompanying text (discussing “group of persons” involving a software developer acting independently and separate from an organization).

⁸² See, e.g., a16z Letter at 3; CoinList Letter at 2; GDCA Letter II at 8, 10.

⁸³ See a16z Letter at 15 (stating that there is no central operator of a DeFi exchange that could complete Form ATS or comply with periodic reporting requirements and that those who make available AMMs cannot identify, track the orders of, or report to the Commission information about users).

⁸⁴ See, e.g., GDCA Letter II at 8; Blockchain Association Letter II at 8; Letter from Lilya Tessler, Founder and Co-Chair, Digital Asset Regulatory & Legal Alliance, Kristin Boggiano, Founder and Co-Chair, Digital Asset Regulatory & Legal Alliance, Lee Schneider, Co-Founder, Global Blockchain Convergence, Cathy Yoon, Co-Founder, Global Blockchain Convergence, Renata Szkoda, Chairwoman, Global Digital Asset & Cryptocurrency Association, dated Apr. 14, 2022 (“DARLA, GBC, and Global DCA Letter”) at 9.

⁷⁵ Validators and miners verify transactions on the underlying blockchain and the function they perform is not only with respect to a particular trading system. Validators and miners use a consensus mechanism (e.g., proof-of-stake or proof-of-work) to verify and add transactions to a distributed ledger in exchange for crypto assets. See Crypto-Assets Treasury Report at 11–12.

⁷⁶ See *supra* note 66.

⁷⁷ See *supra* section II.B.4.

⁷⁸ See, e.g., LeXpunkK Letter at 15 (requesting that the Commission clarify that persons who “write and publish smart contract code as a hobby or business, whether to an open-source repository otherwise, and may not otherwise be subject to the jurisdiction of the U.S.” are not intended to be captured by the Proposed Rules). If a software developer receives compensation for publishing,

3b–16 and Rule 3b–16, as proposed to be amended, as to any other system that meets the criteria under the exchange definition. From the Commission's experience, systems that currently are registered as national securities exchanges or comply with the conditions of Regulation ATS differ with respect to structure, participants, and established, non-discretionary methods and apply many assorted technologies to bring together buyers and sellers of various types of securities. The federal securities laws apply equally to systems that trade securities, use DLT, and meet the criteria of Rule 3b–16 as to any other exchange. The federal securities laws are flexible and the use of DLT, or any other technology, does not make compliance incompatible with the federal securities laws.⁸⁵

One commenter states that “many Communication Protocol Systems are neither ‘brokers’ nor ‘dealers’ as defined by the Exchange Act because they do not effect securities transactions,” which the commenter equates to “order execution,” and “do not engage in the business of buying and selling securities.”⁸⁶ The commenter states accordingly that the option to qualify as an ATS is not available for Communication Protocol Systems under current law, as only a registered broker-dealer may qualify as an ATS.⁸⁷

Regulation ATS establishes a regulatory framework for ATSs. An ATS meets the definition of “exchange” under existing Exchange Act Rule 3b–16(a) and Exchange Act Rule 3b–16(a), as proposed to be amended, but is not required to register as a national securities exchange if the ATS complies with the conditions of Regulation ATS, which include registering as a broker-dealer. Section 3(a)(4)(A) of the Exchange Act defines “broker” as “any person engaged in the business of effecting transactions in securities for the accounts of others.”⁸⁸ The question

of whether a person is a broker within the meaning of section 3(a)(4) turns on the facts and circumstances of the matter. Under section 3(a)(4)(A), the terms “engaged in the business” and “effecting transactions” are not defined by statute; however, effecting transactions in securities includes more than just executing trades or forwarding securities orders to a broker-dealer for execution.⁸⁹ In particular, the Commission stated that effecting securities transactions can include participating in the transactions through routing or matching orders, or facilitating the execution of a securities transaction.⁹⁰ In addition, courts have stated that a person may be found to be acting as a “broker” if the person participates in securities transactions “at key points in the chain of distribution.”⁹¹ Accordingly, the Commission believes that a New Rule 3b–16(a) System that seeks to operate as an ATS could register as a broker-dealer.

Given that the Proposing Release applies to New Rule 3b–16(a) Systems that use DLT, the Commission seeks responses to the following questions:

4. Which, if any, activities performed on so-called “DeFi” trading systems meet the criteria of Rule 3b–16(a), as proposed to be amended? For example, does the use of AMMs alone bring together multiple buyers and sellers of

securities through the use of non-firm trading interest? Please explain. Please identify any relevant data, literature, or other information that could assist the Commission in analyzing this issue.

5. Please give examples of New Rule 3b–16(a) Systems for crypto asset securities that use DLT or are so-called “DeFi” systems. Approximately how many such systems exist? Please identify the types of non-firm trading interest used and how participants use non-firm trading interest on such systems. Please explain what these systems trade (crypto asset securities or crypto assets) and the type of participants (e.g., retail or institutional). How do participants on a New Rule 3b–16(a) System for crypto asset securities that use “DeFi” systems, as characterized by commenters, negotiate trades for crypto asset securities? Please identify any relevant data, literature, or other information that could assist the Commission in analyzing these issues.

6. Would an organization, association, or group of persons that is a New Rule 3b–16(a) System and uses DLT to trade crypto asset securities likely elect to register as a national securities exchange or comply with the conditions of Regulation ATS? Please explain.

7. What are common characteristics of New Rule 3b–16(a) Systems for crypto asset securities that use DLT? Further, what are common characteristics of New Rule 3b–16(a) Systems for crypto asset securities described as “DeFi” trading systems? Are there any characteristics that heighten the need for investor protection and market integrity under the exchange regulatory framework?

8. What are the various governance structures (e.g., the role of governance token issuers or holders or of DAOs) of trading systems that use DLT and how can such structures administer regulatory programs or respond to regulatory oversight regarding activities on the system? What activities do governance token issuers or holders or DAOs undertake regarding the governance and operation of trading systems that use DLT? Is there any concentration in voting and if so, how does that arise? Are voting rights of governance tokens or DAOs capable of being assigned or delegated and, if so, how is that done? How are changes to trading systems that use DLT effected and how are changes proposed to holders of voting rights under governance tokens or DAOs? Under what circumstances should governance or other token issuers or holders or DAOs be responsible for an exchange's regulatory compliance?

9. As noted in the above requests for comment in this section, the

⁸⁵ See DAO 21(a) Report (stating that “the automation of certain functions through [distributed ledger or blockchain] technology ‘smart contracts,’ or computer code, does not remove conduct from the purview of the U.S. federal securities laws” and that the requirements of the U.S. federal securities laws “apply to those who offer and sell securities in the United States, regardless whether the issuing entity is a traditional company or a decentralized autonomous organization, regardless whether those securities are purchased using U.S. dollars or virtual currencies and regardless whether they are distributed in certificated form or through distributed ledger technology”).

⁸⁶ See GDCA Letter II at 11–13.

⁸⁷ See *id.*

⁸⁸ 15 U.S.C. 78c(a)(4)(A). Section 3(a)(5)(A) defines “dealer” as any person engaged in the business of buying and selling securities, with certain exceptions, for such person's own account through a broker or otherwise. 15 U.S.C. 78c(a)(5)(A).

⁸⁹ See Securities Exchange Act Release No. 44291 (May 11, 2001), 66 FR 27760, 27772–73 (May 18, 2001) (stating that effecting securities transactions can include participating in the transactions through (1) identifying potential purchasers of securities; (2) screening potential participants in a transaction for creditworthiness; (3) soliciting securities transactions; (4) routing or matching orders, or facilitating the execution of a securities transaction; (5) handling customer funds and securities; and (6) preparing and sending transaction confirmations (other than on behalf of a broker-dealer that executes the trades). Further, the Commission stated in the Regulation ATS Adopting Release that a trading system that falls within the Commission's interpretation of “exchange” in Rule 3b–16 will still be considered an “exchange” even if it matches two trades and routes them to another system or exchange for execution and that whether or not the actual execution of the order takes place on the system is not a determining factor of whether the system falls under Exchange Act Rule 3b–16. See Regulation ATS Adopting Release at 70852.

⁹⁰ See Securities Exchange Act Release No. 44291 (May 11, 2001), 66 FR 27760, 27772–73 (May 18, 2001).

⁹¹ See *Mass. Fin. Serv., Inc. v. Sec. Inv. Prot. Corp.*, 411 F. Supp. 411, 415 (D. Mass. 1976), *aff'd* 545 F.2d 754 (1st Cir. 1976). See also *SEC v. Nat'l Exec. Planners, Ltd.*, 503 F. Supp. 1066, 1073 (M.D.N.C. 1980). Courts have also stated that in determining whether a person has acted as a broker, several factors are considered, including “whether the person: (1) actively solicited investors; (2) advised investors as to the merits of an investment; (3) acted with a ‘certain regularity of participation in securities transactions;’ and (4) received commissions or transaction-based remuneration.” See, e.g., *SEC v. U.S. Pension Trust Corp.*, 2010 WL 3894082, *20–21 (S.D. Fla. 2010).

Commission seeks additional data and other information about the use of DLT as it relates to New Rule 3b–16(a) Systems. Please provide any such data, literature, or other information about the topics noted above or any other issue that would be relevant to the Commission’s analysis of the Proposed Rules.

III. Proposed Amendments to Exchange Act Rule 3b–16 Generally

A. Performs Functions Commonly Performed by a Stock Exchange

Some commenters state that the Proposing Release did not demonstrate that systems that offer the use of non-firm trading interest and provide non-discretionary protocols “perform[] with respect to securities the functions commonly performed by a stock exchange as that term is generally understood,” and assert that such a finding is required under the statutory definition of “exchange” under section 3(a)(1) of the Exchange Act.⁹² In addition, some commenters state that systems that offer the use of non-firm trading interest and provide non-discretionary protocols to bring together buyers and sellers of securities do not perform functions commonly performed by a stock exchange, as that term is generally understood.⁹³

The statutory definition of “exchange” is written in the disjunctive: “a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood” (emphasis added).⁹⁴ Thus,

⁹² See, e.g., ConsenSys Letter at 14–15; DeFi Education Letter at 13; Coinbase Letter at 3 n.9. One of the commenters also states that in the Regulation ATS Adopting Release, the Commission assumed that to meet the statutory definition, the system must be “generally understood” to be performing stock exchange functions and “anchored” that rulemaking explicitly within the statutory definition. See Coinbase Letter at 3 n.10. In addition, a commenter opines that “[m]erely indicating a possible interest in buying or selling a security without mentioning the quantity or pricing terms that would otherwise characterize an order would allow the Commission to deem a platform an exchange despite it not ‘performing with respect to securities the functions commonly performed by a stock exchange.’” Blockchain Association Letter II at 4.

⁹³ See, e.g., Coinbase Letter at 3; ConsenSys Letter at 13–14; DARLA, GBC, and Global DCA Letter at 3–6; Letter from Gregory Babyak, Global Head of Regulatory Affairs and Gary Stone, Regulatory Analyst and Market Structure Strategist, Bloomberg L.P., dated Apr. 18, 2022 (“Bloomberg Letter I”) at 22.

⁹⁴ See 15 U.S.C. 78c(a)(1); Regulation ATS Adopting Release at 70900 n.544 (stating “the statutory definition of ‘exchange’ is written in the disjunctive”). Section 3(a)(1) of the Exchange Act states that an “exchange” includes any

if an organization, association, or group of persons constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities, it would be an “exchange”; it need not be demonstrated that the organization, association, or group of persons also performs functions commonly performed by a stock exchange as that term is generally understood. As discussed in the Proposing Release, systems today that offer the use of non-firm trading interest and provide non-discretionary protocols can constitute, maintain, or provide a market place or facilities for bringing together buyers and sellers of securities and meet the criteria of Exchange Act 3b–16 as proposed to be amended.⁹⁵

B. Makes Available Non-Discretionary Methods

In the Proposing Release, the Commission proposed to amend Exchange Act Rule 3b–16(a) to provide that an organization, association, or group of persons would be considered to constitute, maintain, or provide an exchange if it: brings together buyers and sellers of securities using trading interest; and makes available established, non-discretionary methods (whether by providing a trading facility or communication protocols, or by setting rules) under which buyers and sellers can interact and agree to the terms of a trade. The Commission proposed, among other changes, to replace the term “uses” with the term “makes available” in 17 CFR 240.3b–16(a)(2) (“Rule 3b–16(a)(2)”),⁹⁶ and to add “communication protocols” as an example of an established, non-discretionary method that an organization, association, or group of persons can provide to bring together buyers and sellers of securities.⁹⁷ The Commission received comment on the application of these proposed changes to all securities, including comments requesting the Commission to provide further consideration and opportunity

organization, association, or group of persons that constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood. Functions commonly performed by a stock exchange as that term is generally understood include, among other things, SRO functions and the listing of securities, by, for example, establishing or enforcing qualitative or quantitative listing standards. See Regulation ATS Adopting Release at 70880 (stating that “[r]egistered exchanges are able to establish listing standards, which may promote investor confidence in the quality of the securities traded on the exchange”).

⁹⁵ See Proposing Release at section ILC.

⁹⁶ See *id.* at 15506.

⁹⁷ See *id.* at 15506–07.

for comments before adopting the proposed changes.⁹⁸ The Commission is now soliciting further comment on certain Proposed Rules.

In the Proposing Release, the Commission discussed two reasons it proposed to replace “uses established, non-discretionary methods” with the phrase “makes available established, non-discretionary methods.” First, the Commission stated that the proposed change to use the term “makes available” rather than “uses” is designed to capture established, non-discretionary methods that an organization, association, or group of persons may provide, whether *directly or indirectly*, for buyers and sellers to interact and agree upon terms of a trade.⁹⁹ Unlike systems that “use” established non-discretionary methods to match buyers and sellers, communication protocols systems offer a different method for bringing together buyers and sellers by providing protocols that allow participants to interact, negotiate, and come to an agreement.¹⁰⁰

Second, the term “makes available” was intended to make clear that, in the event that a party other than the organization, association, or group of persons performs a function of the exchange, the function performed by that party would still be captured for purposes of determining the scope of the exchange under Exchange Act Rule 3b–16.¹⁰¹ The Commission has previously stated that it will attribute the activities of a trading facility to a system if that facility is offered by the system directly or indirectly (such as where a system arranges for a third party or parties to offer the trading facility).¹⁰² The Commission also recognized how a system may consist of various functionalities, mechanisms, or protocols that operate collectively to bring together the orders for securities of multiple buyers and sellers using non-discretionary methods under the criteria of Rule 3b–16(a), and how, in some circumstances, these various functionalities, mechanisms, or protocols may be offered or performed by another business unit of the broker-dealer operator or by a separate entity.¹⁰³ The Commission stated that these principles apply equally to an organization, association, or group of persons that arranged with another

⁹⁸ See Bloomberg Letter I at 13–15; SIFMA Letter II at 7.

⁹⁹ See Proposing Release at 15506.

¹⁰⁰ See *id.*

¹⁰¹ See *id.*

¹⁰² See *id.* (citing Regulation ATS Adopting Release at 70852).

¹⁰³ See *id.*

party to provide, for example, a trading facility or communication protocols, or parts thereof, to bring together buyers and sellers and perform a function of a system under Rule 3b–16.¹⁰⁴ Consistent with the principles in the Regulation ATS Adopting Release, the term “makes available” would help ensure that the investor protection and fair and orderly markets provisions of the exchange regulatory framework apply to the activities performed through all functionalities, mechanisms, or protocols of a market place that meet the criteria of Rule 3b–16(a), notwithstanding whether those activities are performed by a party other than the organization that provides the market place.¹⁰⁵

Commenters state that the proposed use of the term “makes available” would extend the scope of the exchange definition to a broad set of entities that provide services to a system and its participants and potentially create uncertainty and ambiguity.¹⁰⁶ One commenter states that the Proposing Release opens up the possibility that systems interacting with the ATS are themselves separate exchanges and questions when two or more unrelated entities might be viewed as collectively providing the services of an exchange.¹⁰⁷ One commenter expresses concern that the Proposed Rules would broaden the definition of “exchange” to include entities that do not themselves take an active role in matching orders but instead contribute in some manner to the efforts of buyers and sellers to identify each other and arrange trades, and that anyone who contributes to the existence of trading protocols could be considered to make them available.¹⁰⁸ Another commenter states that the Proposed Rules do not address “open-

architecture platforms that integrate with or embed in a third-party application” and asks whether such activity would constitute making available communication protocols.¹⁰⁹ One commenter states that the proposed term “makes available” would expand the groups of persons subject to the Exchange Act to include those who expressly do not fall under the statutory language of section 3(a)(1)—“a party other than the organization, association, or group of persons” that performs a function on the exchange.¹¹⁰ In addition, one commenter states the definition should only include entities that make available systems “with the intent to profit from trades to which they are not a party” and exclude those that integrate software available in the public domain and perform the role without a profit motive.¹¹¹

Request for Comment

10. In the Regulation ATS Adopting Release, the Commission stated that it would “attribute the activities of a trading facility to a system if that facility is offered by the system directly or indirectly (such as where a system arranges for a third party or parties to offer the trading facility).”¹¹² In explaining the term “makes available” in the Proposing Release, the Commission stated that it was “designed to capture established, non-discretionary methods that an organization, association or groups of person may provide, whether directly or indirectly.”¹¹³ To ensure that an exchange function performed by a party is appropriately captured under Exchange Act Rule 3b–16, should the Commission adopt alternative language to “makes available”? Please explain. For example, should the Commission adopt “Uses established, non-discretionary methods (whether by providing, *directly or indirectly*, a trading facility. . . .)”? Would the addition of the phrase “directly or indirectly” align Rule 3b–16 more closely with prior Commission statements in the Regulation ATS

Adopting Release¹¹⁴ and focus the rule text on a function that a party performs in the provision of an established, non-discretionary method to bring together buyers and sellers? Would the phrase “directly or indirectly” reduce commenters’ concerns about the proposed “makes available” language being overbroad? Why or why not? What, if any, limiting principles should be applied to determining when a person provides “directly or indirectly” a trading facility or communication protocols (or “negotiation protocols”)?¹¹⁵ Please explain.

11. The Commission proposed to remove the term “uses” and insert the term “makes available” before “established, non-discretionary methods” because the Commission proposed to include as an established, non-discretionary method communication protocols under which buyers and sellers can interact and agree to the terms of a trade. Communication protocols would be in addition to a trading facility, which is an existing established, non-discretionary method under existing Exchange Act Rule 3b–16(a)(2) and is used by the provider of the exchange to match buyers and sellers. Instead of the terms “uses” and “makes available,” should the Commission adopt amendments to Exchange Act Rule 3b–16(a)(2) that state “[E]stablishes non-discretionary methods (whether by providing, directly or indirectly, a trading facility or)”? The addition of the term “establishes” would adhere to the concept of “established” in existing Exchange Act Rule 3b–16(a)(2) and be consistent with the Commission’s explanation in the Regulation ATS Adopting Release that the person who *establishes* non-discretionary methods is dictating the terms of trading among buyers and sellers on the system.¹¹⁶ For example, an organization that establishes a non-discretionary method would be providing a trading facility or providing communication protocols (or “negotiation protocols”¹¹⁷) or setting rules for buyers and sellers to interact and agree upon the terms of a trade.

C. Non-Discretionary Method: Communication Protocols

In the Proposed Rules, the Commission proposed to add “communication protocols” to Exchange Act Rule 3b–16(a) as a non-discretionary method that an

¹⁰⁴ See *id.*

¹⁰⁵ See *id.* See also Regulation ATS Adopting Release at 70851–52.

¹⁰⁶ See, e.g., Letter from Gregory Babyak and Gary Stone, Regulatory Affairs, Bloomberg L.P., dated Sept. 16, 2022 (“Bloomberg Letter II”) at 2; Letter from Elisabeth Kirby, Head of U.S. Market Structure, Tradeweb Markets, Inc., dated Apr. 18, 2022 (“Tradeweb Letter”) at 5; Letter from Ken McGuire, President, Aditum Alternatives & Aditum Asset Management, dated Feb. 21, 2022 (“Aditum Letter”) at 2; Letter from Gene Hoffman, President & Chief Operating Officer, Chia Network, dated Apr. 16, 2022 (“Chia Network Letter”) at 4–7; DARLA, GBC, and Global DCA Letter at 6–7; ConsenSys Letter at 13, 16–17; Blockchain Association Letter II at 8–9; ADAM Letter II at 8, 16; Eisenbach Letter at 2.

¹⁰⁷ See SIFMA Letter II at 9 n.23.

¹⁰⁸ See ConsenSys Letter at 16–17. See also DeFi Education Fund Letter at 9–10 (stating that “systems providing communication and other financial technology adjacent to trading, such as bespoke direct messaging or market information services, could be captured under the overbroad ‘makes available’ standard”).

¹⁰⁹ See Letter from Corinna Mitchell, General Counsel, Symphony Communication Services, dated Apr. 18, 2022 at 4. See also DeFi Education Fund Letter at 9–10 (stating the “makes available” language could subject software developers to exchange regulation “solely on the basis of having lines of their code subsequently used by unrelated parties”); Tradeweb Letter at 5 (stating that the proposed language might affect various forms of software tools widely used in the securities industry).

¹¹⁰ See Blockchain Association Letter II at 4–5 (quoting the Proposing Release at 15506).

¹¹¹ See Aditum Letter at 2.

¹¹² See Regulation ATS Adopting Release at 70852.

¹¹³ See Proposing Release at 15506.

¹¹⁴ See *id.* (citing Regulation ATS Adopting Release at 70852).

¹¹⁵ See *infra* Request for Comment #13.

¹¹⁶ See Regulation ATS Adopting Release at 70850.

¹¹⁷ See *infra* Request for Comment #13.

organization, association, or group of persons could provide for buyers and sellers to interact and agree upon the terms of a trade.¹¹⁸ In the Proposing Release, the Commission explained that communication protocols, which can be applied to various technologies and connectivity, are provided along with the use of non-firm trading interest (as opposed to firm orders) to prompt and guide buyers and sellers to communicate, negotiate, and agree to the terms of the trade.¹¹⁹ The Commission also provided examples of trading systems that function as market places or facilities for securities by providing communication protocols.¹²⁰ The Commission provided an example of an entity making available a chat feature that has the additional requirement that certain information be included in a chat message (e.g., price, quantity) and also setting parameters and structure designed for participants to communicate about buying or selling securities as a system that would have established communication protocols.¹²¹ The Commission also explained what would not be a communication protocol system for purposes of the Proposed Rules.¹²²

The Commission received comment that the term “communication protocol” is too broad and vague and that it is unclear what activities or entities would be classified as communication protocol systems.¹²³ Commenters suggest that the Commission should define the term “communication protocol system” to avoid uncertainty as to who is included

or not included under its scope.¹²⁴ Commenters state that the broad concept of a communication protocol system could capture various types of technologies used by market places for securities, including, for example, front-end graphical user interfaces (“GUIs”), web chat providers,¹²⁵ primary market communication systems,¹²⁶ software solutions,¹²⁷ or trading desks of a broker-dealer.¹²⁸ Commenters state that the uncertainty could give the impression that employing the term expands the scope of exchange regulation to all communication methods.¹²⁹

Request for Comment

12. In existing Exchange Act Rule 3b–16(a)(2), non-discretionary methods include providing a trading facility or setting rules governing the interaction of orders. “Trading facility” and “setting rules” are not defined in the rule text but are explained in the Regulation ATS Adopting Release and the Commission provided examples of each.¹³⁰ The Commission proposed “communication protocols” as another non-discretionary method for trading interest in the Proposing Release. Should the Commission adopt Exchange Act Rule 3b–16(a)(2), as proposed to be amended, to include “communication protocols” as an example of a non-discretionary method under which buyers and sellers can interact and agree to the terms of a trade? Why or why not? In addition to the guidance provided in the Regulation ATS Adopting Release, should the Commission provide guidance on what “non-discretionary methods” means under Exchange Act Rule 3b–16?

13. To reflect systems that provide non-discretionary methods under which

buyers and sellers negotiate terms of a trade, should the Commission adopt amendments to Exchange Act Rule 3b–16(a)(2) that replace the proposed term “communication protocols” with the term “negotiation protocols” and adopt the following definition under a new Rule 3b–16(f):

For purposes of this section, the term “negotiation protocols” means a non-discretionary method that sets requirements or limitations designed for multiple buyers and sellers of securities using trading interest to interact and negotiate terms of a trade.

14. As discussed above, some commenters state that the term “communication protocol” is too broad and vague and that it is unclear what activities or entities would be classified as communication protocol systems.¹³¹ The term “negotiation protocols” could better focus the non-discretionary methods that the Commission intended to capture in the proposed amendments to Exchange Act 3b–16(a)(2) than the term “communication protocols.” The term “negotiation protocols” would be another example, in addition to directly or indirectly providing a trading facility or setting rules, of a non-discretionary method established by an exchange under which buyers and sellers can negotiate and agree to the terms of a trade. What are commenters’ views of the term “negotiation protocols”? Are there any terms that should be added, deleted, or modified in the definition of “negotiation protocol” to make the definition more precise or appropriate? Are there other non-discretionary methods under which buyers and sellers can interact and agree to the terms of a trade that the Commission should add to Rule 3b–16(a)(2)? If so, please explain. What other types of protocols under which buyers and sellers can interact and agree to the terms of a trade exist or can be provided?

15. The definition of “negotiation protocols” described above would set requirements or limitations designed to govern how the trading interest is used by participants to interact and negotiate a trade. Should a definition of “negotiation protocols” specify both requirements and limitations that would constitute a non-discretionary method? Why or why not?

16. As an alternative to adopting a definition of “negotiation protocols” in the rule text, should the Commission provide an explanation and examples of what negotiation protocols are and are not in any adopting release, similar to what the Commission did in the Regulation ATS Adopting Release when

¹¹⁸ See Proposing Release at 15507.

¹¹⁹ *Id.*

¹²⁰ See *id.* at 15500–01. These trading systems could include, among others, RFQ systems, stream axes, conditional order systems, and bilateral negotiation systems.

¹²¹ See *id.* at 15507.

¹²² See, e.g., *id.* For example, the Commission stated that it did not intend for communication protocols to include systems that only provide the connectivity or technology that allows buyers and sellers to communicate (such as utilities or providers of stand-alone electronic web chat) without also establishing non-discretionary methods that govern how the communications are allowed to proceed as participants agree to the terms of a trade. See *id.*

¹²³ See, e.g., Letter from Lindsey Weber Keljo, Head of Asset Management Group, William C. Thum, Managing Director and Assistant General Counsel, Securities Industry and Financial Market Association, dated Apr. 18, 2022 (“SIFMA AMG Letter”) at 6; Letter from Charles V. Callan, Broadridge Financial Solutions, Inc., dated Apr. 18, 2022 (“Broadridge Letter”) at 2; Letter from Douglas A. Cifu, Chief Executive Officer, Virtu Financial, Inc., dated Apr. 18, 2022 (“Virtu Letter”) at 11; Letter from Jennifer W. Han, Managed Funds Association, dated Apr. 18, 2022 (“MFA Letter”) at 7–10; Letter from David R. Burton, Senior Fellow in Economic Policy, The Heritage Foundation, dated Apr. 18, 2022 (“Burton Letter”) at 2.

¹²⁴ See, e.g., Healthy Markets Letter at 6; Letter from Scott Pintoff, General Counsel, MarketAxess, dated Apr. 18, 2022 (“MarketAxess Letter”) at 5; Broadridge Letter at 2; Virtu Letter at 11. Another commenter, in expressing concern about the scope of the Proposed Rules, describes that the Proposed Rules did not define “communication protocol system.” See McHenry/Huizenga Letter at 2.

¹²⁵ See, e.g., GDCA Letter II at 9; Coin Center Letter at 19–20.

¹²⁶ See Letter from Scott Eisenberg, Head of Legal, DirectBooks LLC, dated Apr. 18, 2022.

¹²⁷ See SIFMA Letter II at 9.

¹²⁸ See Letter from Christopher A. Iacovella, Chief Executive Officer, American Securities Association, dated Apr. 18, 2022 (“ASA Letter”) at 3.

¹²⁹ See, e.g., Bloomberg Letter I at 19; Chia Network Letter at 2 (stating that “the Commission’s proposed amendments [put] the entire internet and connectivity businesses in jeopardy of tripping over the [Exchange Act]”).

¹³⁰ See Regulation ATS Adopting Release at 70851–52. The Regulation ATS Adopting Release stated that the Commission intended for “‘established, non-discretionary methods’ to include any methods that dictate the terms of trading among the multiple buyers and sellers entering orders into the system.” *Id.* at 70850.

¹³¹ See *supra* note 123.

analyzing the application of Rule 3b–16 to hypothetical Systems A through T?¹³² In the Proposing Release, the Commission provided examples of trading systems that offer the use of non-firm trading interest and established protocols that would meet the criteria of Exchange Act 3b–16, as proposed to be amended (e.g., RFQ, conditional order systems, indication of interest systems).¹³³ Should the Commission adopt those examples as hypotheticals that would meet the criteria of Rule 3b–16 similar to the hypotheticals in the Regulation ATS Adopting Release? Please explain. Should the examples that the Commission provided in the Proposing Release change in any way? Are there any other examples that the Commission should adopt to describe New Rule 3b–16(a) Systems? Please describe any such examples.

17. As discussed above, whether an organization, association, or group of persons meets the definition of an exchange depends on the activities performed and not the technology used. The Commission received comments requesting the Commission clarify that order management systems, order execution systems, and order execution management systems (collectively referred to as “OEMS” technology) do not meet the criteria of Rule 3b–16, as proposed to be amended.¹³⁴ The Commission understands that brokers, dealers, and investment advisers use OEMS technology to carry out their respective Commission-regulated activities. The proposed amendments to Rule 3b–16 were not designed to capture within the definition of

exchange the activities of brokers, dealers, and investment advisers who use an OEMS to carry out their functions (e.g., organizing and routing trading interest). The use of OEMS technology, however, like other types of technology, could be used, in certain circumstances, to perform exchange activities (e.g., crossing orders of multiple buyers and sellers using established non-discretionary methods). The Commission requests comment on what activities are performed today using OEMS technology and how the use of OEMS technology might change in the future. The Commission requests comment on whether and how activities performed through the use of OEMS technology could meet the criteria of Rule 3b–16(a), as proposed to be amended. Please explain why or why not.

18. In light of comments that the concept of a communication protocol system could capture various types of technologies used by market participants for securities (e.g., GUIs, web chat providers, primary market communication systems, software solutions, or trading desks of a broker-dealer), please explain in detail and provide examples of the specific activities performed through the use of such technology identified by commenters.

19. In response to the Proposing Release, the Commission received several comments expressing concern that the expansion of Exchange Act Rule 3b–16 might encompass general internet chat services, such as WhatsApp, Twitter, and Reddit.¹³⁵ As stated in the Proposing Release, systems that provide general connectivity for persons to communicate without protocols containing requirements and limitations to negotiate trades for securities (e.g., utilities or electronic web chat providers) would not fall within the definition of exchange, as proposed to be amended.¹³⁶ However, the determination as to whether a given system would meet the criteria under Rule 3b–16(a), as proposed to be amended, must be based on the facts

and circumstances surrounding the operation of the system, not the market name or categorization (*i.e.*, simply because a program is called a “chat” or “messaging” service, it does not mean the service is per se outside the scope of Rule 3b–16(a), as proposed to be amended). For example, if a chat or messaging service was provided with a display functionality for trading interest in securities, an execution facility for securities, or protocols for participants to negotiate, the mere fact that the system contains a chat feature or message service would not necessarily preclude it from meeting the criteria of Rule 3b–16 as proposed to be amended. What features of a chat or message service could be considered protocols (*i.e.*, requirements or limitations) under Rule 3b–16, as proposed to be amended, that would allow buyers and sellers to interact and negotiate a trade for securities? Are there currently any types of chat services that are solely used for discussing securities but are not used for negotiating a securities trade? Are there any types of chat services that are currently designed for buyers and sellers to interact and negotiate a trade for securities? Please explain why or why not.

20. Do commenters believe that there are other technologies, such as social networking websites, business communication platforms, financial information systems, blockchain technology nodes and smart contracting platforms,¹³⁷ that could be used to perform activities that meet the criteria of Exchange Act Rule 3b–16(a), as proposed to be amended? Are there any features of these systems that could be considered protocols (*i.e.*, requirements or limitations) that allow buyers and sellers to interact and negotiate a trade for securities? Please explain.

21. Form ATS is designed to enable the Commission to determine whether an ATS subject to Regulation ATS is in compliance with Regulation ATS and other federal securities laws.¹³⁸ Form ATS provides disclosures about, among other things, classes of subscribers, securities traded, manner of operation, and procedures governing the execution, reporting, clearance, and settlement of transactions. Proposed Item 3(c) of Form ATS (current Form ATS Exhibit B) requires an ATS to disclose a list of securities the ATS trades or expects to trade, and requires disclosure of all securities, which includes crypto asset securities.¹³⁹

¹³² See Regulation ATS Adopting Release at 70854–56.

¹³³ See Proposing Release at 15500–01.

¹³⁴ See Bloomberg Letter I at 16; SIFMA AMG Letter at 11; Broadridge Letter at 3; MFA Letter at 9; Letter from Kelvin To, Founder and President, Data Boiler Technologies, LLC, dated Apr. 18, 2022 at 9. Several commenters express general concerns about and set forth policy arguments against including OEMSs within the Commission’s exchange regulation. See, e.g., SIFMA AMG Letter at 6 (asserting that “the Commission’s drafting risks moving too far beyond trading venues and is potentially capturing a broad range of OEMS, ETF portal, and single user systems carefully developed by a diverse group of market participants to introduce efficiencies and costs savings into the market, but which do not allow for separate users to interact and do not directly connect with multiple brokers to confirm the non-discretionary execution of orders”); Letter from Sarah Bessin, Associate General Counsel, Investment Company Institute, dated Apr. 18, 2022 (“ICI Letter”) at 9 (arguing that there are no perceived regulatory benefits from applying the ATS or broker-dealer regulatory framework to internalized trading activity on OEMSs, which is independently regulated, and stating that it may “frustrate advisers’ ability to seek best execution on behalf of their clients”).

¹³⁵ See, e.g., Chia Network Letter at 4–7 (stating that the expansion to parties that “make available” established, non-discretionary methods could capture large numbers of internet and telecommunications providers, including any company that makes any sort of messaging system available to internet users such as Twitter and Reddit, and creates regulatory uncertainty for all such entities); GDCA Letter II at 10 (stating that the term trading interest “sweeps up dialogue that otherwise would be outside the rules,” such as “‘inadvertent’ or ‘incidental’ exchange activity” through protocols “with a primary social or business use unrelated to trading” that are “used secondarily or incidentally for trading”).

¹³⁶ See Proposing Release at 15502 n.72.

¹³⁷ See *infra* note 278.

¹³⁸ See Form ATS Instruction A.6.

¹³⁹ See Proposing Release at 15653.

22. Form ATS–N is designed to provide market participants with information to, among other things, help them make informed decisions about whether to participate on an NMS Stock ATS (and, as proposed, on a Government Securities ATS).¹⁴⁰ Proposed Part I, Item 8 of Form ATS–N would require an NMS Stock ATS or Government Securities ATS to disclose information about the NMS stocks and government securities that it makes available for trading, which would include any NMS stocks or government securities that are crypto asset securities.¹⁴¹ Should the Commission adopt an amendment to proposed Item 3(c) of Form ATS or proposed Part I, Item 8 of Form ATS–N to require ATSs and NMS Stock ATSs and Government Securities ATSs to specifically identify the securities that are crypto asset securities? Why or why not? Should the Commission make any other changes to Form ATS and Form ATS–N in light of the Proposing Release and the information provided in this Reopening Release?

23. Form ATS–R, which is filed on a quarterly basis and deemed confidential when filed, is designed to enable the Commission to more effectively track the growth and development of ATSs, as well as to more effectively comply with its statutory obligations with respect to ATSs, and improve investor protection.¹⁴² Among other things, Form ATS–R requires ATSs to list all securities that were traded on the ATS at any time during the period covered by the report¹⁴³ and to report total unit and dollar volume of transactions for certain categories of securities.¹⁴⁴ Should Form ATS–R be amended to require ATSs to indicate whether any of the types of securities traded on the ATS are crypto asset securities? For example, should Form ATS–R include a checkbox for each type of security listed on Form ATS–R for the ATS to indicate

whether any of the securities transacted are crypto asset securities? Why or why not? Should Form ATS–R be amended to require an ATS to report the total unit and dollar volume of transactions in crypto asset securities for each category of securities? Why or why not? Should the Commission make any other changes to Form ATS–R in light of the Proposing Release and the information provided in this Reopening Release?

24. Information about a New Rule 3b–16(a) System’s operations, including operations related to non-firm trading interest and protocols provided for buyers and sellers to interact and negotiate the terms of a trade, would be responsive to proposed Item 3(g) of Form ATS, which requires a description of the manner of operation of the ATS. To assist New Rule 3b–16(a) Systems in responding to Form ATS, should the Commission adopt an amendment to proposed Item 3 of Form ATS to add the following requirement as a disclosure: “any display of trading interest” and “protocols provided for buyers and sellers to interact and negotiate the terms of a trade”? Please explain why or why not. Although this information would be responsive to current Form ATS Item 8(a) and would be required to be included in current Form ATS Exhibit F, the explicit references would make clear to ATSs that such information is responsive to the form and must be provided.

25. Proposed Item 3(j) of Form ATS (current Form ATS Item 8(d), which is required to be disclosed on Exhibit F) would require an ATS to provide “a description of the procedures governing execution, reporting, clearance, and settlement of transactions effected through the [ATS].”¹⁴⁵ Should the Commission adopt an amendment to the Item to include a reference to the use of DLT among the procedures so that the Item would state that the ATS must include “a description of the procedures, including through use of DLT, governing execution, reporting, clearance, and settlement of transactions effected through the alternative trading system”? Please explain why or why not. Although a description of the use of DLT, or any other technology, in these processes is currently required by the term “procedures,” the explicit reference to DLT would make clear that a description of its use would be required to be provided in Form ATS.

26. As discussed above, several commenters ask questions about how so-called “DeFi” systems could comply with the requirements of Regulation

ATS.¹⁴⁶ Form ATS–N, which provides operational transparency and regulatory oversight of NMS Stock ATSs and, as proposed, of Government Securities ATSs, is technology neutral and asks questions designed to apply to ATSs that vary in structure and offer many different functionalities and trading processes and procedures. However, Form ATS–N provides examples of specific functionalities and procedures that would be responsive to particular questions. To assist subject systems in responding to Form ATS–N, should the Commission adopt any changes, particularly to the examples provided in Form ATS–N, to clarify and highlight the applicability of certain items in Form ATS–N to NMS Stock ATSs and Government Securities ATSs that use DLT? Should, for example, the Commission adopt amendments to proposed Part II, Item 5 to provide examples of other products and services that the operator of a system that uses DLT may provide for the purpose of effecting transactions or submitting, disseminating, or displaying trading interest on the ATS?¹⁴⁷ Should the Commission adopt amendments to Part III, Item 5(a) to provide web-based systems as an example of means by which the NMS Stock ATS or Government Securities ATS permits trading interest to be entered directly into the ATS?¹⁴⁸ Should the Commission adopt amendments to Part III, Item 15 to provide examples of blockchain-based means by which trading interest can be displayed or made known to the ATS subscribers or the public?¹⁴⁹ Should the Commission adopt amendments to proposed Part III, Item 21 to provide examples of blockchain-based procedures to manage the post-trade processing, clearance, and/or settlement on the ATS?¹⁵⁰ Should the Commission adopt amendments to proposed Part III, Item 22 to provide examples of blockchain-based market data sources?¹⁵¹

D. Exclusion From Exchange Act Rule 3b–16(a)

In the Proposing Release, the Commission proposed to amend Rule 3b–16(b) to add an exclusion from Rule 3b–16(a) for systems that allow an issuer

¹⁴⁰ See Form ATS–N Instruction D.

¹⁴¹ See Proposing Release at 15542.

¹⁴² See Form ATS–R Instruction A.7.

¹⁴³ See Form ATS–R Item 3. Form ATS–R also requires a list of all subscribers that were participants of the ATS during each calendar quarter. See Form ATS–R Item 2.

¹⁴⁴ See Form ATS–R Item 4. For example, Form ATS–R requires NMS Stock ATSs to report the total unit and dollar volume of transactions in NMS stocks that are reported to the consolidated tape in “Listed Equity Securities” (Item 4A), “Nasdaq National Market Securities” (Item 4B), or “Nasdaq SmallCap Market Securities” (Item 4C). In the Proposing Release, the Commission proposed to delete the categories “Nasdaq National Market Securities” and “Nasdaq SmallCap Market Securities” and require ATSs to report the total volume previously reported under these categories under “Listed Equity Securities.” See Proposing Release at 15580.

¹⁴⁵ See *id.* at 15654.

¹⁴⁶ See, e.g., *supra* note 55.

¹⁴⁷ See Proposing Release at 15546–48.

¹⁴⁸ See *id.* at 15552–53.

¹⁴⁹ See *id.* at 15563–65. Such amendments could provide examples of blockchain-based means by which: an ATS may display trading interest to its subscribers or the public; a subscriber can display or make known trading interest through the ATS; and trading interest bound for the ATS is made known to any person. See *id.*

¹⁵⁰ See *id.* at 15568–69.

¹⁵¹ See *id.* at 15569.

to sell its securities to investors.¹⁵² The Commission stated in the Proposing Release that the exclusion was merely codifying in Rule 3b–16(b)(3) an example the Commission provided in the Regulation ATS Adopting Release for systems that have a single seller of its securities.¹⁵³ While such systems have multiple buyers (*i.e.*, investors), they have only one seller for each security (*i.e.*, issuers) and, therefore, do not meet the criteria of Rule 3b–16(a) because the systems do not bring together multiple buyers and multiple sellers.¹⁵⁴

One commenter states that it is unclear whether the issuer exclusion would cover portals on which multiple issuers offer securities.¹⁵⁵ Another commenter suggests that the exclusion for issuer systems should be revised to state that it applies to a system that “allows one or more issuers to sell their securities to investors, either directly or through placement agents or underwriters.”¹⁵⁶ This commenter states that a system that allows more than one issuer to sell its own securities is a single counterparty system because for any particular security, there is only one counterparty, the issuer of the securities.¹⁵⁷ This commenter further states that including the phrase “or through placement agents or underwriters” is needed to make clear that the issuer exclusion may continue to be applied if the system permits an issuer to use brokers or underwriters, and this approach is desirable because it permits the interposition of registered brokers, who provide a multitude of services protective of the rights of investors.¹⁵⁸

Two commenters request that the Commission confirm that a system or portal that an exchange-traded fund (“ETF”) sponsor uses to facilitate ETF primary market operations (*i.e.*, creation and redemption of ETF shares) (“ETF Portal”) is not a communication protocol system, as defined in the Proposing Release, and otherwise does not meet the definition of “exchange,” as proposed to be amended.¹⁵⁹ The commenters state that ETF Portals enable registered broker-dealers that

serve as an ETF’s authorized participants (“APs”) to communicate creation or redemption requests for an ETF.¹⁶⁰ One of the commenters states that ETF Portals do not create a market place for secondary market trading activity (*i.e.*, trading of the actual ETF shares among individual investors) because they are used by ETF sponsors for the specific purpose of creating and redeeming their own issued securities.¹⁶¹ In this respect, this commenter believes that ETF Portals are similar to a system that allows issuers to sell their own securities to investors.¹⁶² Another commenter similarly agrees that ETF Portals should not be included in the definition of an “exchange” and does not believe there would be any public benefit to treating such portals as exchanges and requiring ATS registration.¹⁶³

Request for Comment

27. Should the Commission adopt Rule 3b–16(b)(3), as proposed to be amended? Why or why not? Should the Commission adopt the proposed Rule 3b–16(b)(3) exclusion but with certain revisions? If so, please identify those revisions and explain. For example, should the Commission adopt, as suggested by one commenter, the proposed issuer exclusion with revisions to state that it applies to a system that “allows one or more issuers to sell their securities to investors, either directly or through placement agents or underwriters”? In particular, should the Commission add “one or more issuers” to the proposed issuer exclusion? What types of systems would be covered under the revised issuer exclusion example above? Please explain. Is the inclusion of “either directly or through placement agents or underwriters” in the revised issuer exclusion example above necessary or

appropriate to clarify its application? If so, why?

28. How do ETF Portals operate for the creation and redemption of securities? Who are the participants in ETF Portals and how do they interact? Are there any trading activities conducted as part of the creation and redemption process through an ETF Portal that are exchange activities or necessitate further clarification by the Commission as to whether such activities are exchange activities? Do an ETF Portal’s activities facilitate secondary market activity in the ETF? Why or why not? Does trading in ETF Portals involve multiple buyers and sellers of securities? Why or why not? What non-discretionary methods are generally used by ETF Portals?

29. Do ETF Portals fall within the criteria of existing Exchange Act Rule 3b–16(a) or Rule 3b–16(a), as proposed to be amended? Why or why not? If the activities conducted through ETF Portals fall within the criteria of existing Exchange Act Rule 3b–16(a) or Rule 3b–16(a), as proposed to be amended, should the Commission adopt an exclusion under Exchange Act Rule 3b–16(b)(3) for ETF Portals? If yes, please explain why and explain what the exclusion should apply to. How should an ETF Portal be defined for purposes of the exclusion? For example, should the Commission expressly adopt an exclusion that applies only to ETF Portals that fall within this definition: “a system that allows one or more issuers from the same sponsoring entity to solicit creation or redemption requests for their own securities submitted by authorized participants for those securities”? Should the Commission adopt an exclusion that applies only to platforms that solely support primary market transactions in investment company securities, where the issuer of the security participates in each transaction either as the sole buyer, or as the sole seller? If so, should the exclusion be available only for securities issued by ETFs or also for securities issued by other investment companies? Should the exclusion specify that it is available only for transactions that take place at a price based on the current net asset value of the security, as required by 17 CFR 270.22c–1 (Rule 22c–1 under the Investment Company Act of 1940)? What ETF Portals should not be excluded from Exchange Act Rule 3b–16(a)? Please explain.

¹⁶⁰ See *id.*

¹⁶¹ See ICI Letter at 14. This commenter also states that an ETF Portal’s activities are limited in the following respects: “(1) the scope of ETFs involved in the creation or redemption process is confined to those offered by the ETF sponsor; (2) only registered broker-dealers that have an established agreement with an ETF sponsor’s ETF to act as an AP can submit creation or redemption requests to the ETF; and (3) the system or portal does not directly facilitate secondary market activity in the ETF (*i.e.*, trading of the actual ETF shares among individual investors), nor does it provide access for individual investors that are not registered broker-dealers.” *Id.* at 13.

¹⁶² See *id.* at 14. This commenter further states that applying the Regulation ATS and broker-dealer regulatory frameworks to ETF Portals would impose unnecessary additional costs and burdens to the ETF creation and redemption process, lead to unintended consequences, and would not further the Commission’s regulatory objectives. See *id.* at 4.

¹⁶³ See SIFMA AMG Letter at 8.

¹⁵² See proposed Rule 3b–16(b)(3).

¹⁵³ See Regulation ATS Adopting Release at 70849.

¹⁵⁴ *Id.*

¹⁵⁵ See SIFMA AMG Letter at 8.

¹⁵⁶ See ABA Letter at 8.

¹⁵⁷ *Id.* at 9.

¹⁵⁸ *Id.*

¹⁵⁹ See SIFMA AMG Letter at 8; ICI Letter at 13. The commenters state that they do not believe that the Commission intended to classify ETF Portals as exchanges under Rule 3b–16, as proposed to be amended. See *id.*

E. Compliance Date for Implementation of Proposed Amendments to Rule 3b-16

Exchange Act Rule 3b-16, as proposed to be amended, would require, if adopted, New Rule 3b-16(a) Systems to comply with federal securities laws applicable to national securities exchanges and ATSs. These systems may trade securities that are crypto asset securities, or specific types of securities, including NMS stock, over-the-counter (“OTC”) equity securities, corporate bonds, municipal securities, government securities, foreign sovereign debt, asset-backed securities, restricted securities, or options. New Rule 3b-16(a) Systems provide access to numerous and diverse market participants (e.g., retail investors, institutional investors, broker-dealers, issuers) seeking to perform different trading strategies and investment objectives in various types of securities. To facilitate these market participants’ trading strategies and investment objectives, providers of these trading systems employ assorted technology and protocols (e.g., internet, DLT, cloud) and apply a variety of methods to bring together buyers and sellers in securities (e.g., RFQ, indication of interest, negotiation, conditional orders, bid wanted in competition, streaming axes).

Several commenters express concern that New Rule 3b-16(a) Systems would not be provided enough time to comply with their new regulatory obligations.¹⁶⁴ As stated in the Proposing Release, the Commission expects that many New Rule 3b-16(a) Systems would elect to register as broker-dealers and comply with Regulation ATS;¹⁶⁵ however, they can also elect to register as exchanges.¹⁶⁶ The Commission recognizes that New Rule 3b-16(a) Systems are operating today and would seek to comply with the Proposed Rules without disrupting their current business and their participants. To facilitate the trading system operators’ compliance with the Proposed Rules, the Commission is soliciting further public comment on any compliance dates for the Proposed Rules.

Request for Comment

30. Should the Commission adopt a compliance date to delay implementation for New Rule 3b-16(a) Systems? Why or why not? Should the Commission adopt the same compliance date for all New Rule 3b-16(a) Systems or different compliance dates depending on certain factors, such as the type of securities the system trades? Please explain. For example, should the Commission adopt separate compliance dates to implement the proposed amendments to Exchange Act Rule 3b-16 for trading systems that trade one or more of the following: NMS stock, OTC equity securities, corporate bonds, municipal securities, government securities, foreign sovereign debt, asset-backed securities, restricted securities, or options? Please explain.

31. As indicated above, crypto assets generally use DLT as a method to record ownership and transfers, and a crypto asset that is a security is not a separate type or category of security for purposes of federal securities laws based solely on the use of DLT.¹⁶⁷ Should the Commission adopt a separate compliance date for New Rule 3b-16(a) Systems that trade crypto asset securities?¹⁶⁸ Please explain. If the Commission adopts a different compliance date for New Rule 3b-16(a) Systems that trade crypto asset securities, for purposes of ascribing such compliance date, should “crypto asset securities” be defined to mean securities that are also issued and/or transferred using distributed ledger or blockchain technology, including, but not limited to, so-called “virtual currencies,” “coins,” and “tokens,” to the extent they rely on cryptographic protocols?¹⁶⁹ Please explain.

32. Should the Commission adopt a uniform compliance period for all categories of securities that is one year? Or would a shorter or longer time period than one year be sufficient or necessary? If commenters believe the Commission should adopt different compliance dates for trading systems that trade a category of security, what compliance date should the Commission adopt for such trading systems? Please explain.

33. Should the Commission adopt different compliance dates for New Rule 3b-16(a) Systems based on the types of

participants that trade on the system? For example, should the Commission adopt a delayed compliance date for trading systems that have predominately retail, institutional, or broker-dealer participants? Please explain. What compliance date should the Commission adopt for these types of trading systems? Please explain.

34. Should the Commission adopt different compliance dates for New Rule 3b-16(a) Systems based on the different means by which participants enter trading interest into the system? For example, should the Commission adopt a delayed compliance date for trading systems that perform intermediary services, such as entering trading interest into the trading system on behalf of users or offering users services other than trading? Should the Commission adopt a delayed compliance date for trading systems that allow buyers and sellers to enter trading interest into the system directly without an intermediary? Please explain. What compliance date should the Commission adopt for these types of trading systems? Please explain.

35. Should the Commission adopt different compliance dates for New Rule 3b-16(a) Systems based on different trading protocols that bring together buyers and sellers to negotiate a trade? For example, should the Commission adopt different compliance dates for trading systems that provide RFQs, indications of interest, bids wanted in competition, or streaming axes? Should the Commission adopt a delayed compliance date for trading systems that use AMMs for buyers and sellers to enter trading interest into the system and negotiate a trade? What compliance date should the Commission adopt for these types of trading systems? Please explain.

36. Should the Commission adopt different compliance dates for New Rule 3b-16(a) Systems based on the technology supporting its exchange activity (e.g., internet, DLT, cloud)? For example, should the Commission adopt a delayed compliance date for trading systems that use DLT to bring together buyers and sellers using trading interest and establish protocols that allow participants to negotiate a trade? Please explain. What compliance date should the Commission adopt for these types of trading systems? Please explain.

37. Should the Commission adopt different compliance dates for New Rule 3b-16(a) Systems based on the volume that trading systems transact? For example, should the Commission adopt a delayed compliance date for a trading system that transacts a certain level of dollar volume or share volume, and if

¹⁶⁴ See, e.g., MarketAxess Letter at 5; Letter from Teana Baker-Taylor, Chief Policy Officer, Chamber of Digital Commerce, dated Mar. 24, 2022 (“Chamber Letter”) at 5; Letter from Elisa Hirschmann, Executive Director, Chief Compliance Officer, BrokerTec Americas LLC, CME Group, Inc., dated Apr. 18, 2022 at 4; Bloomberg Letter I at 4–5; Letter from Scot J. Halvorsen, Associate General Counsel, Cboe Global Markets, Inc., dated Apr. 18, 2022 (“Cboe Letter”) at 2; Crypto Council Letter at 7.

¹⁶⁵ See Proposing Release at 15502.

¹⁶⁶ See *id.* at 15617–18.

¹⁶⁷ See *supra* note 27 and accompanying text.

¹⁶⁸ Such a delayed compliance date for New Rule 3b-16(a) Systems would not impact the obligation of systems that meet the existing criteria of Rule 3b-16 to comply with existing rules.

¹⁶⁹ In the past, the Commission used this definition for “digital asset securities” in the Commission Statement on Custody of Digital Asset Securities by Special Purpose Broker-Dealers. See *supra* note 26.

so, what should that volume be? Should the Commission adopt different compliance dates for trading systems based on all of their transaction volume or only transaction volume in a category of security or in a crypto asset security? Please explain. What compliance date should the Commission adopt for these types of trading systems? Please explain.

38. Should the Commission adopt different compliance dates for New Rule 3b-16(a) Systems based on a combination of factors described above or any other factors? Please explain.

IV. Paperwork Reduction Act

In the analysis of the proposed rule amendments under the Paperwork Reduction Act of 1995 (“PRA”) of the Proposing Release, the Commission estimated 22 Communication Protocol Systems¹⁷⁰ would be impacted by the Proposed Rules. This estimate included systems that offer trading of OTC equity securities and restricted securities, some of which trade crypto asset securities.

The Commission is revising the estimated number of trading systems that would be impacted by the proposed amendments to Exchange Act Rule 3b-16 to include: (1) New Rule 3b-16(a) Systems that trade crypto asset securities and were not included in the estimates in the Proposing Release, and (2) New Rule 3b-16(a) Systems for non-crypto asset securities that have exited, entered, or intend to enter, the market since the Commission issued the Proposing Release. The Commission is not revising its estimate of the per-respondent burdens that would be imposed by the proposed amendments to Rule 3b-16(a). The summary of the “collection of information” requirements within the meaning of the PRA and the proposed use of such information described in the Proposing Release are unchanged.

A. Respondents

As discussed in the Proposing Release,¹⁷¹ the Commission believes that New Rule 3b-16(a) Systems would likely choose to register as a broker-dealer and comply with the conditions of Regulation ATS rather than register as a national securities exchange because of the lighter regulatory requirements imposed on ATSs, as compared to registered exchanges.¹⁷² For purposes of

this PRA analysis, New Rule 3b-16(a) Systems that would comply with Regulation ATS are referred to as “Newly Designated ATSs.”¹⁷³ In the Proposing Release, the Commission estimated the total number of Newly Designated ATSs, across all asset classes, to be 22.¹⁷⁴ Since issuing the Proposing Release, the Commission has learned, based on public sources of information, of several trading systems that appear to offer the use of non-firm trading interest, provide non-discretionary protocols, trade crypto asset securities, and were not included within the Commission’s initial estimate of the number of respondents. Based on publicly-available information, these trading systems may meet the criteria of Exchange Act Rule 3b-16(a) as proposed to be amended and therefore, this PRA analysis includes estimates of the burdens that these systems would incur under the Proposed Rules. Many of the entities operating such trading systems, however, depending on their activities and other facts and circumstances, may be subject to existing federal securities laws and registration requirements, including the requirement to register as an exchange under existing criteria of Rule 3b-16(a) or the requirement to register as a broker-dealer. In this regard, the Commission recognizes that it may be over-estimating the number of respondents that may be subject to the Proposed Rules. Specifically, the Commission is revising the estimated total number of Newly Designated ATSs from the 22 estimated systems in the Proposing Release to a total of 35–46

some amount of crypto asset securities trade on New Rule 3b-16(a) Systems. *See supra* note 31. These systems are not included as estimated respondents for the purposes of the PRA analysis because they are already required to comply with current applicable regulations; the proposed amendments to Rule 3b-16 would not result in any new burden on these systems. Rather, the PRA analysis includes the estimated number of respondents for which a new burden would be imposed by the proposed amendments to Rule 3b-16. Further, as discussed earlier in this section, the Commission is not revising its estimate of the per-respondent burdens that would be imposed by the proposed amendments to Rule 3b-16. The increase in the estimate of total burdens across all respondents is due solely to the Commission revising its estimate of the number of respondents to include: (1) systems that would meet the criteria of Rule 3b-16, as proposed to be amended, and trade crypto asset securities; and (2) systems that would meet the criteria of Rule 3b-16, as proposed to be amended, and trade securities that are not crypto asset securities and have entered, intend to enter, or exited the market since the Commission issued the Proposing Release.

¹⁷³ *See supra* note 170. The description of respondents and burden estimates described in this Reopening Release for Newly Designated ATSs supersedes and replaces corresponding respondent and burden estimates for Communication Protocol Systems in the Proposing Release.

¹⁷⁴ *See* Proposing Release at section VII.C.

estimated Newly Designated ATSs,¹⁷⁵ which would include: (1) an additional 15–20 New Rule 3b-16(a) Systems that trade crypto asset securities,¹⁷⁶ and (2) 20–26 Newly Designated ATSs (revised from the 22 Newly Designated ATSs estimated in the Proposing Release),¹⁷⁷ which has been revised to reflect New Rule 3b-16(a) Systems for non-crypto asset securities that have exited, entered, or intend to enter, the market since the Commission issued the Proposing Release. For the purposes of this PRA analysis, the Commission is analyzing the burdens for an estimated 46 Newly Designated ATSs, based on

¹⁷⁵ As discussed in the Proposing Release, some of the estimates could change based on how the Newly Designated ATSs structure their operations if subject to Regulation ATS. *See id.* at 15586 n.749. For example, the Commission is basing some of the below estimates on the assumption that operators of Newly Designated ATSs that are affiliated with existing broker-dealers would structure their operations so that the existing broker-dealer would operate the ATS to avoid the costs of new broker-dealer registration. In addition, the Commission estimates that 2 Newly Designated ATSs that trade municipal securities or corporate debt securities would meet the volume thresholds to satisfy the conditions for complying with ATS-specific systems capacity, integrity and security recordkeeping as well as systems outages requirements. This number is based on aggregate data reported by broker-dealers and could vary based on how these systems structure their businesses.

¹⁷⁶ The Commission received several comments stating that the PRA analysis in the Proposing Release underestimated or did not include systems that trade crypto asset securities. *See, e.g.,* Bloomberg Letter II at 2–3; Coin Center Letter at 25; Coinbase Letter at 6; Crypto Council Letter at 4–7. One commenter states that the Commission did not include approximately 288 crypto “exchanges,” 200 crypto AMMs, and 9 front-end platforms that offer liquidity aggregation and (smart) order routing functionality. *See* Bloomberg Letter II at 2–3. It is not clear from the comment letter whether these systems operate in the U.S., use non-firm trading interest, and provide non-discretionary protocols to bring together buyers and sellers to negotiate, and thus would be New Rule 3b-16(a) Systems and subject to the new burdens analyzed under the PRA. In addition, the Commission preliminarily believes that some amount of crypto asset securities trade on New Rule 3b-16(a) Systems. *See supra* note 31. These systems could be some or many of the systems the commenter references. However, without additional information, the Commission is unable to assess whether the systems referenced by the commenter would meet existing Rule 3b-16(a), or Rule 3b-16(a), as proposed to be revised. In addition, some commenters estimate that hundreds or thousands of persons could be captured by the proposed rule change. *See supra* note 60. *See also* SIFMA Letter II at 8–9 (stating that “[t]he broad concept of communication protocol systems could theoretically capture hundreds, if not thousands, of systems across asset classes” and there is a disconnect with the Commission’s estimate that 22 systems would be affected by the Proposed Rules). As discussed above, systems would constitute a single exchange and be responsible for compliance as a single entity. *See supra* section II.B.

¹⁷⁷ The original 22 Newly Designated ATSs the Commission estimated in the Proposing Release may include ATSs that trade crypto asset securities.

¹⁷⁰ The Proposing Release referred to systems that would newly meet the definition of “exchange” under the Proposed Rules as “Communication Protocol Systems.” *See* Proposing Release at 15496 n.5. *See also id.* at 15586 (estimating the total number of Communication Protocol Systems to be 22).

¹⁷¹ *See id.* at section VII.

¹⁷² *See id.* at section II.D. As discussed above, today, the Commission preliminarily believes that

the high end of these ranges.¹⁷⁸ Some or all of this total number will be subject to the following collections of information¹⁷⁹ as estimated below:¹⁸⁰

Collection of information	Rule	Number of respondents	Description
Rule 301 of Regulation ATS and Forms ATS and ATS–R.	17 CFR 242.301(b)(2) (“Rule 301(b)(2)”).	37	The Commission estimates that certain Newly Designated ATSS that trade securities other than NMS stocks or government securities or repos, including crypto asset securities, would be required to file the proposed modernized Form ATS.
	Rule 301(b)(5)	10	The Commission estimates that certain Newly Designated ATSS would meet the volume thresholds in government securities, NMS stocks, corporate debt securities, municipal securities, equity securities that are not NMS stocks and for which transactions are reported to an SRO and be subject to the Fair Access Rule.
	17 CFR 242.301(b)(9) (“Rule 301(b)(9)”).	46	The Commission estimates that all Newly Designated ATSS will need to comply with the requirement to file quarterly reports on the proposed modernized Form ATS–R.
	17 CFR 242.301(b)(10) (“Rule 301(b)(10)”).	46	The Commission estimates that all Newly Designated ATSS will need to comply with the requirement to have written safeguards and written procedures to protect subscribers’ confidential trading information.
Rule 302 of Regulation ATS.	17 CFR 242.302 (“Rule 302”).	46	The Commission estimates that all Newly Designated ATSS will need to comply with the recordkeeping requirements for ATSS.
Rule 303 of Regulation ATS.	17 CFR 242.303 (“Rule 303”).	46	The Commission estimates that all Newly Designated ATSS will need to comply with the record preservation requirements for ATSS.
Rule 304 of Regulation ATS.	17 CFR 242.304 (“Rule 304”).	9	The Commission estimates that certain Communication Protocol Systems that trade NMS stocks or government securities or repos would be required to file Form ATS–N, as proposed to be revised.
Rule 15b1–1 and Form BD.	17 CFR 240.15b1–1 (“Rule 15b1–1”).	27	The Commission estimates that certain Newly Designated ATSS are not currently registered as or affiliated with a broker-dealer and will need to register using Form BD. This would include all Newly Designated ATSS that trade crypto asset securities that do not currently file a Form ATS.
Form ID	17 CFR 232.101 (“Rule 101 of Regulation S–T”).	27	The Commission estimates that the same subset of Newly Designated ATSS that are not currently registered as or affiliated with a broker-dealer will also need to file Form ID to apply for EDGAR access.

B. Total PRA Burdens

The Commission continues to assume that, under the proposed amendments, Newly Designated ATSS will choose to register as broker-dealers and comply with the conditions of Regulation ATS, rather than register as a national

securities exchange,¹⁸¹ and the estimates below reflect this assumption.

1. Burden of Rule 301 of Regulation ATS and Forms ATS and ATS–R

a. Rule 301(b)(2) Burden on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates that

each Newly Designated ATS would incur an initial burden of 20.5 hours¹⁸² and an annual burden of 5 hours¹⁸³ for complying with Rule 301(b)(2). In light of the revision of the Commission’s estimate of Newly Designated ATSS, the Commission estimates the following total initial and annual burdens:

¹⁷⁸ In the Proposing Release, the Commission certified that the proposed amendments to Regulation ATS would not, if adopted, have a significant economic impact on a substantial number of small entities pursuant to section 3(a) of the Regulatory Flexibility Act of 1980 (5 U.S.C. 603(a)). See Proposing Release at 15645. The Commission did not receive any comment regarding its certification. Although the Commission is now revising its estimate of the number of respondents that would be subject to the proposed rules, the Commission continues to certify that the proposed amendments would not, if adopted, have a significant economic impact on a substantial number of small entities. As in the Proposing Release, the Commission encourages written comments regarding this certification.

¹⁷⁹ The estimates presented here relate only to those collections of information for which the burdens will change as a result of increasing the estimated total number of Newly Designated ATSS. For the complete estimated burden associated with the proposed amendments, the estimates here for Newly Designated ATSS should be considered together with those originally included in the Proposing Release for Communication Protocol

Systems, see Proposing Release at section VII, with any burden identified by the identical combination of Collection of Information and rule number replaced and superseded by that contained here.

¹⁸⁰ The estimated respondents for the Rule 304/ Form ATS–N collection of information is based on the assumption that systems that operate multiple market places that are affiliated with a new or existing broker-dealer will all be operated by such broker-dealer, and that such systems will not register multiple broker-dealers to operate multiple affiliated ATSS.

¹⁸¹ See Proposing Release at 15618 n.1056 and accompanying text.

¹⁸² The Commission’s currently approved baseline for the average initial compliance burden for each initial operation report (“IOR”) on Form ATS is 20 hours (Attorney at 13 hours + Compliance Clerk at 7 hours). See Extension Without Change of a Currently Approved Collection: Regulation ATS Rule 301 Amendments; ICR Reference No. 202101–3235–011; OMB Control No. 3235–0509 (June 9, 2018), available at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202101-3235-011 (“Rule 301 PRA Supporting Statement”). The Commission proposed

amendments to Part I of Form ATS, which would add an additional burden of 0.5 hours per filing using the modernized form (Compliance Clerk at 0.5 hours), and therefore the average compliance burden for each Form ATS filing would be 20.5 hours. See Proposing Release at section V.B and section VII.E (discussing proposed changes).

¹⁸³ The Commission’s currently approved baseline for the average ongoing compliance burden for each amendment to a Form ATS IOR is 4 hours ((Attorney at 1.5 hours + Compliance Clerk at 0.5 hours) × 2 IOR amendments a year). See Rule 301 PRA Supporting Statement. The Commission proposed amendments to Part I of Form ATS, including a requirement applicable to an ATS filing an IOR amendment to attach as Exhibit 3 a marked document to indicate changes to “yes” or “no” answers and additions or deletions from any Item in Part I, Part II, and Part III, which would add an additional annual burden of 1 hour per ATS using the modernized form (Compliance Clerk at 0.5 hours × 2 IOR amendments a year). Therefore the average compliance burden for each Form ATS filing would be 5 hours. See Proposing Release at section V.B and section VII.E (discussing proposed changes).

Burden type	Respondent type	Number of respondents	Burden per respondent	Total burden (number of respondents × burden per respondent)
Initial	Newly Designated ATSS	37	20.5 hours	758.5 hours.
Annual .....	.....	.....	5 hours	185 hours.

b. Rule 301(b)(5) Burden on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates an annual compliance burden of 37 hours per respondent for Rule 301(b)(5).¹⁸⁴ In

light of the revision of the Commission's estimate of Newly Designated ATSS, the Commission estimates the following total annual burdens:

Respondent type	Number of respondents	Annual burden per respondent	Total annual burden (number of respondents × annual burden per respondent)
Newly designated ATSS	10	37 hours	370 hours.

c. Rule 301(b)(6) Burden on Newly Designated ATSS

The Commission estimates that none of the Newly Designated ATSS trading crypto asset securities or that have entered or intend to enter the market since the Commission issued the Proposing Release would meet the applicable volume requirements and be

subject to the requirements of 17 CFR 242.301(b)(6) ("Rule 301(b)(6)"), and therefore, the estimates in the Proposing Release remain unchanged.

d. Rule 301(b)(9) Burden on All Respondents

As discussed in the Proposing Release, the Commission estimates an

annual compliance burden of 19 hours per new Form ATS-R respondent¹⁸⁵ and 3 hours per existing Form ATS-R respondent.¹⁸⁶ In light of the revision of the Commission's estimate of Newly Designated ATSS, the Commission estimates the following total annual burdens:

Respondent type	Number of respondents	Annual burden per respondent	Total annual burden (number of respondents × annual burden per respondent)
Newly Designated ATSS	46	19 hours	874 hours.

e. Rule 301(b)(10) Burden on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates an

initial burden of 8 hours¹⁸⁷ and an annual burden of 4 hours¹⁸⁸ per respondent for complying with Rule 301(b)(10). In light of the revision of the

Commission's estimate of Newly Designated ATSS, the Commission estimates the following total initial and annual burdens:

Burden type	Respondent type	Number of respondents	Burden per respondent	Total burden (number of respondents × burden per respondent)
Initial	Newly Designated ATSS	46	8 hours	368 hours.
Annual .....	.....	.....	4 hours	184 hours.

2. Burden of Rules 302 and 303 of Regulation ATS on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates an annual burden of 45 hours per respondent to comply with Rule 302¹⁸⁹ and 15 hours to comply with Rule

303.¹⁹⁰ In light of the revision of the Commission's estimate of Newly Designated ATSS, the Commission estimates the following total annual burdens:

¹⁸⁴ The Commission's currently approved baseline for the average compliance burden per respondent is 37 hours = 10 hours for Fair Access standards recordkeeping (Attorney at 5 hours × 2 responses a year) + 27 hours for Fair Access notices (Attorney at 1 hour × 27 responses a year). See Proposing Release at section VII.D.1.b.

¹⁸⁵ The annual burden per Newly Designated ATSS would be 4.75 hours × 4 quarterly filings annually = 19 burden hours. See Proposing Release at 15590 n.770.

¹⁸⁶ The annual burden per existing Form ATS-R respondent would be 0.75 hours × 4 quarterly filings annually = 3 burden hours. See *id.* at 15590 n.771.

¹⁸⁷ The Commission's currently approved baseline for the average initial compliance burden is 8 hours (Attorney at 7 hours + Compliance Clerk at 1 hour). See Rule 301 PRA Supporting Statement.

¹⁸⁸ The Commission's currently approved baseline for the average ongoing compliance burden is 4 hours (Attorney at 2 hours + Compliance Clerk at 2 hours). See *id.*

¹⁸⁹ The Commission's currently approved baseline for the average compliance burden is 45 hours (Compliance Clerk at 45 hours). See Extension Without Change of a Currently Approved Collection: Rule 302 (17 CFR 242.302) Recordkeeping Requirements for Alternative Trading Systems; ICR Reference No. 201906-3235-

011; OMB Control No. 3235-0510 (Oct. 24, 2019), available at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=201906-3235-011. There is no initial burden associated with this rule.

¹⁹⁰ The Commission's currently approved baseline for the average compliance burden is 15 hours (Compliance Clerk at 15 hours). See Extension Without Change of a Currently Approved Collection: Rule 303 (17 CFR 242.303) Record Preservation Requirements for Alternative Trading Systems; ICR Reference No. 202101-3235-010; OMB Control No. 3235-0505 (June 25, 2021), available at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202101-3235-010. There is no initial burden associated with this rule.

Rule	Respondent type	Number of respondents	Annual burden per respondent	Total annual burden (number of respondents × annual burden per respondent)
Rule 302	Newly Designated ATSS	46	45 hours	2,070 hours.
Rule 303 .....	.....	.....	15 hours	690 hours.

3. Burden of Rule 304 of Regulation ATS and Form ATS–N on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates an initial compliance burden of 136.4 hours per new Form ATS–N respondent¹⁹¹ and an annual burden of

47 hours.¹⁹² In light of the revision of the Commission's estimate of Newly Designated ATSS, the Commission estimates the following total annual burdens:

Burden type	Respondent type	Number of respondents	Burden per respondent (hours)	Total burden (number of respondents × burden per respondent, rounded to nearest 0.5 hours)
Initial	Newly Designated ATSS	9	136.4	1,227.5
Annual .....	.....	.....	47	423

4. Burden of Rule 15b1–1 and Form BD on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates an

initial burden of 2.75 hours¹⁹³ and an annual burden of 1 hour¹⁹⁴ per respondent for completing Form BD. In light of the revision of the Commission's

estimate of Newly Designated ATSS, the Commission estimates the following total initial and annual burdens:

Burden type	Respondent type	Number of respondents	Burden per respondent (hours)	Total burden (number of respondents × burden per respondent, rounded to nearest 0.5 hours)
Initial	Newly Designated ATSS	27	2.75	74
Annual .....	.....	.....	0.95	25.5

¹⁹¹ The Commission's currently approved baseline for the average initial compliance burden for each initial Form ATS–N is 130.4 hours (currently approved baseline burden to complete an initial Form ATS at 20 hours: Attorney at 13 hours and Compliance Clerk at 7 hours; *see* Proposing Release at 15588 n.759) + (Part I at 0.5 hour) + (Part II at an average of 29 hours) + (Part III at an average of 78.75 hours) + (Access to EDGAR at 0.15 hours) + (Posting link to published Form ATS–N on ATS website at 2 hours) = 130.4 burden hours. *See* Extension Without Change of a Currently Approved Collection: Regulation ATS Rule 304 and Form ATS–N; ICR Reference No. 202109–3235–014; OMB Control No. 3235–0763 (January 3, 2022), available at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=202109-3235-014 (“Rule 304 PRA Supporting Statement”). The aggregate totals by professional, including the baseline, are

estimated to be approximately 54.6 hours for an Attorney, 0.5 hours for a Chief Compliance Manager, 34.55 hours for a Compliance Manager, 32.25 hours for a Senior Systems Analyst, 1 hour for a Senior Marketing Manager, and 7.5 hours for a Compliance Clerk. The Commission estimates that the proposed amendments to Form ATS–N would add an additional burden of 6 hours per filing (Attorney at 2.5 hours, Compliance Manager at 1.5 hours, Senior Systems Analyst at 1.5 hours, and Compliance Clerk at 0.5 hours), and therefore the average compliance burden for each new Form ATS–N filer would be 136.4 hours. *See* Proposing Release at section V.B and section VII.E (discussing proposed changes).

¹⁹² The currently approved baseline for filing amendments to Form ATS–N is 47 hours ((Attorney at 5.5 hours + Compliance Manager at 2 hours +

Compliance Clerk at 1.9 hours) × 5 amendments a year). *See* Rule 304 PRA Supporting Statement.

¹⁹³ The Commission's currently approved baseline for the average initial compliance burden for each Form BD is 2.75 hours (Compliance Manager at 2.75 hours). *See* Extension Without Change of a Currently Approved Collection: Form BD and Rule 15b1–1. Application for registration as a broker-dealer; ICR Reference No. 201905–3235–016; OMB Control No. 3235–0012 (Aug. 7, 2019), available at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=201905-3235-016. (“Form BD PRA Supporting Statement”).

¹⁹⁴ The Commission's currently approved baseline for the average ongoing compliance burden for each respondent amending Form BD is 0.95 hours (Compliance Manager at 0.33 hours × 2.87 amendments per year). *See* Form BD PRA Supporting Statement.

5. Burden of Form ID on Newly Designated ATSS

As discussed in the Proposing Release, the Commission estimates, with

regards to Rule 101 of Regulation S–T, an initial burden of 0.15 hours¹⁹⁵ and no annual burden per respondent for completing Form ID. In light of the

revision of the Commission's estimate of Newly Designated ATSS, the Commission estimates the following total burdens:

Respondent type	Number of respondents	Initial burden per respondent (hours)	Total initial burden (number of respondents × initial burden per respondent, rounded to nearest 0.5 hours)
Newly Designated ATSS	27	0.15	4

6. Burden of Regulation SCI on Newly Designated ATSS

The Commission does not estimate any Newly Designated ATSS that trade crypto asset securities or that have exited, entered, or intend to enter the market since the Commission issued the Proposing Release will be subject to Regulation SCI,¹⁹⁶ and therefore, the estimates in the Proposing Release remain unchanged.

C. Request for Comments

Pursuant to 44 U.S.C. 3506(c)(2)(B), the Commission solicits comments to:

39. Evaluate whether the proposed collection of information is necessary for the proper performance of the Commission's functions, including whether the information shall have practical utility;

40. Evaluate the accuracy of the Commission's estimates of the burden of the proposed collection of information;

41. Determine whether there are ways to enhance the quality, utility, and clarity of the information to be collected;

42. Evaluate whether there are ways to minimize the burden of collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology; and

43. Evaluate whether the proposed amendments would have any effects on any other collection of information not previously identified in this section.

Persons submitting comments on the collection of information requirements should direct them to the Office of

Management and Budget, Attention: Desk Officer for the Securities and Exchange Commission, Office of Information and Regulatory Affairs, Washington, DC 20503, and should also send a copy of their comments to Vanessa Countryman, Secretary, Securities and Exchange Commission, 100 F Street NE, Washington, DC 20549–1090, with reference to File Number S7–02–22. Requests for materials submitted to Office of Management and Budget (“OMB”) by the Commission with regard to this collection of information should be in writing, with reference to File Number S7–02–22 and be submitted to the Securities and Exchange Commission, Office of FOIA/PA Services, 100 F Street NE, Washington, DC 20549–2736. As OMB is required to make a decision concerning the collection of information between 30 and 60 days after publication, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication.

V. Economic Analysis

A. Introduction

The Commission received comments on the Proposing Release stating that the Commission had not considered the economic effects of the Proposed Rules on New Rule 3b–16(a) Systems that trade crypto asset securities.¹⁹⁷ In this section the Commission is supplementing the economic analysis provided in the Proposing Release with additional analysis that considers the impact of the Proposed Rules on New

Rule 3b–16(a) Systems that trade crypto asset securities.¹⁹⁸

The Commission preliminarily believes that some amount of crypto asset securities trade on New Rule 3b–16(a) Systems. These New Rule 3b–16(a) Systems do not meet the current definition of an exchange and thus are not subject to regulation either as a national securities exchange or an ATS. By amending Exchange Act Rule 3b–16 to include New Rule 3b–16(a) Systems within the definition of exchange, the Proposed Rules would functionally apply Regulation ATS to an additional number of entities not currently regulated by it. This would have a number of benefits, including enhanced regulatory oversight and protection for investors, a reduction in trading costs and improvement in execution quality, and enhancement of price discovery and liquidity.

The Proposed Rules would also have costs for those entities subject to new requirements, including compliance costs associated with filing forms such as Form ATS–N or Form ATS, protecting confidential information, keeping certain records, registering as a broker-dealer, and complying with the Fair Access Rule and/or Regulation SCI if applicable.

For purposes of measuring the effects of the proposed rule on participants in crypto asset securities markets, this analysis assumes that market participants are compliant with existing applicable Commission and FINRA rules, including those requiring registration and the rules and regulations applicable to such registered

¹⁹⁵ See Revision of a Currently Approved Collection: Form ID—EDGAR Password; ICR Reference No. 202104–3235–022; OMB Control No. 3235–0328 (Apr. 29, 2021), available at https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202104-3235-022.

¹⁹⁶ “Regulation SCI” consists of 17 CFR 242.1000 through 242.1007.

¹⁹⁷ See GDCA Letter II at 4, 5, and 6; Crypto Council Letter at 2, 3, 4, and 5; McHenry/Huizenga Letter at 2; LeXpunk Letter at 3; ADAM Letter II

at 13 and 14; Chamber Letter at 4; Coinbase Letter at 2 and 6; a16z Letter at 2, 3, 7, 20 and 21; Blockchain Association Letter II at 1 and 7; DeFi Education Fund Letter at 3.

¹⁹⁸ Exchange Act section 3(f) requires the Commission, when it is engaged in rulemaking pursuant to the Exchange Act and is required to consider or determine whether an action is necessary or appropriate in the public interest, to consider, in addition to the protection of investors, whether the action will promote efficiency,

competition, and capital formation. See 15 U.S.C. 78c(f). In addition, Exchange Act section 23(a)(2) requires the Commission, when making rules pursuant to the Exchange Act, to consider among other matters the impact that any such rule would have on competition and not to adopt any rule that would impose a burden on competition that is not necessary or appropriate in furtherance of the purposes of the Exchange Act. See 15 U.S.C. 78w(a)(2).

entities. To the extent that some entities engaged in activities involving crypto asset securities are not, but should be, FINRA or Commission registered entities, they may incur additional costs to comply with existing rules and registration obligations that are distinct from the costs associated with the Proposed Rules and are not discussed in this analysis. Similarly, any benefits from coming into compliance with existing rules and registration obligations are also not discussed in this analysis, and effects on efficiency, competition, and capital formation may differ from the discussion in this analysis to the extent impacted entities do not comply with existing applicable Commission or FINRA rules. For such entities, we expect the benefits and costs specifically associated with the Proposed Rules to be the same as those described below as applicable.

B. Baseline

1. Current State of Crypto Asset Markets

The global market for crypto assets is valued by some estimates at approximately \$900 billion,¹⁹⁹ as of December 2022. Volatility in the price of crypto assets has caused this number to fluctuate considerably over the past few years. For example, in July of 2020 the market was estimated to be worth approximately \$276 billion, but went on to reach a peak value of approximately \$3 trillion by November 2021.²⁰⁰ A subset of these crypto assets are securities with associated activity within the U.S.²⁰¹

The Commission has limited information regarding crypto asset securities.²⁰² This limitation is, in part,

due to the fact that only a small portion of crypto asset security trading activity is occurring within entities that are registered with the Commission and any of the SROs, or operating pursuant to the Regulation ATS exemption.²⁰³ For example, there are currently no special purpose broker-dealers authorized to maintain custody of crypto asset securities.²⁰⁴ This information

financial stability risks.”); Crypto-Assets Treasury Report, *supra* note 75, at 12 (finding that data pertaining to “off-chain activity” is limited and subject to voluntary disclosure by trading platforms and protocols, with protocols either not complying with or not subject to obligations “to report accurate trade information periodically to regulators or to ensure the quality, consistency, and reliability of their public trade data”); Fin. Stability Bd., *Assessment of Risks to Financial Stability from Crypto-assets* 18–19 (Feb. 16, 2022) (“FSB Report”), available at <https://www.fsb.org/wp-content/uploads/P160222.pdf> (finding that the difficulty in aggregating and analyzing available data in the crypto asset space “limits the amount of insight that can be gained with regard to the [crypto asset] market structure and functioning,” including who the market participants are and where the market’s holdings are concentrated, which, among other things, limits regulators’ ability to inform policy and supervision); Raphael Auer et al., *Banking in the Shadow of Bitcoin? The Institutional Adoption of Cryptocurrencies* 4, 9 (Bank for Int’l Settlements, Working Paper No. 1013, May 2022), available at <https://www.bis.org/publ/work1013.pdf> (stating that data gaps, which can be caused by limited disclosure requirements, risk undermining the ability for holistic oversight and regulation of cryptocurrencies); Int’l Monetary Fund, *The Crypto Ecosystem and Financial Stability Challenges*, in *Global Financial Stability Report* 41, 47 (Oct. 2021), available at <https://www.imf.org/-/media/Files/Publications/GFSR/2021/October/English/ch2.ashx> (finding that crypto asset service providers provide limited, fragmented, and, in some cases, unreliable data, as the information is provided voluntarily without standardization and, in some cases, with an incentive to manipulate the data provided).

²⁰³ For a description of the requirements of the Regulation ATS exemption, see *Proposing Release* at section II.E.2.

²⁰⁴ For background on 17 CFR 240.15c-3 (“Rule 15c-3”), as it relates to crypto asset securities, see U.S. Sec. & Exch. Comm’n, Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities (July 8, 2019) (“Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities”), available at <https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities>; Fin. Indus. Regul. Auth., SEC Staff No-Action Letter, ATS Role in the Settlement of Digital Asset Security Trades (Sept. 25, 2020), available at <https://www.sec.gov/divisions/marketreg/mr-noaction/2020/finra-ats-role-in-settlement-of-digital-asset-security-trades-09252020.pdf>. Staff reports, Investor Bulletins, and other staff documents (including those cited herein) represent the views of Commission staff and are not a rule, regulation, or statement of the Commission. The Commission has neither approved nor disapproved the content of these staff documents and, like all staff statements, they have no legal force or effect, do not alter or amend applicable law, and create no new or additional obligations for any person. The Commission issued a statement describing its position that, for a period of five years, special purpose broker-dealers operating under the circumstances set forth in the statement will not be subject to a Commission enforcement action on the basis that the broker-dealer deems itself to have obtained and maintained physical possession or control of customer fully paid and

limitation is also, in part, due to the significant trading activity in crypto asset securities that may be occurring in non-compliance with the federal securities laws.²⁰⁵

Because of this limited information, and because, as the Commission understands, the trading of crypto asset securities utilizes different technology and methods of operation than is utilized in markets for non-crypto asset securities, the Commission has a greater degree of uncertainty in characterizing the baseline for the crypto asset market than it does in characterizing the baseline for non-crypto asset securities.

It is impossible to determine the true market turnover²⁰⁶ for crypto assets, because, among other reasons, the crypto asset market reportedly is characterized²⁰⁷ by rampant wash

excess margin crypto asset securities for purposes of Rule 15c-3(b)(1) under the Exchange Act. See Commission Statement on Custody of Digital Asset Securities by Special Purpose Broker-Dealers. To date, no such special purpose broker-dealer registration applications have been granted by FINRA.

²⁰⁵ See also FSOC Report, *supra* note 30, at 5, 87, 94, 97 (emphasizing the importance of the existing financial regulatory structure while stating that certain digital asset platforms may be listing securities while not in compliance with exchange, broker-dealer, or other registration requirements, which may impose additional risk on banks and investors and result in “serious consumer and investor protection issues”); Crypto-Assets Treasury Report, *supra* note 49, at 26, 29, 39, 40 (stating that issuers and platforms in the digital asset ecosystem may be acting in non-compliance with statutes and regulations governing traditional capital markets, with market participants that actively dispute the application of existing laws and regulations, creating risks to investors from non-compliance with, in particular, extensive disclosure requirements and market conduct standards); FSB Report, *supra* note 202, at 4, 8, 18 (stating that some trading activity in crypto assets may be failing to comply with applicable laws and regulations, while failing to provide basic investor protections due to their operation outside of or in non-compliance with regulatory frameworks, thereby failing to provide the “market integrity, investor protection or transparency seen in appropriately regulated and supervised financial markets”).

²⁰⁶ That is, the amount of crypto assets that actually change hands between distinct market participants.

²⁰⁷ See, e.g., Lin William Cong, Xi Li, Ke Tang & Yang Yang, *Crypto Wash Trading* (Nat’l Bureau of Econ. Rsch., Working Paper No. 30783, Dec. 2022), available at <https://www.nber.org/papers/w30783>, Andrew Singer, *Cleaning Up Crypto Exchange Wash Trading Will Take Global Regulation*, *Cointelegraph* (July 29, 2020), available at <https://cointelegraph.com/news/cleaning-up-crypto-exchange-wash-trading-will-take-global-regulation> (according to Gerald Chee, head of research at CoinMarketCap.com, “there is no way to tell if an exchange is inflating volume or not by merely looking at the volume they report” because “[t]he only way to detect ‘wash trades’ would require access to ‘account-ID’ data” and “only exchanges have access to these [data]”); see also, e.g., Friedhelm Victor & Andrea Marie Weintraud, *Detecting and Quantifying Wash Trading on Decentralized Cryptocurrency Exchanges* (Working Paper, Feb. 13, 2021), available at <https://arxiv.org/pdf/2102.07001.pdf>.

¹⁹⁹ See, e.g., *Global Cryptocurrency Market Cap Charts*, CoinGecko, available at <https://www.coingecko.com/en/global-charts> (last visited on Mar. 15, 2023).

²⁰⁰ *Id.*

²⁰¹ The Commission is aware that some amount of activity in the market for crypto assets discussed in this Reopening Release is conducted outside the U.S. Due to unique challenges in analyzing the crypto asset market, the Commission faces obstacles to obtaining reliable, comprehensive, and comparable information to determine, in this rulemaking, the extent of the activities taking place within the U.S. For example, while the issuance of a crypto asset on a blockchain can be detected by observers of the blockchain, the national or international scope of the activities involving this asset is not always readily apparent. Furthermore, many of the platforms on which crypto assets are traded do not provide publicly available information that could be used to inform the determination about the scope of their operations. This is due, in part, to the significant amount of trading in crypto asset securities that may be occurring in non-compliance with the federal securities laws. See also *supra* note 26 (discussing crypto assets that are securities).

²⁰² See, e.g., FSOC Report, *supra* note 30 (“The crypto-asset ecosystem is characterized by opacity that creates challenges for the assessment of

trading.²⁰⁸ The Commission does possess data on reported trades from many crypto asset platforms, but there is no reliable way to determine whether trades reported are actually between two different market participants or are the result of wash trading. Estimates of how much of the total crypto asset market volume is attributable to wash trades vary but range as high as 95%.²⁰⁹ The Commission believes that with such pervasive wash trading, any reported volume figures are significantly misleading.

Because such wash trading renders volume data unusable, the Commission is also unable to determine the share of trading that takes place on various types of platforms; or the amount of concentration in volume among various exchanges, including whether a given exchange has any legitimate volume at all.

It is likewise impractical to determine market turnover of crypto assets using data on transfer of crypto assets between wallets that is available via public blockchains. The Commission preliminarily believes that a direct analysis of blockchain data would be unable to reliably determine how many crypto assets are actually moving between different entities. Among other complications, the Commission understands that it is a common practice for a single entity participating in crypto asset trading to control multiple wallets and to move funds between those wallets. There may be no way of determining that movement between such wallets represents the exchange of crypto assets between distinct entities. Additionally, because transactions on the blockchain can be costly and slow, the Commission understands crypto assets to sometimes trade and settle off-chain, with only changes between public addresses eventually appended to the blockchain. Thus, even if one could determine changes in ownership from transfers on

the blockchain, that might not reflect all changes of ownership that occur on off-chain platforms.

a. Platforms in the Market for Crypto Assets

The Commission is unable to reliably determine the amount of trading in crypto assets that takes place through platforms, or to quantify their share of the market for trading services in crypto assets. This is due to the wash trading problem in the crypto asset market discussed above.²¹⁰ The Commission is also unable to reliably determine the number of platforms operating in the crypto asset market.²¹¹

Some platforms may operate through the use of smart contracts.²¹² A smart contract may be designed to accept and integrate changes to its functionality, or it may be immutable.²¹³ Different designs are used to control changes to a smart contract's functionality, including designs that enable only very specific entities to submit changes to the smart contract, as well as designs where a number of market participants receive tokens theoretically enabling them to vote on whether a change proposed by a developer is integrated or not.²¹⁴ The Commission understands that these tokens, or other tokens, may also entitle their holders to additional benefits, which may include a claim on some

portion of the transaction fees paid to the smart contract.

i. Operations of Platforms

The Commission understands that some platforms for crypto assets operate limit order books to facilitate trading among their customers. Some operators of platforms also operate an affiliated so-called over-the-counter system or an RFQ system.²¹⁵ Colocation options are possible at some platforms.²¹⁶

The Commission preliminarily believes that platforms can be a source of pricing information for the crypto assets that trade on those platforms. Pricing information from off-chain platforms is sometimes supplied to blockchains to serve as a reference price for various entities using smart contracts in their systems.²¹⁷

Some entities run limit order books on the blockchain, by utilizing smart contracts that accept limit orders, display them, and match limit orders with market orders. In a system using a limit order book where all activity takes place on-chain, traders must pay for blockchain transactions for each message they wish to send to the limit order book, in addition to any fees the limit order book may charge. This can increase the sources of transaction cost relative to a platform that does not run its limit order book on-chain. Some entities with an on-chain component to their system may run their limit order books in whole or in part off-chain, with only final transactions being posted to the blockchain. This may help both reduce total fees paid by users and issues of latency in updating on-chain records.

An AMM is designed as an alternative to a limit order book.²¹⁸ An AMM typically offers liquidity by exchanging one crypto asset for another,²¹⁹ with the

²¹⁰ See *supra* section V.B.1. The difficulties in computing volume is also due in part to the significant amount of trading in crypto asset securities that may be occurring in non-compliance with federal securities laws. See *supra* section V.B.1.

²¹¹ While the Commission is uncertain about the total number of platforms, some existing estimates of this number are over 200 for certain kinds of platforms, and over 250 for other kinds of platforms. See, e.g., *Top Cryptocurrency Spot Exchanges*, CoinMarketCap, available at <https://coinmarketcap.com/rankings/exchanges/>, *Top Cryptocurrency Decentralized Exchanges*, CoinMarketCap, available at <https://coinmarketcap.com/rankings/exchanges/dex/>; see also Bloomberg Letter II at 3; see *supra* section V.B.1. discussing difficulties in determining the size and scope of the crypto asset market generally, including issues related to foreign activity and non-compliance. See *infra* section V.B.1.c (where the Commission has provided a rough estimate of the number of Communication Protocol Systems in the market for crypto asset securities).

²¹² See *supra* note 15. Smart contracts generally can be appended to a blockchain capable of running such programs by anyone with the ability to submit transactions to it. The Commission understands that not all blockchains are initially designed with the intention of enabling smart contract functionality.

²¹³ By “immutable,” the Commission means that the smart contract cannot be changed through the processes that are part of the typical functioning of a blockchain. The miners or validators of the blockchain, by deviating from such processes, can make alterations to the blockchain that alter interactions with “immutable” smart contracts. See *infra* section V.C.2.c.i for related discussion.

²¹⁴ Such tokens are sometimes referred to as governance tokens.

²¹⁵ See Elias Ahonen, *What Really Goes on at a Crypto OTC Desk?*, Cointelegraph (May 16, 2022), available at <https://cointelegraph.com/magazine/explained-what-really-crypto-otc-desk/>.

²¹⁶ See Anna Baydakova, *High-Frequency Trading is Newest Battleground in Crypto Exchange Race*, CoinDesk (July 8, 2019), available at <https://www.coindesk.com/markets/2019/07/08/high-frequency-trading-is-newest-battleground-in-crypto-exchange-race/>.

²¹⁷ See, e.g., Andrei Anisimov & Luke Youngblood, *Introducing the Coinbase Price Oracle*, Coinbase (Apr. 23, 2020), available at <https://www.coinbase.com/blog/introducing-the-coinbase-price-oracle>. See also *infra* section V.B.1.a for further discussion of using price information from centralized platforms in DeFi settings.

²¹⁸ AMMs typically make use of smart contracts to enable their functionality, and as a consequence may run on-chain to a significant degree.

²¹⁹ The inventory held by an AMM for providing liquidity is typically called a pool. A single AMM protocol will typically have many pools, one for each combination of crypto asset trades offered. For

²⁰⁸ The term wash trading refers to the practice of creating misleading trade reports and delivering such reports to the public, usually to deceive market participants into believing volume in a particular instrument is higher than it actually is. This is often arranged by trading against one's own limit orders, or buy swapping the instrument back and forth with a collaborator.

²⁰⁹ See, e.g., Bitwise Asset Management, *Presentation to the Securities and Exchange Commission* (Mar. 19, 2019), available at <https://www.sec.gov/comments/sr-nysarca-2019-01/srnysearca201901-5164833-183434.pdf> (stating that only 4.5% of approximately \$6 billion of reported trading in Bitcoin was real). See also Javier Paz, *More Than Half of All Bitcoin Trades are Fake*, Forbes (Aug. 26, 2022), available at <https://www.forbes.com/sites/javierpaz/2022/08/26/more-than-half-of-all-bitcoin-trades-are-fake/?sh=471e51be6681>.

exchange rate typically set according to a pre-specified formula. In some cases, this formula is set only by a mathematical function of the inventory the AMM possesses of each crypto asset in the pair,²²⁰ while in other cases the AMM may incorporate information from an off-chain platform to help inform the exchange rate. The inventory that an AMM uses to fill orders is typically supplied by market participants, and the details of the smart contract may specify compensation for supplying inventory (e.g., by dividing up transaction fees among the inventory suppliers). In some cases, the AMM may permit the inventory suppliers to restrict the use of their liquidity to pre-specified price ranges.

The Commission understands that while some platforms provide markets that enable the trading of crypto assets for dollars or other fiat currency, platforms for crypto assets typically offer markets in trading pairs as well. This means that, for example, an order on a limit order book may offer to buy or sell units of a base asset in exchange for a quote asset with the price expressed in units of the quote asset.²²¹ In addition, some platforms focus on facilitating trades where the transaction takes place entirely “on-chain.” In this case, the platform is unable to facilitate crypto asset markets using fiat currency. Instead, such systems can only facilitate trading in crypto asset pairs.

The Commission understands that the majority of platforms typically require crypto assets and fiat currency to be provided to the platform in advance of any trading activity. This requirement can help ensure the successful completion of trades.

A variety of market participants use platforms to trade crypto assets. The Commission understands that retail investors are significant users of platforms.²²² The Commission also

example, for crypto assets A, B, and C, a single AMM protocol might have a pool that offers to trade A for B and vice versa, another pool that offers to trade B for C and vice versa, and a third pool that offers to trade A for C and vice versa. Some AMMs can have pools with more than two assets that permit trades in combinations of the assets in the pool. For example, a pool might contain A, B, and C, and permit trades such as exchanging A and B for C.

²²⁰ In the case where the AMM offers pools with more than two assets, the formula may be based on the amount of each asset held in the pool.

²²¹ See *supra* section II.A for additional discussion of pairs trading.

²²² See, e.g., Michel Rauchs, Apolline Blandin, Kristina Klein, Gina Pieters, Martino Recanatini & Bryan Zhang, *2nd Global Cryptoasset Benchmarking Study* (Dec. 2018), available at <https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2019-09-ccaf-2nd-global-cryptoasset-benchmarking.pdf>, showing that globally, retail investors are 70% of “exchange-only” crypto

understands that some platforms may also be used to fill the orders of institutional investors, and may have market makers participating as well.

The Commission understands that the speed of processing on some platforms may be faster when compared to transfers on some blockchains or systems that involve blockchain processing as part of functionality,²²³ both of which are reliant on blockchain transactions to function. The Commission understands that there is often a queue of transactions waiting to be appended to a blockchain, and transactions being sent to a trading platform running on that blockchain may have to wait in that queue to be processed.

Trading using systems that involve sending information to a blockchain²²⁴ as a means of interacting with the system may expose the market participant to information leakage of a kind that is not present on platforms or New Rule 3b–16(a) Systems that do not require interacting through a blockchain. The Commission understands that messages to be appended to a blockchain often end up in queue that is publicly viewable, which then exposes the market participant to information leakage.

Furthermore, when trading on a system that runs some of its functionality on-chain, there is a risk of unexpected or undesired execution results. Specifically, a market participant may send an order to a blockchain intending to interact with the on-chain portion of the system based on market conditions which will be altered by other transactions that are already queued but not yet processed.²²⁵

Some ATSs, which have an active Form ATS on file with the Commission, specify in their Form ATS disclosures that they trade or intend to trade crypto asset securities.

business users and 78% of “multi-segment” crypto businesses. See also 2022 10–K, Coinbase (Feb. 21, 2023), available at <https://www.sec.gov/Archives/edgar/data/1679788/000167978823000031/coin-20221231.htm> showing that for one centralized platform, retail investors accounted for approximately 20% of trading volume in 2022.

²²³ See *infra* section V.B.1.c.

²²⁴ For example, sending a transaction to an AMM running on-chain.

²²⁵ The Commission understands that some platforms which have this risk permit transaction messages to set limits to help mitigate the risk of unexpected execution results. Although the problem of messages already en route or queued for processing causing unexpected changes to a trading platform for other users is a problem on off-chain platforms as well, the Commission understands that the problem may be more severe on platforms which require interaction through a blockchain because the longer processing times can lead to larger queues.

ii. Regulatory Baseline

The provider of a platform that meets the current criteria of Rule 3b–16 of the Exchange Act is required to register as a national securities exchange or operate pursuant to the Regulation ATS exemption, which involves registering as a broker-dealer and complying with Regulation ATS.²²⁶ The regulatory requirements and the associated compliance costs for platforms that trade crypto asset securities vary according to whether they are regulated as a national securities exchange or ATS.

A platform that trades crypto asset securities could choose to register as a national securities exchange pursuant to sections 5 and 6 of the Exchange Act.²²⁷ The compliance costs associated with being a national securities exchange are generally significantly higher than those of being an ATS. In contrast to an ATS, a national securities exchange, as an SRO, incurs compliance costs associated with, among other things, setting standards of conduct for its members, administering examinations for compliance with these standards, coordinating with other SROs with respect to the dissemination of consolidated market data, and generally taking responsibility for enforcing its own rules and the provisions of the Exchange Act and the rules and regulations thereunder. Furthermore, under section 19(b) of the Exchange Act, a national securities exchange incurs compliance costs by filing any proposed changes to its rules with the Commission, which the Commission has the authority to approve or disapprove.²²⁸

A platform that meets the current definition of an exchange and operates pursuant to the ATS exemption must comply with Regulation ATS, and

²²⁶ See *supra* section V.B.1.a.i, discussing ATSs that trade or intend to trade crypto asset securities. There are no registered national securities exchanges which trade crypto asset securities. See *supra* section V.B.1.

²²⁷ Pursuant to section 6 of the Exchange Act, national securities exchanges must establish rules that generally: (1) are designed to prevent fraud and manipulation, promote just and equitable principles of trade, and protect investors and the public interest; (2) provide for the equitable allocation of reasonable fees; (3) do not permit unfair discrimination; (4) do not impose any unnecessary or inappropriate burden on competition; and (5) with limited exceptions, allow any broker-dealer to become a member. Section 6(b) of the Exchange Act requires, among other things, that the national securities exchange be so organized and have the capacity to carry out the purposes of the Exchange Act and to comply and enforce compliance by its members, and persons associated with its members, with the federal securities laws and the rules of the exchange. See section 6(b) of the Exchange Act.

²²⁸ See generally section 19(b) of the Exchange Act.

incurs costs related to compliance with these requirements. To operate under the exemption, an ATS must register as a broker-dealer²²⁹ and comply with the filing and conduct obligations associated with being a registered broker-dealer, including membership in an SRO, such as FINRA,²³⁰ and compliance with the SRO's rules.²³¹ Upon becoming a broker-dealer, the operator of an ATS is subject to certain broker-dealer requirements with respect to maintaining net capital, reporting, and recordkeeping.²³² An ATS is subject to Commission examinations and FINRA examinations and surveillance, trade reporting obligations, and certain investor protection rules.²³³ An ATS is required to establish adequate written safeguards and written procedures²³⁴ to protect subscribers' confidential trading information.²³⁵ Furthermore, an ATS is subject to certain reporting and disclosure requirements, as applicable. Under Rule 301(b)(2) of Regulation ATS, an ATS that does not trade NMS stocks must file Form ATS.²³⁶ An ATS must file quarterly Form ATS-R to report to the Commission, among other things, trading volume, securities traded, and a list of subscribers that were participants during the relevant quarter.²³⁷ An ATS

is subject to recordkeeping and record preservation requirements under Rules 302 and 303 of Regulation ATS, respectively.

In addition, an ATS that trades in crypto asset securities that are corporate debt securities, and meets certain volume thresholds, is required to comply with the Fair Access Rule and Rule 301(b)(6) of Regulation ATS. The requirements of Rule 301(b)(6) are similar to, but with less benefits and with significantly less costs than, the requirements of Regulation SCI.²³⁸ Such an ATS must be a member of FINRA, and would accordingly be required to report to the Trade Reporting and Compliance Engine (TRACE) transactions in corporate bonds.²³⁹

An ATS that trades crypto asset securities that are municipal securities is similarly required to comply with the Fair Access Rule and with Rule 301(b)(6) of Regulation ATS if it meets certain volume thresholds. Additionally, the broker-dealer operator of such an ATS must register with the Municipal Securities Rulemaking Board (MSRB) and accordingly is required to report municipal bond trades to the MSRB's Real-Time Transaction Reporting System (RTRS).²⁴⁰

A platform that operates as an NMS Stock ATS and trades in crypto asset securities that are NMS stocks is required to file public Form ATS-N. Such an ATS must comply with the requirements of Regulation SCI and the Fair Access Rule if it meets the corresponding volume thresholds. Additionally, because trades in NMS stocks that are transacted off-exchange must be reported to one of the FINRA Trade Reporting Facilities, such an NMS Stock ATS would have the reporting obligation in most cases where it handles the execution of the trade. Such an ATS that receives or originates orders in Eligible Securities²⁴¹ is required to

report any Reportable Event²⁴² to the Consolidated Audit Trail.

A platform that is an ATS and trades in crypto asset equity securities that are not NMS stocks is required to comply with Regulation SCI and the Fair Access Rule if it meets certain volume thresholds, be a member of FINRA, and comply with associated reporting obligations.

AMMs²⁴³ that meet the definition of a dealer or government securities dealer under sections 3(a)(5) and 3(a)(44) of the Exchange Act are subject to the requirements applicable to dealers under federal securities laws and FINRA rules.²⁴⁴ These AMMs would incur compliance costs associated with broker-dealer requirements discussed in section V.B.1.a.ii.

Regulated platforms do not offer trading in non-cash markets for crypto assets in which one of the assets is a security and the other one is not a security.²⁴⁵

b. New Rule 3b-16(a) Systems in the Market for Crypto Assets Securities

The Commission understands that some amount of trading in crypto asset securities is facilitated through New Rule 3b-16(a) Systems.²⁴⁶ The

²²⁹ The broker-dealer operator controls all aspects of the operation of the ATS and is legally responsible for ensuring that the ATS complies with applicable federal securities laws and the rules and regulations thereunder, including Regulation ATS. See NMS Stock ATS Adopting Release at text accompanying note 663.

²³⁰ See section 15(b)(8) of the Exchange Act.

²³¹ See Regulation ATS Adopting Release, *supra* note 3, at 70903.

²³² Registered broker-dealers would be subject to requirements under certain Exchange Act rules, such as Rule 15c3-1, Rule 17a-1, Rule 17a-3, Rule 17a-4, and Rule 17a-5.

²³³ Under the federal securities laws and FINRA rules, registered broker-dealers (e.g., broker-dealer operators of ATSs) are subject to, among other things: (1) various disclosure and supervision obligations; (2) anti-money laundering obligations (including suspicious activity reporting); (3) FINRA OTC trade reporting requirements, including requirements to maintain membership in, or maintain an effective clearing arrangement with a participant of, a clearing agency registered under the Exchange Act; and (4) Commission examinations and FINRA examinations and surveillance of members and markets that its members operate.

²³⁴ These written safeguards and written procedures must include, among other things: limiting access to the confidential trading information of subscribers to those employees of the ATS who are operating the system or responsible for its compliance with these or any other applicable rules; and implementing standards controlling employees of the ATS trading for their own accounts.

²³⁵ See 17 CFR 242.301(b)(10); NMS Stock ATS Adopting Release, *supra* note 7, section VI.

²³⁶ Under Rule 304 of Regulation ATS, NMS Stock ATSs are required to file public Form ATS-N (instead of filing Form ATS), which is subject to a Commission review and effectiveness process.

²³⁷ See Rule 301(b)(9); Form ATS-R.

²³⁸ The scope and requirements of Rule 301(b)(6) are narrower than those of Regulation SCI. For example, Rule 301(b)(6) of Regulation ATS applies to a narrower set of systems, as compared to Regulation SCI. Rule 301(b)(6) of Regulation ATS applies only to systems that support order entry, order routing, order execution, transaction reporting, and trade comparison, which is narrower than the definition of SCI system. Also, Rule 301(b)(6) does not require ATSs to maintain a backup facility, whereas Regulation SCI includes such a requirement.

²³⁹ See Proposing Release at 15604 n.871 and accompanying text.

²⁴⁰ See *id.* at 15608.

²⁴¹ The CAT NMS Plan is a national market system plan approved by the Commission pursuant to Section 11A of the Exchange Act and the rules and regulations thereunder. See Securities Exchange Act Release No. 79318 (Nov. 15, 2016), 81 FR 84696 (Nov. 23, 2016). The CAT NMS Plan and subsequent amendments to the Plan are available at <https://catnmsplan.com/about-cat/cat->

nms-plan. Section 1.1 of the CAT NMS Plan defines Eligible Securities as “(a) all NMS Securities; and (b) all OTC Equity Securities,” where OTC Equity Securities are defined as any equity security, other than an NMS Security, subject to prompt last sale reporting rules of a registered national securities association and reported to one of such association's equity trade reporting facilities.” This includes both OTC Equity Securities and transactions in Restricted Equity Securities effected pursuant to Securities Act Rule 144A.

²⁴² According to Section 1.1 of the CAT NMS Plan, “Reportable Event” includes, but is not limited to, the original receipt or origination, modification, cancellation, routing, execution (in whole or in part) and allocation of an order, and receipt of a routed order. See CAT NMS Plan, *supra* note 241.

²⁴³ Some AMMs may operate as single dealer platforms. A single dealer platform that meets the requirement of existing Exchange Act Rule 3b-16(b)(2) and Rule 3b-16(b)(2) as proposed to be amended, would be excluded from the Exchange Act Rule 3b-16(a) and thus not fall within the definition of exchange. In addition, the proposed amendments to Rule 3b-16 do not change the registration obligations of a person that meets the definition of a dealer or government securities dealer under sections 3(a)(5) and 3(a)(44) of the Exchange Act.

²⁴⁴ The Commission encourages commenters to review the Commission's proposal, “Further Definition of ‘As a Part of a Regular Business’ in the Definition of Dealer and Government Securities Dealer,” Securities Exchange Act Release No. 94524 (Mar. 28, 2022), 87 FR 23054 (Apr. 18, 2022) to determine whether it might affect their comments on this Reopening Release.

²⁴⁵ There is a significant amount of trading in crypto asset securities that may be occurring in non-compliance with federal securities laws. See *supra* section V.B.1.

²⁴⁶ See *supra* section V.B.1. Additionally, one commenter states that the proposed amendments to

Commission lacks information on the entities involved providing New Rule 3b-16(a) Systems in the market for crypto asset securities, and consequently, is uncertain as to the precise number of such entities. Nevertheless, the Commission is providing a rough estimate that there are 15-20 New Rule 3b-16(a) Systems trading crypto asset securities.²⁴⁷ The Commission requests comment on the number of New Rule 3b-16(a) Systems in the market for crypto asset securities. The Commission lacks data on the share of trades in crypto asset securities that are conducted in this way, and requests comment on this issue.

The Commission is uncertain as to the range of specific communication protocols used for trading crypto assets.²⁴⁸ The Commission requests comment on the types of protocols used in trading crypto assets.

Some entities provide New Rule 3b-16(a) Systems that may run part of the system on-chain (for example, by using smart contracts). A New Rule 3b-16(a) System that utilizes such technology may possess some of the same features as other systems using that technology described in section V.B.1.a.

The Commission understands that when running a New Rule 3b-16(a) System that involves on-chain technology, the actual negotiation portion of the system (e.g. the RFQ functions) may be run “off-chain,” that is, without using the blockchain for computation and communication. Once negotiation is finished, the transaction may then be completed using blockchain-based systems.

It is also possible that some New Rule 3b-16(a) Systems may be run entirely on-chain. For example, there may be smart contracts that enable the sending of RFQs, responses to the RFQ, and finalizing of transactions all through communicating with a set of smart contracts by sending messages to the blockchain.

the definition of exchange, specifically the phrasing “to include systems that offer the use of non-firm trading interest and communication protocols to bring together buyers and sellers of securities,” could be read to encompass “unhosted protocols,” which the Commission understands to refer to DeFi platforms. See Delphi Digital Letter at 11; see also LeXpunk Letter at 3.

²⁴⁷ The Commission received comments stating that we had not included an estimate of the number of crypto asset security market participants that would be included in the amended definition of exchange. See GDCA Letter II at 6, Delphi Digital Letter at 11, McHenry/Huizenga Letter at 2.

²⁴⁸ In the Proposing Release, the Commission discussed common kinds of protocols and their economic significance in their respective markets, see, e.g., Proposing Release sections VIII.B.1, VIII.B.2.b, VIII.B.3.b, VIII.B.4.b, VIII.B.5.d, VIII.B.6.b, and VIII.B.7.

The Commission preliminarily believes that New Rule 3b-16(a) Systems with on-chain components to their system generally facilitate trades that are not cash-based. That is, the trades exchange one crypto asset security for another crypto asset. The Commission preliminarily believes that it is possible that New Rule 3b-16(a) Systems that do not use any on-chain elements in their systems may also facilitate trades that are non-cash based.

New Rule 3b-16(a) Systems do not meet the current definition of exchange under Rule 3b-16, and therefore are not currently required to register as national securities exchanges or comply with Regulation ATS.²⁴⁹

c. Other Methods of Trading in Crypto Assets

Market participants may transact in crypto assets via bilateral voice trading or electronic chat messaging.²⁵⁰ The Commission understands that such interactions may be with a market maker in crypto assets, or with some other market participant. Such methods of trading permit negotiation on price and size. The Commission lacks information on current crypto asset market practice, and requests comment on this issue.

Bilateral voice trading may provide flexibility to traders and reduce information leakage. For these reasons, the Commission preliminarily believes it may be a useful method for trading crypto assets in large blocks. The Commission requests comment on the role of bilateral voice trading in the market for crypto assets.

d. Competition for Crypto Asset Trading Services

The various platforms available for trading crypto assets, as well as New Rule 3b-16(a) Systems, compete to attract order flow. The Commission preliminarily believes that market participants seeking liquidity in crypto assets may prefer either one particular platform or method of crypto asset trading or multiple platforms or methods. A single order may be split and filled using the different methods. It is also possible that some methods may be used more than others in certain segments of market participants.

Because New Rule 3b-16(a) Systems are not currently subject to the same regulation as organizations, associations, or groups of persons that meet the existing definition of

“exchange” under Rule 3b-16, they often trade pairs, which can include a combination of securities and non-securities. This may give New Rule 3b-16(a) Systems a competitive advantage over platforms that currently meet regulatory requirements for exchanges.

Some of the methods for trading crypto asset securities involve platforms that are currently subject to regulation as an ATS or national securities exchange.²⁵¹ New Rule 3b-16(a) Systems, in contrast, are not subject to such regulation. This may have an impact on competition for order flow between these two groups of platforms. For example, platforms that are ATSs or national securities exchanges may offer the benefits of investor protections associated with these regulations to customers in ways that New Rule 3b-16(a) Systems do not. It is also the case that the compliance costs for such regulations may burden current ATSs and national securities exchanges in a way that disadvantages them in competing with New Rule 3b-16(a) Systems.

C. Economic Effects

The Commission discussed the economic effects of the Proposed Rules on general activity involving securities in the Proposing Release. In this section, the Commission discusses the economic effects of the Proposed Rules on activity involving crypto asset securities.

The Commission is relying on the analysis in the Proposing Release to form the basis for its discussion of the effects of the Proposed Rules for systems trading crypto asset securities.²⁵² This is because the Commission believes that New Rule 3b-16(a) Systems that trade crypto asset securities are broadly similar in their functions to functions of other New Rule 3b-16(a) Systems. The following sections include discussion of the extent to which we believe these effects may deviate from those discussed in the Proposing Release for the market for crypto asset securities. Throughout the discussion in this Reopening Release, the Commission has a greater degree of uncertainty in its analysis of the costs that the Proposed Rules would impose on market participants for crypto asset securities than it did in its discussion of costs for non-crypto asset securities. This is because the Commission has less data

²⁵¹ See *supra* section V.B.1.a discussing such platforms and the regulations to which they are subjected. Also, see *supra* section V.B.1.a.i, discussing ATSs that trade or intend to trade crypto asset securities. Today, there are no registered national securities exchanges that trade crypto asset securities. See *supra* section V.B.1.

²⁵² See *id.*

²⁴⁹ See *supra* section V.B.1.a.ii describing the rules of Regulation ATS, as well as rules applicable to national securities exchanges.

²⁵⁰ See *supra* section V.B.1.

on the functioning of the market for crypto asset securities.²⁵³

As discussed in the Proposing Release,²⁵⁴ a New Rule 3b–16(a) System could choose to register as an exchange rather than choose to comply with the Regulation ATS exemption. The Commission believes that New Rule 3b–16(a) Systems that trade crypto asset securities would likely elect to register as a broker-dealer and comply with Regulation ATS because the regulatory costs associated with registering and operating as an exchange would be higher than those associated with registering as a broker-dealer and complying with Regulation ATS.²⁵⁵

One commenter agrees with the Commission that any entity captured as a New Rule 3b–16(a) System “would likely prefer to be regulated as an ATS as opposed to an exchange.”²⁵⁶

1. Benefits

The Commission believes that the benefits detailed in the Proposing Release²⁵⁷ would accrue in broadly the same manner to market participants who trade in crypto asset securities as they would to market participants who trade in the securities discussed in the Proposing Release. This is because the Commission believes that New Rule 3b–16(a) Systems that trade crypto asset securities are broadly similar in their functions to functions of other New Rule 3b–16(a) Systems. However, throughout the discussion in this Reopening Release, the Commission has a greater degree of uncertainty in its analysis of the benefits that the Proposed Rules would provide to market participants in the market for crypto asset securities than it did in its discussion of benefits for non-crypto asset securities. This is because the Commission has less data on the functioning of the market for crypto asset securities.²⁵⁸

Certain benefits discussed in the Proposing Release apply only to certain asset classes: the Commission believes that if any current or future crypto asset security falls into one of those classes, then those benefits would likely apply to the participants in the market for that crypto asset security as well.

a. Enhancement of Regulatory Oversight and Investor Protection

As discussed fully in the Proposing Release, the Proposed Rules would

enhance regulatory oversight and investor protection by extending the requirements related, among other things, to broker-dealer registration, transaction reporting, safeguarding subscribers’ confidential trading information, recordkeeping and reporting under Regulation ATS, providing certain information on Form ATS–R to the Commission, and filing public Form ATS–N, to New Rule 3b–16(a) Systems trading in securities of the applicable asset classes.²⁵⁹ Of these benefits, some are associated with rules that apply to all securities, and the rest are associated with rules that apply only to securities of specific asset classes. The Commission believes that benefits associated with rules that apply to all securities would accrue to market participants trading crypto asset securities in a manner similar to the description in the Proposing Release, and to a similar extent. The Commission additionally believes that benefits associated with rules applying only to specific asset classes would accrue to market participants trading crypto asset securities of the appropriate asset type, again in a similar manner and to a similar extent as that described in the Proposing Release.

b. Reduction of Trading Costs and Improvements to Execution Quality

As discussed fully in the Proposing Release, the Proposed Rules would help enhance operational transparency, reduce trading costs, and improve execution quality for market participants by requiring public disclosure of Form ATS–N and applying the Fair Access Rule to certain ATSs.²⁶⁰ The Commission believes that benefits associated with these rules would accrue to market participants trading crypto asset securities of the appropriate asset class, in the same manner and to the same extent discussed in the Proposing Release. However, because some New Rule 3b–16(a) Systems involve systems which run with an on-chain component,²⁶¹ and therefore may operate using code that is, at least in part, publicly viewable, it is possible

that the benefit of Form ATS–N disclosures may be reduced for such systems. However, because this code is not disclosed in a standardized or human-readable form, the Commission believes that this reduction of impact may not be significant.

c. Enhancement of Price Discovery and Liquidity

As discussed fully in the Proposing Release, the Proposed Rules would help enhance the price discovery process and liquidity in securities markets by applying broker-dealer registration requirements of Regulation ATS, Regulation SCI, and the Capacity, Integrity, and Security Rule (*i.e.*, Rule 301(b)(6) of Regulation ATS) to certain New Rule 3b–16(a) Systems.²⁶² The Commission believes that benefits associated with these rules would accrue to market participants trading crypto asset securities of the appropriate asset class, in the same manner and to the same extent discussed in the Proposing Release.

d. Electronic Filing Requirements

As discussed fully in the Proposing Release, the Proposed Rules would benefit market participants by improving the usability, accessibility, and reliability of the new disclosures, by requiring a structured data language and a publicly accessible filing location for the applicable required disclosures.²⁶³ Of these benefits, some are associated with rules that apply to all securities, and the rest are associated with rules that apply only to securities of specific asset classes. The Commission believes that benefits associated with rules that apply to all securities would accrue to market participants trading crypto asset securities in a manner similar to the description in the Proposing Release, and to a similar extent. The Commission additionally believes that benefits associated with rules applying only to specific asset classes would accrue to market participants trading crypto asset securities of the appropriate asset class, again in the same manner and to the same extent discussed in the Proposing Release.

However, because some New Rule 3b–16(a) Systems involve systems which run with an on-chain component,²⁶⁴ and therefore may operate using code that is, at least in part, publicly viewable, it is possible that the benefit

²⁵³ See *supra* section V.B.1.

²⁵⁴ See Proposing Release at 15618.

²⁵⁵ See *id.* at 15586.

²⁵⁶ See LeXpung Letter at 14.

²⁵⁷ See *id.* at 15618.

²⁵⁸ See *supra* section V.B.1.

²⁵⁹ See *id.* at 15618–19. See also *supra* note 181 and accompanying text (explaining that the Commission continues to assume that, under the Proposed Rules, Newly Designated ATSs will choose to register as broker-dealers and comply with the conditions of Regulation ATS, rather than register as national securities exchanges, and therefore the costs analyzed here assume that such systems will not register as national securities exchanges).

²⁶⁰ See *id.* at 15620–21.

²⁶¹ For example, the system may be run in part by smart contracts deployed on a blockchain. See *supra* section V.B.1.a for additional discussion of such systems.

²⁶² See *id.* at 15621–22.

²⁶³ See *id.* at 15623.

²⁶⁴ For example, the system may be run in part by smart contracts deployed on a blockchain. See *supra* section V.B.1.a for additional discussion of such systems.

of Form ATS–N disclosures may be reduced for such systems. However, because this code is not disclosed in a standardized or human-readable form, the Commission believes that this reduction of impact may not be significant.

2. Costs

The Commission received comments on the Proposing Release stating that the Commission had not considered the costs of the Proposed Rules to New Rule 3b–16(a) Systems that trade crypto asset securities.²⁶⁵ In this section the Commission is supplementing the analysis of costs provided in the Proposing Release with additional analysis that details the extent and manner in which the costs discussed in the Proposing Release would apply to New Rule 3b–16(a) Systems that trade crypto asset securities.

The Commission is relying on the analysis in the Proposing Release to form the basis for its discussion of the costs of Proposed Rules for systems trading crypto asset securities.²⁶⁶ This is because the Commission believes that the functioning of New Rule 3b–16(a) Systems that trade crypto asset securities are broadly similar to the functioning of other New Rule 3b–16(a) Systems discussed in the Proposing Release. The Commission preliminarily believes that in some cases the costs of compliance may be higher for New Rule

3b–16(a) Systems in the market for crypto asset securities than for other New Rule 3b–16(a) Systems. This is because in some cases the market for crypto asset securities utilizes different technology and methods of operation²⁶⁷ than is utilized in markets for non-crypto asset securities. In addition, throughout the discussion in this Reopening Release, the Commission has a greater degree of uncertainty in its analysis of the costs that the Proposed Rules would impose on market participants than it did in its discussion of costs for non-crypto asset securities. This is because the Commission has less data on the functioning of the market for crypto asset securities.²⁶⁸

In addition, the Commission has received comments stating that entities that trade crypto asset securities may incur different compliance costs than entities that trade traditional securities. One commenter states that the analysis provided in the Proposing Release were based only on “traditional broker-dealer business,” adding that they were not aware of any broker-dealers that had successfully registered under the Commission’s framework for registering “digital-asset-only broker-dealers.”²⁶⁹ There are also costs that are unique to New Rule 3b–16(a) Systems that trade crypto asset securities. These costs are also the result of the use of different technology and methods of operation in some instances. These costs are

discussed in the sections below as applicable. The Commission invites comment on the costs of the Proposed Rules for market participants in the market for crypto asset securities.

a. Compliance Costs

Table V.1 provides estimates for the aggregate compliance costs for New Rule 3b–16(a) Systems that trade crypto asset securities. These aggregate costs reflect an estimate of 20 additional affected New Rule 3b–16(a) Systems that were not included in the estimates provided in the Proposing Release, which is the upper end of the Commission’s estimate of the number of affected systems. The Commission is uncertain as to how precise these estimates are because we lack sufficient data on crypto asset securities.²⁷⁰

In both Table V.1 and the following subsections, the Commission is relying on the analysis in the Proposing Release to form the basis for its discussion of costs. The Commission preliminarily believes that actual costs may be higher than these estimates and discussions express, due to the type of technology and operations utilized in trading crypto asset securities. Because it lacks certain data, the Commission is unable to provide an estimate as to how much higher costs may be, but preliminarily believes that these estimates and discussions provide a useful lower bound.

TABLE V.1—TOTAL IMPLEMENTATION COSTS AND OTHER COMPLIANCE COSTS AFFECTING ENTITIES THAT TRADE CRYPTO ASSET SECURITIES NOT INCLUDED IN THE PROPOSING RELEASE

Rule	Compliance action	Aggregate initial costs	Aggregate ongoing costs
Reg ATS, 301(b)(1)	Form BD filing	^a \$18,000	^d \$6,000
	Form ID filing	^b 1,000	
	Other compliance costs (non-PRA based)	^c 6,320,000	^e 1,154,000
Reg ATS, 301(b)(2)	Form ATS filing	^f 128,000	^g 30,000
Reg ATS, 301(b)(9)	Form ATS–R filing		^h 130,000
Reg ATS, 301(b)(10)	Written safeguards and procedures to protect subscribers’ confidential trading information.	ⁱ 64,000	^j 20,000
Reg ATS, 302	Recordkeeping		^k 68,000
Reg ATS, 303	Record preservation		^l 2,000
Total		6,531,000	1,410,000

^a This cost figure is obtained by summing the initial implementation costs of Rule 301(b)(1)’s Form BD filing requirement for 20 New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

^b This cost figure is obtained by summing the initial implementation costs of Rule 301(b)(1)’s Form ID filing requirement for 20 New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

^c This cost figure is obtained by summing the other initial implementation costs (non-PRA based) associated with Rule 301(b)(1) for 20 New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

^d This cost figure is obtained by summing the ongoing implementation costs of Rule 301(b)(1)’s Form BD filing requirement for 20 New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

^e This cost figure is obtained by summing the other ongoing implementation costs (non-PRA based) for 20 New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

^f This cost figure is obtained by summing the initial implementation costs of Rule 301(b)(2)’s Form ATS filing requirement for 20 New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

²⁶⁵ See GDCA Letter II at 6; Crypto Council Letter at 4; McHenry/Huizenga Letter at 2; Coinbase Letter at 2; a16z Letter at 7.

²⁶⁶ See *id.*

²⁶⁷ Such different technology may include, for example, smart contracts.

²⁶⁸ See *supra* section V.B.1.

²⁶⁹ See ADAM Letter II at 14.

²⁷⁰ See *supra* section V.B.1.

⁹This cost figure is obtained by summing the ongoing implementation costs of Rule 301(b)(2)'s Form ATS filing requirement for 20 New Rule 3b-16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

¹⁰This cost figure is obtained by summing the ongoing implementation costs of Rule 301(b)(9)'s Form ATS-R filing requirement for 20 New Rule 3b-16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

¹¹This cost figure is obtained by summing the initial implementation costs of Rule 301(b)(10)'s requirement for written safeguards and procedures to protect subscribers' confidential trading information, for 20 New Rule 3b-16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

¹²This cost figure is obtained by summing the ongoing implementation costs of Rule 301(b)(10)'s requirement for written safeguards and procedures to protect subscribers' confidential trading information, for 20 New Rule 3b-16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

¹³This cost figure is obtained by summing the ongoing implementation costs of Rule 302's recordkeeping requirement for 20 New Rule 3b-16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

¹⁴This cost figure is obtained by summing the ongoing implementation costs of Rule 303's record preservation requirement for 20 New Rule 3b-16(a) Systems that trade crypto asset securities not included in the Proposing Release. See Proposing Release at Table VIII.8.

Commenters express concern that the Proposed Rules would include certain crypto asset security entities that the Commission had not considered, which would increase costs beyond what was estimated in the Proposing Release due to the increase in the number of affected entities.²⁷¹ The Commission is now including a rough estimate that the Proposed Rules would include 15–20 New Rule 3b-16(a) Systems that trade crypto securities that were not included in the Proposing Release,²⁷² along with the associated costs.

One commenter expresses concern that “persons who may merely write open-source ‘communications protocol’ code or publish information about the contents of communications systems which they do not control” would be included by the amended definition of exchange.²⁷³ Another commenter expresses similar concerns that “DeFi developers” would be included by the amended definition of exchange.²⁷⁴ Another commenter expresses similar concerns that “persons who ‘make available’ AMMs or interfaces for utilizing AMMs may now be required by the SEC to register those AMMs as ATSs or securities exchanges.”²⁷⁵ Another commenter expresses concern that the definition of exchange, as proposed to be amended, might “capture developers working with all manner of protocols, front end systems, and smart contracts.”²⁷⁶ Two commenters include smart contract code developers and publishers, blockchain miners and validators, providers of liquidity to AMMs, website maintainers, and blockchain client software developers as examples of persons they believe might

be inadvertently captured by the definition of exchange, as proposed to be amended.²⁷⁷ Another commenter lists social networking websites, peer-to-peer messaging applications, business communication platforms, financial information systems, blockchain technology nodes, and smart contracting platforms as examples of common retail communication platforms that might be required to register as an exchange under the Proposed Rules, adding that the proposal was likely to make “everyone involved in any securities-related communications an exchange or ATS.”²⁷⁸ Another commenter states that “any broker-dealer or non-broker-dealer that has systems related to trading or communicating trading interest in securities” might be included by the Proposed Rules.²⁷⁹ This commenter also lists validators, developers of smart contracts, and website operators as examples of entities that might be included by the Proposed Rules.²⁸⁰ Another commenter states that the Proposed Rules might cause “developers of code and smart contracts related to a Decentralized Protocol, or the maintainers of online websites that merely enable access to a Decentralized Protocol” to be captured by the definition of exchange, as proposed to be amended.²⁸¹

The Commission believes that the entities these commenters describe would only be an exchange if they constitute, maintain, or provide a market place or facility that meets the applicable criteria, and would only incur compliance costs in connection with their activities that constitute, maintain, or provide that market place or facility.

The Commission acknowledges that there may be circumstances in which the miners or validators of a blockchain could incur costs under the Proposed

Rules, and the Commission solicits comment on any such costs.²⁸²

i. Implementation Costs

New Rule 3b-16(a) Systems that would be newly subject to the requirements of Regulation ATS would incur implementation costs associated with, among other things, written safeguards and procedures to protect subscribers' confidential trading information, recordkeeping, record preservation, and Form ATS-R.²⁸³ The Commission estimates that there are 15–20 additional New Rule 3b-16(a) Systems not included in the Proposing Release that trade crypto asset securities.²⁸⁴

Furthermore, New Rule 3b-16(a) Systems that trade NMS stocks would incur higher implementation costs due to the heightened requirements of filing Form ATS-N compared to New Rule 3b-16(a) Systems that would file Form ATS.²⁸⁵ To the extent that any crypto asset securities are NMS stocks, New Rule 3b-16(a) Systems that trade them would incur these higher costs. The Commission estimates that no ²⁸⁶New Rule 3b-16(a) Systems currently trade crypto asset securities that are NMS stocks.

Current ATSs and New Rule 3b-16(a) Systems that trade neither NMS stocks nor government securities would incur implementation costs associated with re-filing or filing the modernized Form ATS. Furthermore, all New Rule 3b-16(a) Systems would incur implementation costs to file the revised electronic Form ATS-R. Current NMS Stock ATSs would incur implementation costs associated with amending revised Form ATS-N. The

²⁷¹ See DeFi Education Fund Letter at 9, 17; Crypto Council Letter at 5; Blockchain Association Letter II at 7; LeXpunk Letter at 11; Chamber Letter at 5.

²⁷² See *supra* section V.B.1.c (discussing New Rule 3b-16(a) Systems in the market for crypto asset securities, and the Commission's uncertainty regarding this estimate).

²⁷³ See Delphi Digital Letter at 6.

²⁷⁴ See DeFi Education Fund Letter at 3, 9.

²⁷⁵ See Letter from Murray B. Wells, Attorney/ Partner, Wells Associates, PLLC, dated Apr. 18, 2022 (“Wells Letter”) at 2.

²⁷⁶ See LeXpunk Letter at 13.

²⁷⁷ See Wells Letter at 2; LeXpunk Letter at 14.

²⁷⁸ See DARLA, GBC, and Global DCA Letter at 7.

²⁷⁹ See a16z Letter at 7.

²⁸⁰ See *id.* at 14.

²⁸¹ See Blockchain Association Letter II at 6.

²⁸² See *supra* notes 75–80 and accompanying text, section II.B (discussing groups of persons under the definition of exchange); *infra* section V.C.2.c.i.

²⁸³ See *id.* at 15627.

²⁸⁴ See *supra* section V.B.1.c (discussing New Rule 3b-16(a) Systems in the market for crypto asset securities, and the Commission's uncertainty regarding this estimate).

²⁸⁵ See *id.*

²⁸⁶ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

Commission estimates that 15–20²⁸⁷ New Rule 3b–16(a) Systems currently trade crypto asset securities that are not NMS stocks that were not included in the Proposing Release, and no²⁸⁸ New Rule 3b–16(a) Systems currently trade crypto asset securities that are NMS stocks. To the extent that a current ATS or New Rule 3b–16(a) System trades in crypto asset securities generally or crypto asset NMS stock specifically, associated costs described in the Proposing Release would be a lower bound on costs incurred.²⁸⁹

Significant NMS Stock ATSs and ATSs that trade corporate debt securities, municipal securities, or equity securities that are not NMS stocks are subject to the Fair Access Rule. The Commission estimates that no²⁹⁰ New Rule 3b–16(a) Systems that trade crypto asset corporate debt securities, municipal securities, NMS stocks, or equity securities that are not NMS stocks would be subject to the Fair Access Rule.

Significant ATSs that trade corporate debt securities or municipal securities are subject to Rule 301(b)(6). The Commission estimates that no²⁹¹ New Rule 3b–16(a) Systems currently trade corporate debt or municipal securities that are crypto asset securities and would meet the threshold of Rule 301(b)(6). To the extent that such an entity exists, the Commission believes that the implementation costs per entity presented in the Proposing Release would be a lower bound on costs incurred.²⁹²

In the Proposing Release, the Commission discussed estimates of initial PRA burdens for new SCI entities and ongoing PRA burdens for all SCI entities.²⁹³ To the extent that any significant New Rule 3b–16(a) System trades in crypto asset securities that are (i) NMS stocks or (ii) equity securities that are not NMS stocks, and would therefore be subject to Regulation SCI, the Commission preliminarily believes that the PRA burdens discussed in the

Proposing Release would be a lower bound on costs incurred. The Commission estimates that no²⁹⁴ New Rule 3b–16(a) Systems that trade crypto asset securities that are NMS stocks or equity securities that are not NMS stocks would meet the applicable thresholds to be subject to Regulation SCI.

As discussed in the Proposing Release,²⁹⁵ the Commission believes that the fixed implementation costs associated with Rule 301(b)(9) and (10), Rule 302, and Rule 303 would represent a larger fraction of revenue for a small (measured in trading volume) ATS relative to that for a large ATS. To the extent that New Rule 3b–16(a) Systems trade crypto asset securities, and are therefore subject to these costs, the Commission expects the fixed costs to fall disproportionately on such lower-volume New Rule 3b–16(a) Systems.

As discussed in the Proposing Release,²⁹⁶ the Commission believes that the fixed implementation costs of developing internal processes to ensure correct and complete reporting on Form ATS–N would represent a larger fraction of revenue for a small (measured in trading volume) ATS relative to that for a large ATS. To the extent that New Rule 3b–16(a) Systems trade crypto assets that are NMS stocks, and are therefore subject to these costs, the Commission expects the fixed costs to fall disproportionately on smaller such New Rule 3b–16(a) Systems. However, as in the Proposing Release, the Commission expects that smaller New Rule 3b–16(a) Systems that are not operated by multi-service broker-dealer operators and that generally do not engage in other brokerage or dealing activities in addition to their ATSs would likely incur lower implementation costs, because certain sections of Form ATS–N, as proposed to be amended, would not be applicable to these New Rule 3b–16(a) Systems.

The Commission also believes that the implementation costs associated with Rule 304 would vary across New Rule 3b–16(a) Systems that are NMS Stock ATSs depending on the complexity of the ATS and the services that it offers. As discussed in the Proposing Release, the Commission believes that less complex ATSs and ATSs that offer fewer services would incur lower implementation costs due to requiring fewer burden hours to complete their

Forms ATS–N.²⁹⁷ The Commission estimates that no²⁹⁸ New Rule 3b–16(a) Systems currently trade crypto assets that are NMS stocks. To the extent that any such New Rule 3b–16(a) System exists, the Commission believes that this would also be the case for such systems.

ii. Costs Associated With Broker-Dealer Requirements

Under proposed Rule 301(b)(1), New Rule 3b–16(a) Systems that are non-broker-dealers (*i.e.*, non-broker-dealer-operated New Rule 3b–16(a) Systems) and trade crypto assets securities would be subject to broker-dealer registration requirements. Such an entity would incur costs associated with broker-dealer registration, which include costs related to registering with the Commission as broker-dealers, becoming members of an SRO, maintaining broker-dealer registration and SRO membership, and certain broker-dealer requirements with respect to maintaining net capital, reporting, and recordkeeping. The Commission estimates that roughly 15–20²⁹⁹ such New Rule 3b–16(a) Systems that trade crypto asset securities not included in the Proposing Release exist. The Commission believes that the costs³⁰⁰ discussed in the Proposing Release³⁰¹ for such entities would be a lower bound on the costs incurred.

Furthermore, under section 4(a)(4) of the Securities Act,³⁰² a broker-dealer is required to conduct a reasonable inquiry into the facts surrounding the proposed sale of a security by its customer to determine whether the sale of the security would violate section 5, such as if there is no registration statement in effect with the Commission as to the offer and sale of the security, or there is no applicable exemption from the registration provisions available to the customer. Upon registration as a broker-dealer, an entity could face liability under section 5 of the Securities Act for

²⁹⁷ See *id.* at 15628.

²⁹⁸ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

²⁹⁹ See *supra* section V.B.1.c (discussing New Rule 3b–16(a) Systems in the market for crypto asset securities, and the Commission's uncertainty regarding this estimate).

³⁰⁰ As stated in the Proposing Release, the Commission lacks information that would allow it to provide estimates on certain restructuring related costs for a non-broker-dealer-operated Communication Protocol System that trades crypto asset securities. Likewise, the Commission is unable to estimate the costs of broker-dealer requirements with respect to maintaining net capital, reporting, and recordkeeping, as it lacks information on how affected entities might change their current business structures upon registering as a broker-dealer.

³⁰¹ See Proposing Release at 15628–29.

³⁰² See 15 U.S.C. 77d(a)(4).

²⁸⁷ See *supra* section V.B.1.c (discussing New Rule 3b–16(a) Systems in the market for crypto asset securities, and the Commission's uncertainty regarding this estimate).

²⁸⁸ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

²⁸⁹ See *id.*; Table VIII.8.

²⁹⁰ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

²⁹¹ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

²⁹² See *id.*

²⁹³ See *id.*

²⁹⁴ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

²⁹⁵ See Proposing Release at 15628.

²⁹⁶ See *id.*

facilitating sales of securities on behalf of its customers that would violate section 5. To the extent a substantial portion of this entity's business is in the sales of such securities, the Proposed Rules would result in a significant loss in revenue for the entity.

One commenter states that the Commission's estimates of compliance costs, provided in the Proposing Release, omitted the costs of joining FINRA, which is a requirement for becoming a registered broker-dealer.³⁰³ The commenter characterizes these costs as representing "the lion's share" of the time and effort needed to become a broker-dealer. The Commission did discuss these costs in the Proposing Release,³⁰⁴ and believes that the estimates provided there provide a useful characterization, notwithstanding the possibility that some costs may be higher for entities that trade crypto asset securities.³⁰⁵

The Commission believes that a New Rule 3b-16(a) System not operated by a broker-dealer would not incur compliance costs associated with registering as a broker-dealer and becoming a member of an SRO (e.g., FINRA) if it has a broker-dealer affiliate.³⁰⁶ The Commission believes that this would also apply to a New Rule 3b-16(a) System that trades crypto asset securities. A broker-dealer affiliate that is adding ATS or New Rule 3b-16(a) System operations would incur additional ongoing costs associated with maintaining FINRA membership if adding trading operations increases revenue, the number of registered persons or branch offices, trading volume, or expands the scope of brokerage activities. Furthermore, a broker-dealer affiliate that is adding ATS or New Rule 3b-16(a) System operations could incur additional costs associated with maintaining adequate net capital level, reporting, and recordkeeping depending on the changes in business structure of the broker-dealer. As in the Proposing Release,³⁰⁷ the Commission is unable to provide estimates on these additional costs; however, the Commission estimates that there are no³⁰⁸ New Rule 3b-16(a) Systems not operated by a

broker-dealer that are affiliated with an existing broker-dealer.

iii. Costs Associated With the Ineffectiveness Declaration

In addition to the implementation costs associated with filing and amending Form ATS-N, the Commission preliminarily believes that the proposed ability for the Commission to declare an initial Form ATS-N or Form ATS-N amendment ineffective could result in direct costs for New Rule 3b-16(a) Systems that are NMS Stock ATSs.³⁰⁹ However, the Commission estimates that no³¹⁰ New Rule 3b-16(a) Systems currently trade crypto asset securities that are NMS stocks. To the extent that such a New Rule 3b-16(a) System exists, it would incur these costs. However, the Commission believes that there would not be a substantial burden imposed in connection with resubmitting an initial Form ATS-N or a Form ATS-N amendment or from an ineffective declaration in general.³¹¹ The costs of an ineffectiveness declaration would encourage New Rule 3b-16(a) Systems trading in these crypto asset securities to initially submit a more accurate and complete Form ATS-N and amendments thereto, which would reduce the likelihood that they are declared ineffective.³¹² Additionally, New Rule 3b-16(a) Systems that trade NMS stocks, including those that are crypto asset securities, would also be able to continue operations pending the Commission's review of their initial Form ATS-N. However, if after notice and opportunity for hearing, the Commission declares an initial Form ATS-N filed by such a New Rule 3b-16(a) System ineffective, the ATS would be required to cease operations until an initial Form ATS-N is effective.

iv. Costs Associated With the Fair Access Rule

The Commission preliminarily believes that complying with the Fair Access Rule could result in compliance costs (non-PRA based) for New Rule 3b-16(a) Systems that trade NMS stocks (including NMS Stock ATSs that would no longer be excluded from Fair Access compliance under Rule 301(b)(5)(iii) as proposed),³¹³ equity securities that are

not NMS stocks, corporate debt securities, or municipal securities.³¹⁴ If a New Rule 3b-16(a) System must change fee structures, order interaction procedures, trading protocols, or access provisions and adapt their operating model due to the Fair Access Rule, it would incur costs related to changing business operations.³¹⁵ To the extent that a New Rule 3b-16(a) System trades in crypto asset securities that fall into any of the above-mentioned categories, the Commission believes that it would incur costs related to these changes as described in the Proposing Release. As in the Proposing Release, the Commission lacks data that would be used to quantify the costs related to these changes. The Commission estimates that no³¹⁶ New Rule 3b-16(a) Systems currently trade crypto asset securities that are NMS stocks, equities that are not NMS Stocks, corporate debt, or municipal securities.

As discussed in the Proposing Release,³¹⁷ the Proposed Rules would aggregate volume across affiliated ATSs in calculating the fair access volume thresholds. This would mean affiliate ATSs that otherwise do not meet the relevant volume thresholds may be subject to the Fair Access Rule. As discussed above, if ATSs must adapt their operating models as a result of being subject to the Fair Access Rule, those ATSs would incur costs related to changing business operations. The Commission estimates that no current affiliate ATS that trades NMS stocks, equity securities that are not NMS stocks, corporate debt securities, or municipal securities, that are crypto asset securities, and does not already currently meet the fair access volume thresholds would meet the thresholds if volume is aggregated across affiliated ATSs.

v. Costs Associated With Rule 301(b)(6)

As discussed in the Proposing Release,³¹⁸ in addition to the implementation costs associated with reporting outages and recordkeeping under the proposed Rule 301(b)(6), the Commission preliminarily believes that significant New Rule 3b-16(a) Systems that trade corporate debt securities or municipal securities could incur compliance costs (non-PRA based) to ensure adequate capacity, integrity, and security with respect to those systems

³⁰³ See Crypto Council Letter at 6.

³⁰⁴ See Proposing Release at Table VIII.8 and note 1120.

³⁰⁵ See *supra* section V.C.2.a.

³⁰⁶ See Proposing Release at 15629.

³⁰⁷ See *id.* at 15629.

³⁰⁸ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

³⁰⁹ See *id.*

³¹⁰ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

³¹¹ See Proposing Release at 15630 (citation omitted).

³¹² See *id.*

³¹³ Today, based on public Form ATS-N filings, no NMS Stock ATS operates pursuant to this exclusion.

³¹⁴ See *id.*

³¹⁵ See *id.*

³¹⁶ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

³¹⁷ See Proposing Release at 15630–31.

³¹⁸ See *id.* at 15631.

that support order entry, order routing, order execution, transaction reporting, and trade comparison. To the extent that a New Rule 3b–16(a) System trades in crypto assets that are corporate debt securities or municipal securities, and does not currently meet the standards under the proposed rule, they would incur compliance costs as described in the Proposing Release. The Commission lacks information that would enable it to reasonably estimate these costs, but believes that the compliance costs associated with Rule 301(b)(6) would be significantly less than those of Regulation SCI.³¹⁹ Furthermore, the Commission estimates that none³²⁰ of the New Rule 3b–16(a) Systems trading crypto asset securities would meet the applicable volume requirements and be subject to the requirements of Rule 301(b)(6).

vi. Costs Associated With Regulation SCI

New Rule 3b–16(a) Systems that meet certain volume thresholds and trade crypto asset securities that are (i) NMS stock or (ii) equity securities that are not NMS stocks, would incur compliance costs (non-PRA based costs) as SCI entities, including both initial and ongoing costs. The Commission believes that, to the extent that there exist New Rule 3b–16(a) Systems trading crypto asset securities that are equity securities, including NMS stocks, the costs described in the Proposing Release³²¹ would be a lower bound on cost incurred. The Commission estimates no³²² New Rule 3b–16(a) Systems that trade crypto asset securities would be subject to Regulation SCI.

The Commission also believes that some New Rule 3b–16(a) Systems' participants required to participate in the testing of business continuity and disaster recovery plans would incur Regulation SCI-related connectivity costs. The Commission believes that \$10,000 apiece would be a lower bound on such costs.³²³ However, because the

Commission estimates that no New Rule 3b–16(a) Systems that trade crypto asset securities would be subject to Regulation SCI, no such participants would incur these costs.

The Commission believes that the costs to comply with Regulation SCI discussed above would also fall on third-party vendors employed by New Rule 3b–16(a) Systems to provide services used in their SCI systems.³²⁴ To the extent that a vendor provides services to an ATS that trades crypto asset securities that are equity securities, including NMS stocks, it would incur these costs. However, because the Commission estimates that no New Rule 3b–16(a) Systems that trade crypto asset securities would be subject to Regulation SCI, no such vendors would incur these costs.

b. Indirect Costs

The Commission believes that the Proposed Rules could result in indirect costs for market participants and certain New Rule 3b–16(a) Systems that trade crypto asset securities.³²⁵

i. General Indirect Costs

In the following discussion, the Commission is relying on the analysis in the Proposing Release to form the basis for our discussion of these costs. The Commission preliminarily believes that actual costs may be higher than these discussions express, due to the technology and operations utilized in trading crypto asset securities. The Commission is unable to provide a discussion as to how much higher costs may be, but preliminarily believes that the discussions below provide a useful lower bound.

The public disclosure requirements of Form ATS–N under the proposal could generate indirect costs for some subscribers by causing New Rule 3b–16(a) Systems that trade NMS stock to stop sharing information that they might currently offer to only some subscribers.³²⁶ Form ATS–N would require NMS Stock ATSs to publicly disclose any platform-wide order execution metrics that they share with any subscriber. To avoid publicly disclosing this information, an ATS might stop sharing the information with subscribers. The trading costs of subscribers that currently use this information to help make trading decisions would likely increase if the information is no longer available to

them. To the extent that a subscriber trades using a New Rule 3b–16(a) System that trades crypto assets that are NMS stocks and receives such information, the subscriber would incur these indirect costs. As discussed in the Proposing Release, the Commission anticipates that this risk might be low due to commercial incentives that may induce ATSs to continue disclosing this information.³²⁷

The Commission believes that the public disclosure of Form ATS–N would generate indirect costs, in the form of transfers, for some subscribers of New Rule 3b–16(a) Systems that trade NMS stock who might currently have more information regarding some ATS features, such as order priority and matching procedures, than other subscribers.³²⁸ The public disclosure of these features would reduce informed subscribers' information advantage over other subscribers on such New Rule 3b–16(a) Systems and increase their trading costs. In this regard, the Commission recognizes that this effect would be a transfer to those subscribers who would receive the proposed information, from those subscribers who currently exclusively receive such information. To the extent that a New Rule 3b–16(a) System trades in crypto asset securities that are NMS stocks, such transfers might occur among their subscribers.

Some New Rule 3b–16(a) Systems that trade NMS stock would experience indirect costs from the public disclosure of Form ATS–N to the extent that this form would reveal information to competitors.³²⁹ If such a New Rule 3b–16(a) System in part relies on certain operational characteristics (e.g., order types, trading functionalities) to attract customer order flow and generate trading revenues, it is possible that the public disclosure of these characteristics in Form ATS–N would make it easier for other trading venues to adopt the operational characteristics, which would lower trading volume and reduce revenue of the disclosing New Rule 3b–16(a) System. Such costs to the disclosing entity would constitute transfers to competing ATSs rather than a net cost to the market. To the extent that a New Rule 3b–16(a) System trades any crypto assets that are NMS stocks, it might experience these transfers described in the Proposing Release. Furthermore, because some New Rule 3b–16(a) Systems involve systems which run with an on-chain

³¹⁹ See *id.* at 15631 n.1138 and accompanying text.

³²⁰ The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1.

³²¹ See *id.*; section VIII.C.2.a.vi.

³²² The Commission is uncertain as to the accuracy of this estimate because we lack sufficient data on the full set of securities traded in crypto asset markets. See *supra* section V.B.1. See also Securities Exchange Act Release No. 97143 (Mar. 15, 2023), available at <https://www.sec.gov/rules/proposed/2023/34-97143.pdf>. The Commission encourages commenters to review that Regulation SCI proposal to determine whether it might affect their comments on this Reopening Release.

³²³ See *id.*

³²⁴ See *id.* at 15632.

³²⁵ See *infra* section V.C.3 for discussions about the economic effects of the Proposed Rules specifically pertaining to competition, efficiency, and capital formation.

³²⁶ See *id.*

³²⁷ See *id.*

³²⁸ See *id.*

³²⁹ See *id.*

component,³³⁰ and therefore may operate using code that is, at least in part, publicly viewable, it is possible that the adverse impact of these disclosures may be reduced, for such systems. However, because this code is not disclosed in a standardized or human-readable form, the Commission believes that this reduction of impact may not be significant.

The Commission believes that the risk of these transfers is low because it is not likely the responsive information to Form ATS-N, as proposed to be amended, would include detailed enough information regarding operational facets such that the public disclosure of the information would allow another ATS to replicate the functionality to the extent it would adversely affect the competitive position of the disclosing ATS in the market.³³¹

The Commission believes that New Rule 3b-16(a) Systems that trade NMS stocks (including NMS Stock ATSs that would no longer be excluded from Fair Access compliance under Rule 301(b)(5)(iii) as proposed), equity securities that are not NMS stocks, corporate debt securities, or municipal securities could indirectly experience costs in the form of lost revenue if they meet or exceed the Fair Access Rule thresholds and need to alter their business model to comply with the requirements of the Fair Access Rule.³³² To the extent that any crypto asset securities fall into these categories, the Commission believes that a New Rule 3b-16(a) System that trades in them, including NMS Stock ATSs that trade crypto asset securities that are NMS stocks and would no longer be excluded from Fair Access compliance under Rule 301(b)(5)(iii) as proposed, might incur these costs discussed in the Proposing Release.

As discussed in the Proposing Release,³³³ the Commission believes that market participants could incur indirect costs related to New Rule 3b-16(a) Systems that trade NMS stocks (including NMS Stock ATSs that would no longer be excluded from Fair Access compliance under Rule 301(b)(5)(iii) as proposed), equity securities that are not NMS stocks, corporate debt securities, or municipal securities, being subject to the Fair Access Rule. To the extent that a New Rule 3b-16(a) System (including NMS Stock ATSs that would no longer be excluded from Fair Access

compliance under Rule 301(b)(5)(iii) as proposed) trades in crypto assets that fall into any of the above categories of security, market participants that trade on such platforms might experience transfer costs through the same chain of events described in the Proposing Release.

Compared to larger and more established New Rule 3b-16(a) Systems trading in crypto assets, it is possible that younger New Rule 3b-16(a) Systems rely more on providing catered services, including more advantageous access, to specific clients or a clientele, in order to grow their businesses.³³⁴ If being subject to the Fair Access Rule prohibits these New Rule 3b-16(a) Systems from doing this, these New Rule 3b-16(a) Systems could restrict trading on their systems when they are close to meeting the volume thresholds under the Fair Access Rule.³³⁵ As in the Proposing Release, to the extent that the market for trading services is competitive, the Commission believes this may not result in a significant increase in trading costs for market participants, because the order flow that was being sent to those New Rule 3b-16(a) Systems would likely be absorbed and redistributed amongst other New Rule 3b-16(a) Systems or other venues.³³⁶ However, if a New Rule 3b-16(a) System that is the sole provider of a niche service limits the trading in certain securities to avoid being subject to the Fair Access Rule, it could be more difficult for some market participants to find an alternative trading venue for that niche service, which would result in a larger increase in trading costs.³³⁷ To the extent that a New Rule 3b-16(a) System trades in crypto assets that are securities, the Commission expects these costs to apply to such a New Rule 3b-16(a) System as described in the Proposing Release.

As discussed in the Proposing Release,³³⁸ the Proposed Rules apply certain aggregate volume thresholds to the Fair Access Rule in the markets for corporate debt and municipal securities and equity securities, which could also cause market participants to incur similar indirect costs. If the aggregate volume of ATSs operated by a common broker-dealer or operated by affiliated broker-dealers approaches the Fair Access volume thresholds, then the operators could restrict trading in one or more securities on their systems in order to avoid being subject to the

requirements of the Fair Access Rule.³³⁹ Market participants could also incur indirect costs from the Proposed Rules to apply certain aggregate volume thresholds to the Fair Access Rule if it causes a broker-dealer or affiliated broker-dealers that operate multiple ATSs to shut down one or more of their smaller ATSs in order to avoid triggering the Fair Access threshold.³⁴⁰ This could cause market participants that subscribed to one of the shutdown platforms to incur search costs to find another venue to trade on.³⁴¹ To the extent that there exist crypto assets that fall into one of the above asset classes, and are traded on ATSs, the Commission believes that these indirect costs could apply as discussed in the Proposing Release.

As discussed in the Proposing Release,³⁴² the Commission believes that market participants could incur indirect costs related to applying Regulation SCI to New Rule 3b-16(a) Systems in the market for crypto asset equity securities and applying Rule 301(b)(6) to New Rule 3b-16(a) Systems in the market for crypto asset corporate debt securities or municipal securities. If such a New Rule 3b-16(a) System is close to satisfying the volume thresholds of Regulation SCI or Rule 301(b)(6), it could limit the trading in certain securities on its systems to stay below the volume thresholds in order to avoid being subject to Regulation SCI or Rule 301(b)(6).³⁴³ As discussed above, the Commission believes that in general this would not necessarily lead to higher trading costs, but to the extent this occurs for a New Rule 3b-16(a) System that is the sole provider of a niche service, some market participants would incur higher trading costs.

Additionally, in order to stay below the volume thresholds under Regulation SCI or Rule 301(b)(6), a New Rule 3b-16(a) System could break itself up into smaller New Rule 3b-16(a) Systems.³⁴⁴ If this results in its subscribers changing their administrative and operational procedures (e.g., means of access, connectivity, order entry), the subscribers would incur costs associated with making those administrative and operational changes to utilize the ATS(s), or otherwise incur search costs to find another venue to trade.³⁴⁵ To the extent that there exist crypto assets that fall into one of the applicable asset

³³⁰ For example, the system may be run in part by smart contracts deployed on a blockchain. See *supra* section V.B.1.a for additional discussion of such systems.

³³¹ See *id.*

³³² See *id.*

³³³ See Proposing Release at 15633.

³³⁴ *Id.*

³³⁵ *Id.*

³³⁶ *Id.*

³³⁷ *Id.*

³³⁸ *Id.*

³³⁹ *Id.*

³⁴⁰ *Id.*

³⁴¹ *Id.*

³⁴² *Id.*

³⁴³ *Id.*

³⁴⁴ *Id.*

³⁴⁵ *Id.*

classes, and are traded on New Rule 3b–16(a) Systems, the Commission believes that these costs could apply as discussed in the Proposing Release.³⁴⁶

ii. Costs Associated With the Proposed Functional-Test-Based Exchange Definition

The proposed functional-test-based exchange definition could result in increased legal costs for market participants. Specifically, the Proposed Rules could cause market participants to engage in a more thorough and expansive compliance review of any changes in operations out of concern that a large range of activities might meet the proposed definition of exchange. This approach could also increase uncertainty about the application of the Proposed Rules, which in turn may further increase legal costs.

In addition, market participants would decrease and slow down the development of new products and technologies. Such development may depend on the ability to rapidly develop and deploy new systems. The need for more extensive compliance review, uncertainty about the application of the Proposed Rules,³⁴⁷ and concerns that new systems may inadvertently meet the definition of exchange³⁴⁸ could make such a process more difficult. Market participants may come to regard some areas of new product development as inherently risky, because of the potential for regulatory costs, and decide to stop engaging in them.

One commenter states that the uncertainty caused by the expanded definition of exchange in the Proposed Rules “. . . is concerning and likely to stifle innovation.”³⁴⁹ Another commenter states that the uncertainty of exposure to enforcement actions might stifle innovation.³⁵⁰ While the Commission does not believe that innovation will be impossible under the Proposed Rules, we acknowledge that there could be less innovation as a result of the uncertainty and compliance

costs associated with the broad formulation of the Proposed Rules.

iii. Costs Associated With Discontinuation of Non-Security-for-Security Pairs Trading

Many crypto asset securities are not traded in exchange for fiat currencies but are instead traded for other crypto assets. To the extent that a New Rule 3b–16(a) System enables the trading of crypto asset securities for crypto assets that are not securities, that entity may also incur the cost of having to stop enabling such trades, and the resulting loss of revenue. Because pairs trading is common in crypto asset markets, this cost may be significant for some New Rule 3b–16(a) Systems. These costs may be mitigated if affected New Rule 3b–16(a) Systems are able to arrange for a fiat currency market for the relevant crypto asset security, and a separate fiat currency market in a separate entity for the non-security crypto asset, so that it can arrange for a pair of trades to take place that closely replicates the desired trade. For systems that wish to complete the transaction entirely on-chain, such arrangements are likely to be impossible, and this mitigation would therefore not apply to them.

Furthermore, because existing national securities exchanges and ATSs currently do not facilitate trading between crypto asset securities and non-security crypto assets, the loss of New Rule 3b–16(a) Systems as platforms for engaging in such trades may be a significant cost for market participants in crypto asset markets. The inability to complete such trades using New Rule 3b–16(a) Systems could require market participants to switch to other means of trading, such as bilateral voice trading. To the extent such trading methods are not the market participant’s preferred method, this would increase trading costs. Market participants may be able to mitigate these costs if New Rule 3b–16(a) Systems are able to provide cash markets for the relevant crypto assets, and arrange for a pair of trades that would closely replicate the desired exchange.

c. Costs for Platforms Using Certain Technologies

The Commission preliminarily believes that there may be costs associated with complying with the Proposed Rules for New Rule 3b–16(a) Systems that would perform exchange activities using certain technologies that are used in the market for crypto asset trading services.³⁵¹ The Commission is

unable to provide an exact estimate or quantitative range for these compliance costs, because the Commission lacks sufficient detail about the variety of platforms whose systems use these technologies, or their options to comply. In the following subsections the Commission provides a range of compliance costs related to responsibilities for compliance, as well as a discussion of the factors associated with certain technologies that might increase the compliance costs of certain specific requirements. It is possible that operating a system that uses these technologies to perform exchange activities under the Proposed Rules in a manner that complies with applicable regulations could significantly reduce the extent to which the system is “decentralized” or otherwise operates in a manner consistent with the principles that the crypto asset industry commonly refer to as “DeFi.”

i. Initial Costs of Compliance

The Commission preliminarily believes that some New Rule 3b–16(a) Systems that trade crypto asset securities may incur greater initial costs to come into compliance, due to these systems’ use of certain technologies that, for example, allow them to automate portions of their operations using smart contracts deployed on an underlying blockchain.³⁵² The Commission believes that there are a range of such technologies, or a range of systems’ use of such technologies, that would entail differing initial costs, and has prepared a description of two scenarios that we preliminarily believe covers the range of costs likely to occur.³⁵³ These scenarios consist of an example of a system that would likely have the lowest possible costs of compliance for a system using such technologies, and an example of a hypothetical system in which the cost of compliance is likely to be the highest possible. The Commission preliminarily believes that the initial compliance costs of the typical New Rule 3b–16(a) System that performs exchange

autonomous nature of Decentralized Protocols, and the lack of an intermediary who could serve as a broker-dealer affiliate,” the Proposed Rules would impose significant burdens that had not been considered. See Blockchain Association Letter II at 8. The Commission believes that the general costs described throughout section V.C.2 as applicable, and the specific costs discussed in this subsection, provide the necessary consideration of such burdens.

³⁵² These technologies include, but are not limited to, system architectures that permit RFQ systems to be run partly or wholly on-chain using smart contracts.

³⁵³ Providing an estimate corresponding to every hypothetically possible design of systems using such technologies would be impractical.

³⁴⁶ See *id.*

³⁴⁷ One commenter agrees with assessment. See DARLA, GBC, and Global DCA Letter at 6 (stating that the broad language in the Proposed Rules “. . . would likely cause chilling effects and deter further innovation and activity among early-stage technology companies due to uncertainty over which technology services would satisfy the new and expanded definition of exchange.”)

³⁴⁸ One commenter expresses such concerns, stating “[w]e have significant concern that a lack of a specific definition for such a broadly explained term will cause ongoing confusion and, as a result, increase the potential for a market participant to inadvertently run afoul of the obligations set forth in the Proposals.” See Chamber Letter at 4.

³⁴⁹ See McHenry/Huizenga Letter at 2.

³⁵⁰ See LexPunK Letter at 2.

³⁵¹ One commenter on the Proposing Release states that due to the “decentralized and

activities using such technologies would fall in between the costs associated with these two examples. The Commission requests comment on the issue of compliance costs of New Rule 3b–16(a) Systems that operate in this manner.

At the low end of the range, the Commission preliminarily believes a New Rule 3b–16(a) System that performs exchange activities using these technologies may incur similar costs to those of a New Rule 3b–16(a) System that does not use such technologies.³⁵⁴ This lower bound is based on consideration of a hypothetical system using such technologies in a way that the Commission believes would tend to present the least difficulty in complying with the Proposed Rules. This low-cost hypothetical case consists of a New Rule 3b–16(a) System that would automate a portion of its operations using a set of smart contracts³⁵⁵ that it developed and deployed itself; would have the sole right and means³⁵⁶ to make alterations to the deployed smart contracts; would receive any fees charged by the smart contracts, as well as any fees collected in connection to the service through other means; and would maintain all off-chain operations that might be necessary to run the service.

In this case, the Commission believes the responsibility to bring such a New Rule 3b–16(a) System into compliance may fall to this firm and that under such circumstances, the cost of compliance would be similar to that of a New Rule 3b–16(a) System that does not automate any portion of its operations using a smart contract, as detailed in sections V.C.2.a and V.C.2.b above. In particular, any alterations that may need to be made to the smart contracts connected with the system in order to bring it into compliance with the relevant regulations could be implemented in a manner similar to alterations made to software generally, due to the firm's control over those smart contracts.

The Commission preliminarily believes that a New Rule 3b–16(a) System that performs its exchange activities in part using smart contracts, but that is not set up in the manner described above, may have significantly higher costs of compliance than the lower bound. The Commission is unable to provide a quantitative estimate of an upper bound because the Commission

lacks information on the costs of the activities which may be necessary for more complex systems using such technology to come into compliance.³⁵⁷ The Commission preliminarily believes that a reasonable case, in which the highest possible compliance costs would result, would be a New Rule 3b–16(a) System that performs exchange activities in part using smart contracts, but in which control over changes to the smart contracts is given to a token-based voting mechanism, which may use governance tokens as discussed above,³⁵⁸ and where the tokens are dispersed among a large number³⁵⁹ of investors.

In this scenario, the Commission believes that the holders of the governance tokens, or other tokens that carry voting rights, may bear the responsibility of ensuring the compliance of the system. In such a scenario, the Commission believes that the holders of the relevant tokens could choose to form an organization or association, or to designate a member of a group of persons, which would be responsible for undertaking the activities necessary to bring the New Rule 3b–16(a) System into compliance with Regulation ATS.

The costs to produce such an organization or association, or to designate a member of a group of persons may involve the effort required on the part of the relevant token holders to coordinate and reach agreement on the design of such an organization,³⁶⁰ legal expenses associated with the design and legal registration of the entity, or costs involved with designating a member of the group of persons responsible for ensuring compliance. If the relevant tokens of a smart contract entitle their holders to a share of transaction fees paid to the

smart contract, or some other form of return, these expenses could be paid using such returns; otherwise, the holders of the tokens themselves may have to supply the necessary funds.

Also, because changes to the smart contracts would require a vote, the Commission preliminarily believes that the process of implementing any changes to the smart contracts that are required for compliance may be more costly than in the case where a single firm holds all control.

It is possible that, when it becomes necessary for the holders of relevant tokens to form an organization or association, or to designate a member of a group of persons, some of those holders might choose to sell their tokens to avoid taking on regulatory burdens, which the Commission expects would ultimately result in there being fewer holders of the governance tokens. The Commission does not have the data it would need to estimate the extent to which this would happen, but to the extent that this process significantly reduces the number of holders of a smart contract's governance tokens, the Commission expects that the costs of compliance for such a smart contract would fall between the two extremes already discussed.

The Commission believes that there is a third configuration of smart contract management which may have costs either inside the range described above or outside this range. This is the configuration entailed by a New Rule 3b–16(a) System that would automate all of its operations via smart contracts that are immutable. This immutability makes it impossible to alter the code of a smart contract using the typical processes of a public blockchain once it has been deployed, even by the entity responsible for its deployment and responsible for bringing such a system into compliance. However, the Commission understands that it is possible for the miners or validators of a smart contract's underlying blockchain to effect a change to a blockchain through, for example, a fork that would impact interactions with the immutable smart contract, and that this capacity has already been used on rare occasions.³⁶¹

In this case, the costs would depend on the specific factual circumstances, including, among other considerations, the activities performed by persons that, for example, could fund or code changes to the blockchain, or validate or mine

³⁵⁴ See *supra* section V.C.2.a and V.C.2.b covering these costs.

³⁵⁵ See *supra* section V.B.1.a discussing smart contracts for DeFi platforms and their management.

³⁵⁶ Possession of the sole means to make alterations to a smart contract could consist of a design in which changes may be made to the smart contract's code by using a unique private key, and where that key is in the sole possession of the firm.

³⁵⁷ In particular, the Commission does not have examples of systems using such technology that are registered with the Commission as an exchange or as an ATS. See *supra* section V.B.2.

³⁵⁸ See *supra* note 15.

³⁵⁹ "Large" could mean millions of retail investors, each with some share in the vote determined by the number of tokens they hold. One prominent DeFi platform has approximately 755 million outstanding tokens, each with a share in governance votes. See *Curve DAO*, CoinGecko, available at <https://www.coingecko.com/en/coins/curve-dao-token>. The Commission understands that, while protocols may have a large number of outstanding governance tokens, control of those tokens (or their voting rights) may be held by a limited number of entities.

³⁶⁰ The Commission believes that this may be a difficult undertaking, given the potentially large number of individuals and entities that would have to reach agreement. Such entities may also lack the sophistication or resources required to easily navigate the process of forming such an organization or association and coming into compliance.

³⁶¹ See, e.g., <https://spectrum.ieee.org/ethereum-blockchain-forks-to-return-stolen-funds>, discussing how miners of a major public blockchain "forked" the chain to change an undesired result.

the transactions, or some combination thereof.³⁶² It is possible that in this case costs may exceed the upper bound described above.³⁶³ The Commission is uncertain as to the exact size of the costs that may be involved and requests comment on the issue.

In addition, the Commission preliminarily believes that in a circumstance in which only validators or miners are able to stop effectuating transactions that trigger the automated operations of a smart contract, the validators or miners may discontinue processing transactions resulting from trading interest matched by the New Rule 3b–16(a) System. In the event that validators or miners choose to discontinue processing such transactions, there may be costs to market participants associated with arranging to direct their trading interest to other venues. If instead miners or validators incur costs by choosing to continue processing transactions of such a system, the Commission preliminarily believes that they may pass on some of these costs to users, as described above.³⁶⁴ It may also be the case that even if the miners or validators as a whole opt to effect a change to a blockchain or smart contracts, some miners or validators could choose to cease processing transactions of a blockchain.

The Commission is not aware of a specific example of a New Rule 3b–16(a) System which automates all of its operations by means of immutable smart contracts. However, the Commission has limited information on such systems and requests comment on this issue.

One commenter describes “practical considerations” that it believes might mean that it was “not possible” for certain systems, which they term “Decentralized Exchanges” or “DEXes,” to comply with the Proposed Rules.³⁶⁵ These considerations include the fact that, once launched, smart contracts “are not controlled or intermediated by any person or group of persons,”³⁶⁶ and in particular, that responsibility for the system could not be attributed to the persons who created or deployed the smart contract because “once deployed, the DEX typically cannot be significantly altered or controlled by any such persons.”³⁶⁷

The Commission preliminarily believes that our analysis adequately addresses these concerns. Specifically, smart contracts can be controlled after deployment, however, in some instances, the functions of miners or validators may be needed to exert such control. The discussion above provides a range of possible scenarios that have different possible costs and may result in different entities being affected, but the Commission believes that these costs are not impossible to pay.³⁶⁸

Another commenter states that the compliance burdens imposed by the Proposed Rules “may simply be insurmountable due to the incompatibility of the decentralized nature of Decentralized Protocols with the requirement for a centralized, regulated intermediary imposed by the ‘exchange’ definition.”³⁶⁹ This commenter also states that “it is unclear how [persons related to Decentralized Protocols] could achieve compliance with the relevant regulations.”

The Commission acknowledges that, in the case of New Rule 3b–16(a) Systems that use the technologies discussed above to automate portions of their operations using smart contracts, validators and miners may choose to take actions to form a single entity, like an organization, and register with the Commission. The Commission preliminarily believes that our analysis, given above, adequately addresses these concerns of control over the smart contract, which entities may incur the costs of compliance, and how large those costs may be. However, the Commission acknowledges that these costs may cause some or all of the entities that make available such a system to cease the activities that make them responsible for the system’s compliance, potentially resulting in the system’s exit from the market.

Another commenter raises concerns about potential impossibility of limiting certain systems’ activity to non-securities trading in the event that the creators of the system wish to avoid having to comply with federal securities laws, stating that it would be impossible for any “organization, group or association” to ensure no securities are made available for trading on such a system.³⁷⁰

The Commission acknowledges that there may be existing New Rule 3b–

16(a) Systems, with smart contracts designed to permit anyone with access to the blockchain to begin trading in any crypto asset supported by the blockchain, including those that are securities. In such circumstances, the smart contract(s) may have to be altered in order to ensure that the system does not trade securities. As discussed above, this could be achieved either by any organization, association, or group of persons that can make changes to the smart contract, or by the miners or validators of the relevant blockchain in the event that the smart contracts are immutable.

Because of the easily accessible nature of many public blockchains, the Commission preliminarily believes that construction, deployment, and maintenance of a New Rule 3b–16(a) System that uses the technologies described above could be achieved by groups of persons who are unsophisticated participants in financial markets and may not appreciate the significance of maintaining a system that meets the definition of exchange as proposed to be amended and therefore of having obligations to comply with the relevant securities laws. The Commission believes that the costs of compliance for such persons would be higher because of their lack of experience with federal securities laws. Some such persons may choose to discontinue their systems rather than bear the costs of compliance.

ii. Unique Costs for Systems Using Certain Technologies

The Commission preliminarily believes that certain New Rule 3b–16(a) Systems may have difficulties in complying with some rules. The New Rule 3b–16(a) Systems which may have such difficulties are systems which use technologies that, for example, allow them to automate portions of their operations using smart contracts deployed on an underlying blockchain. The rules for which there may be such difficulties include Regulation SCI, as well as the Fair Access Rule of Regulation ATS. Systems that use these technologies may have difficulties in complying with these rules when compared with platforms that do not use such technologies. For example, there may be difficulties in ensuring the compliance of SCI systems that run using DLT, such as smart contracts.

One commenter states that the realities of decentralization make compliance “impracticable” for certain systems, which the commenter terms “DeFi.”³⁷¹ This commenter questioned

³⁶² See *supra* notes 75–80 and accompanying text.

³⁶³ The Commission preliminarily believes that costs may be higher for reasons that might include technical difficulties that would not be encountered when bringing a Rule 3b–16(a) System based on a mutable smart contract into compliance.

³⁶⁴ See *supra* section V.C.2.a.

³⁶⁵ See Coinbase Letter at 7.

³⁶⁶ See *id.* at 6.

³⁶⁷ *Id.*

³⁶⁸ As discussed above, these costs may be high enough that the group of persons responsible for the exchange choose to exit the market for crypto asset security trading services rather than continue operations. See *infra* section V.C.3.a (discussing entry and exit as result of compliance costs).

³⁶⁹ See Blockchain Association Letter II at 8.

³⁷⁰ See Delphi Digital Letter at 7.

³⁷¹ See a16z Letter at 14.

what entity or group of entities involved in the operation of such a system would be responsible for complying with Regulation ATS,³⁷² and additionally stated that even if this were clear, it was not obvious that this party would have the necessary information to fulfill that responsibility.

The Commission discusses above that a DLT-based market place or facilities for bringing together buyers and sellers of securities is typically maintained or provided by a single organization but a combination of the actors can constitute, maintain, or provide, together, a market place for securities as a group of persons, which would be considered an exchange under section 3(a)(1) of the Exchange Act and Rule 3b-16 thereunder.³⁷³ The Commission acknowledges that there may be some existing systems of this type designed in such a way that the information necessary to comply with the disclosure requirements of Regulation ATS is not possessed by any singular entity. In such a case, the Commission believes that the entities responsible for compliance may find it necessary to form an organization or designate a member of the group of persons to be responsible for compliance, as discussed above,³⁷⁴ and that such an organization or member of the group of persons would be capable of collecting the information necessary to comply. In cases of a system using DLT, where some or all of this information is not already possessed by entities responsible for compliance, the manner in which the system functions may have to be altered to make compliance with registration requirements possible. As discussed above,³⁷⁵ this could be achieved by the organization or group of persons responsible.

The Commission believes that access to New Rule 3b-16(a) Systems that make extensive use of DLT in their operations may happen through processes not common to systems that do not make extensive use of such technology. In this case, such a New Rule 3b-16(a) System may have significant challenges in ensuring compliance with the Fair Access Rule of Regulation ATS.

The challenges that may be faced by New Rule 3b-16(a) Systems that make extensive use of DLT in complying with Regulation ATS and Regulation SCI may impose significant costs. It is possible that these costs may cause some such systems to exit the market, or to

restructure their technology to facilitate a lower compliance cost. In addition, compliance with the applicable regulations may result in significant alteration to the manner in which such systems operate.

3. Efficiency, Competition, and Capital Formation

a. Competition

The Commission believes that the Proposed Rules could affect competition. The Proposed Rules could promote competition by requiring ATSS and New Rule 3b-16(a) Systems to operate on a more equal basis in the market for crypto asset securities trading services. The Fair Access Rule of Regulation ATS could promote competition in the market for trading services in the applicable securities markets.³⁷⁶ Furthermore, the public disclosure of Form ATS-N could promote competition and incentivize innovation in the market for trading services in the applicable securities markets.³⁷⁷

Also, the costs of the Proposed Rules associated with, among other things, altering business practices to come into compliance, becoming a broker-dealer, filing Form ATS or Form ATS-N as applicable, and complying with the Fair Access Rule of Regulation ATS and Regulation SCI as applicable could result in higher barriers to entry and reduction in the rate of adoption of new technologies in the market for crypto asset securities trading services. Furthermore, the requirements of broker-dealer registration, Form ATS, and Form ATS-N could reduce operational flexibility. The Commission acknowledges that this reduction in operational flexibility could, under certain circumstances, make it more difficult to innovate. That said, in addition to the other benefits discussed above,³⁷⁸ the Commission believes that the proposed amendments would foster competition by requiring current ATSS and New Rule 3b-16(a) Systems to operate on a more equal basis in the market for trading services. This, in turn, would help promote innovation. To the extent that the Proposed Rules result in significant costs for New Rule 3b-16(a) Systems, these systems could exit the market for crypto asset securities trading services. In particular, to the extent that New Rule 3b-16(a)

Systems using certain technologies incur higher costs,³⁷⁹ there may be a higher chance of these New Rule 3b-16(a) Systems exiting the market. As in the Proposing Release, the Commission lacks certain information necessary to quantify the extent to which entities that otherwise would seek to operate as a trading venue in the market for crypto asset securities would be dissuaded from doing so.

However, the Commission believes that these adverse effects on competition could be mitigated to some extent. To the extent that the market for crypto asset securities trading services is competitive and that a limited number of New Rule 3b-16(a) Systems exit the market, the adverse effect on overall competition among trading platforms would be mitigated to some extent because the order flow that was being sent to exiting New Rule 3b-16(a) Systems would likely be absorbed and redistributed amongst other New Rule 3b-16(a) Systems or systems that meet the existing criteria of Rule 3b-16(a).³⁸⁰

One commenter states that regulating “DeFi protocols or CPSs (or related parties)” as exchanges might “operate as a ban” due to the inability of those entities to comply with registration requirements.³⁸¹ Another commenter also states that the proposed amendments might amount to a “back-door prohibition of a vast swathe of actual and potential peer-to-peer finance protocols” due to the inability for some entities to feasibly comply.³⁸² Another commenter states that “subjecting DeFi systems to a regulatory regime that they cannot comply with” could force them into extinction.³⁸³

The Commission acknowledges that the costs of compliance may be greater for market participants that trade crypto asset securities than for those that trade non-crypto asset securities. However, the Commission believes that the additional costs of compliance experienced by market participants that trade crypto asset securities will vary depending on the technologies these participants use to perform exchange activity. The Commission lacks some information necessary to precisely estimate the degree to which these

³⁷⁹ See *supra* section V.C.2.c.

³⁸⁰ To the extent that the market for trading services is competitive, the adverse effect on competition may not result in a significant increase in trading costs for market participants because the order flow that was being sent to those exiting New Rule 3b-16(a) Systems would likely be absorbed and redistributed amongst other New Rule 3b-16(a) Systems or systems that meet the existing criteria of Rule 3b-16(a).

³⁸¹ See DeFi Education Fund Letter at 8.

³⁸² See Wells Letter at 1.

³⁸³ See a16z Letter at 11.

³⁷² See *id.* at 3, 14.

³⁷³ See *supra* section II.B.

³⁷⁴ See *supra* section V.C.2.c.i.

³⁷⁵ See *supra* section V.C.2.c.i.

³⁷⁶ See *infra* section V.C.3.a.i.e. for discussion about the impact of the Fair Access Rules on competition.

³⁷⁷ See *infra* section V.C.3.a.i.f for discussion about the impact of public disclosure via Form ATS-N under Rule 304 of Regulation ATS on competition.

³⁷⁸ See *supra* section V.C.1

market participants may experience greater costs of compliance, but expects that such costs would fall within a range. At the lower end of the range, the Commission believes that market participants that use technologies similar to those commonly used in the market for traditional securities, such as off-chain RFQ systems, will also incur similar costs of compliance. At the other end of the scale, the Commission expects that costs of compliance may be significantly higher for market participants that extensively or exclusively use DLT, such as smart contracts, to perform exchange activities. Accordingly, while the Commission acknowledges that the Proposed Rules could raise barriers to entry into the market for crypto asset security trading services, the Commission believes that these barriers would be most significant for market participants that perform exchange activity in a way that extensively or exclusively uses DLT. The Commission additionally believes that for market participants that perform exchange activity using non-DLT methods, these barriers would likely be comparable to those experienced by participants in the market for traditional securities trading services.

One commenter states that the cost of compliance and consequences of non-compliance would have the effect of “chilling, restricting or prohibiting outright the creation of code for peer-to-peer digital asset trading or websites that provide access to information about those protocols.”³⁸⁴ Another commenter states that, to the extent that “adoption of the Proposal will cause the developers of code and smart contracts related to a Decentralized Protocol, or the maintainers of online websites that merely enable access to a Decentralized Protocol, to be captured under the ‘exchange’ definition,” the proposal might cause such persons to cease their activities, “dealing a death blow to new activity in this sector.”³⁸⁵

The Commission does not believe that the amended definition of exchange would include the entities responsible for these “Decentralized Protocols”, except to the extent that they also engage in activity that meets the definition of exchange as proposed to be amended in the Proposed Rules.³⁸⁶ While the Commission acknowledges that the Proposed Rules may impose compliance costs, the Commission does not believe that the circumstances in which such entities would incur

compliance costs would differ from the circumstances in which entities in non-crypto asset securities would incur compliance costs, namely, at the point at which such an entity engages in activity that meets the definition of exchange as proposed to be amended. However, the Commission acknowledges that because the compliance costs for entities that trade crypto asset securities may be higher than for those that trade non-crypto asset securities,³⁸⁷ the impact of those costs on innovation in crypto asset securities may be greater.

One commenter stated that the Proposed Rules might “drive financial innovation offshore.”³⁸⁸ This commenter also added that the Proposed Rules “would preclude the development in the U.S. of many software tools and applications, including, but not limited to, DeFi protocols.”³⁸⁹

The Commission acknowledges that, to the extent that the Proposed Rules impose compliance costs on entities responsible for innovation, such costs may affect their decision on which jurisdiction they choose to operate their business in. However, the Commission believes that these costs may be mitigated. The Commission believes that, at the lower end of this range, an entity that engages in the development of new technologies in the market for crypto asset trading services would incur compliance costs only once its innovative technology allows investors to trade securities. If such an entity develops its technology in an environment that does not enable investors to trade securities, such as a testnet,³⁹⁰ the Commission does not believe it would incur compliance costs in connection with these activities. Additionally, while the Commission lacks certain data that would enable the Commission to precisely estimate the compliance costs that an innovative entity would face once its innovative technology enables investors to trade crypto asset securities, it believes that these costs would lie within a range. At the lower end of this range, the Commission believes that a market participant that uses innovative technology similar to technology that is

used in traditional financial markets would also incur similar compliance costs. At the other end of the scale, the Commission expects that compliance costs would be largest for entities developing technologies that rely heavily on DLT, such as smart contracts, to perform exchange activity, and have minimal or no off-chain components. The Commission additionally believes that many systems that would experience these higher costs could be restructured to make less extensive use of these novel technologies, although this could significantly reduce the extent to which these systems operate in accordance with “DeFi” principles.

One commenter states their belief that the Proposed Rules would cause platforms to either “operate exclusively outside the United States or exit the business,” due to lack of a “realistic prospect of obtaining SEC authority to operate as an exchange or SEC and FINRA authority to operate as an ATS.”³⁹¹ This commenter notes that the Commission had not, at the time of writing, “registered any digital asset platform as an exchange.”³⁹²

While the Commission acknowledges that the Proposed Rules would impose costs on New Rule 3b-16(a) Systems that trade crypto asset securities, which may in turn raise barriers to entry as discussed above or create incentives to exit the market, the Commission disagrees that compliance would be “infeasible.” The Commission has discussed, above, the manner and extent to which it believes that compliance costs may create barriers to entry for market participants that seek to trade crypto asset securities. To the extent that market participants that trade crypto asset securities face barriers to entry or incentives to exit due to higher compliance costs, or perceive this to be the case, the Commission acknowledges that such entities may instead choose to operate outside the U.S. or exit the market.

i. Regulation ATS

(a) Regulatory Framework

Market participants may consider registered exchanges, ATSs, and broker-dealers (e.g., single dealer platforms) to send their order flow in crypto asset securities. As discussed in the Proposing Release,³⁹³ to the extent that current ATSs and New Rule 3b-16(a) Systems compete, the proposed changes to Exchange Act Rule 3b-16, which would subject New Rule 3b-16(a) Systems to the exchange regulatory

³⁸⁴ See Delphi Digital Letter at 11.

³⁸⁵ See Blockchain Association Letter II at 6.

³⁸⁶ See *supra* section V.C.2.a.

³⁸⁷ See *supra* sections V.C.2.a and V.C.2.c.ii.

³⁸⁸ See DeFi Education Fund Letter at 12.

³⁸⁹ See *id.* at 17.

³⁹⁰ This term refers to a blockchain designed to test technologies, such as smart contracts, in a manner that involves no risk of monetary loss. Testnets support a set of tokens that are distinct from “mainnet” tokens, and which are freely available from “faucets” that add them to wallets on request. As such, testnet tokens have no monetary value and are not securities. See <https://coinmarketcap.com/alexandria/glossary/testnet>.

³⁹¹ See GDCA Letter II at 7.

³⁹² See *id.* at 13.

³⁹³ See Proposing Release at 15634.

framework, which includes the option to comply with Regulation ATS, would promote competition by requiring current ATSs and New Rule 3b-16(a) Systems to operate on a more equal basis in securities markets. The Commission believes this to be the case in the market for crypto asset securities as it is in the market for the securities discussed in the Proposing Release. To the extent that registered exchanges, ATSs, broker-dealers compete for order flows in the crypto asset securities market, the differential compliance costs for exchange, ATS, and broker-dealer would affect competition across these different types of trading platforms. The Commission acknowledges that national securities exchanges would incur significantly higher compliance costs than ATSs and broker-dealers, and ATSs would incur higher compliance costs than broker-dealers. Higher compliance costs could put registered exchanges at a disadvantage in competing against ATSs and broker-dealers that trade the same types of securities, and similarly put ATSs at a disadvantage in competing against broker-dealers. Although registered exchanges, ATSs, and broker-dealers may compete for order flows, they provide different services and are subject to different regulatory obligations. Furthermore, to the extent that New Rule 3b-16(a) Systems that use certain technologies to compete with other New Rule 3b-16(a) Systems for order flows, higher costs for New Rule 3b-16(a) Systems that use certain technologies would put such systems at a competitive disadvantage against other New Rule 3b-16(a) Systems.³⁹⁴

One commenter states that the Proposed Rules would advantage “traditional financial services companies,” due to “fundamentally dissimilar technologies.”³⁹⁵ This commenter adds that the Proposed Rules would “limit competition and transparency by entrenching existing market players” to the detriment of investors and the public, but does not specify who these existing market players might be.³⁹⁶ The commenter additionally states their concern that the Proposed Rules might include in the revised definition of exchange certain entities that contribute code “to an open-source project that subsequently allows third parties to engage in trading activity” but have no ability “to supervise that activity or impose

limitations on the types of orders that are entered.” The commenter states that under the Proposed Rules, a developer that cannot comply with registration requirements might leave the market or provide services to a traditional trading platform, “further entrenching the traditional systems.”

The Commission does not believe that the amended definition of exchange would include the entities responsible for innovation in the markets for crypto assets or crypto asset trading services, except to the extent that they also engage in activity that meets the definition of exchange as amended in the Proposed Rules.³⁹⁷ The Commission acknowledges that, to the extent that market participants who trade crypto asset securities compete with traditional financial services firms and that such market participants incur greater costs of compliance,³⁹⁸ the Proposed Rules could give traditional financial services firms a competitive advantage. Because the Commission lacks information on the degree to which such market participants would incur greater costs of compliance, the Commission cannot estimate the extent of this advantage. Additionally, the Commission believes that the Proposed Rules would cause New Rule 3b-16(a) Systems to compete on a more equal basis with their main competitors in the market for crypto asset securities, which the Commission believes may already be subject to federal securities regulations.³⁹⁹

As discussed in the Proposing Release,⁴⁰⁰ the Commission acknowledges that some New Rule 3b-16(a) Systems could restructure their operations to not meet the Rule 3b-16 criteria as proposed to be amended to avoid being subject to Regulation ATS and Regulation SCI if the requirements are too burdensome or impair the ability of the trading venue to compete. As in the Proposing Release, the Commission believes that the risk of this occurring may be mitigated because the proposed amendments to Rule 3b-16 may make it difficult for New Rule 3b-16(a) Systems to restructure their operations to not meet the Rule 3b-16 criteria as proposed to be amended. To the extent this does occur, the benefits and enhancements to competition discussed above would be reduced. The Commission believes that these effects would apply to New Rule 3b-16(a) Systems that trade in crypto asset securities as they would to New Rule 3b-16(a) Systems that trade the

securities discussed in the Proposing Release.

As discussed in the Proposing Release,⁴⁰¹ the Commission acknowledges that subjecting New Rule 3b-16(a) Systems to the requirements of Regulation ATS could reduce operational flexibility. For example, it would be more costly for New Rule 3b-16(a) Systems to implement significant changes to operational facets that would be required to be reported on Form ATS or Form ATS-N. This reduction in operational flexibility could, under certain circumstances, make it more difficult to innovate. The Commission believes this effect would apply to New Rule 3b-16(a) Systems that trade crypto asset securities in the same manner that it would to New Rule 3b-16(a) Systems that trade non-crypto asset securities discussed in the Proposing Release. However, as in the Proposing Release, in addition to the other benefits discussed above, the Commission believes that the Proposed Rules could foster competition by requiring current ATSs and New Rule 3b-16(a) Systems to operate on a more equal basis in the market for crypto asset security trading services. This, in turn, could help promote innovation.

(b) Compliance Costs of Regulation ATS

To the extent that the costs⁴⁰² associated with altering business practices for New Rule 3b-16(a) Systems to come into compliance with Regulation ATS are significant enough to make these systems unprofitable, these systems could exit the market for crypto asset securities trading services, adversely affecting competition.⁴⁰³ To the extent that New Rule 3b-16(a) Systems using certain technologies incur additional costs to come into compliance with Regulation ATS, these systems could have a higher chance of exiting the market for crypto asset securities trading services.⁴⁰⁴ Furthermore, to the extent the Proposed Rules result in a New Rule 3b-16(a) System that trades less liquid securities exiting the market for trading services, it could increase the trading costs of its

³⁹⁴ See *id.*

⁴⁰² See *infra* sections V.C.3.a.i.c) and V.C.3.a.i.d) for discussions about the impact of costs associated with Rule 301(b)(1) (broker-dealer registration requirements) and Rule 301(b)(5) (the Fair Access Rule) of Regulation ATS on competition, respectively.

⁴⁰³ See *supra* sections V.C.2.b and V.C.2.c for discussion about the costs associated with changing business practices to come into compliance with Regulation ATS.

⁴⁰⁴ See *supra* section V.C.2.c for discussion about the additional costs associated with changing business practices to come into compliance with Regulation ATS for New Rule 3b-16(a) Systems that use certain technologies.

³⁹⁴ See *supra* section V.C.2.c for discussion about the additional costs for New Rule 3b-16(a) Systems that use certain technologies.

³⁹⁵ See DeFi Education Fund Letter at 2.

³⁹⁶ See DeFi Education Fund Letter at 10.

³⁹⁷ See *supra* section V.C.2.a.

³⁹⁸ See *supra* sections V.C.2.a and V.C.2.c.

³⁹⁹ See *supra* section II.B.

⁴⁰⁰ See Proposing Release at 15634.

subscribers if they need to find a new trading venue or are forced to go through multiple intermediaries (*i.e.*, broker-dealers) to find counterparties. However, to the extent that the market for crypto asset securities trading services is competitive and that a limited number of New Rule 3b-16(a) Systems exit the market, the adverse effect on overall competition among trading platforms would be mitigated to some extent.

Furthermore, the Commission preliminarily believes that the compliance costs associated with Regulation ATS would have different effects on the competitive position of ATSs depending on their size. As a result of the Proposed Rules, all New Rule 3b-16(a) Systems would be subject to Rule 301(b)(2), Rule 301(b)(9) and Rule 301(b)(10), Rule 302, and Rule 303. As discussed above⁴⁰⁵ and in the Proposing Release,⁴⁰⁶ most of the estimated compliance costs associated with these rules would be fixed costs to those New Rule 3b-16(a) Systems regardless of the amount of trading activity that takes place on them, and thus, these compliance costs would represent a larger fraction of revenue for a small (measured in trading volume) New Rule 3b-16(a) System relative to that for a large New Rule 3b-16(a) System. Furthermore, most of the estimated compliance costs associated with the requirements of Form ATS-N under Rule 304, which all New Rule 3b-16(a) Systems that trade NMS stocks or government securities would incur, would be fixed costs.⁴⁰⁷ This could have an adverse impact on New Rule 3b-16(a) Systems of small size in competing against larger ATSs, which could act as a deterrent or a barrier to entry for potential New Rule 3b-16(a) Systems or result in small New Rule 3b-16(a) Systems exiting the market for trading services. However, if small New Rule 3b-16(a) Systems engage in providing simpler services, these small New Rule 3b-16(a) Systems are likely to incur lower compliance costs. The Commission believes that these effects would apply to the market for crypto asset securities in the same manner that they would to the market for non-crypto asset securities.

The Commission acknowledges the Proposed Rules could reduce operational flexibility, which could, under certain circumstances, make it more difficult to innovate or reduce the rate of the adoption of new

technologies. As in the Proposing Release, the Commission believes that, to the extent the Proposed Rules force an entity that develops new technologies to exit the market, it may be able to restructure itself (rather than operate as an ATS) as a third-party vendor and continue to provide certain innovative services, or otherwise sell its technology to another ATS, which would mitigate to some extent any adverse impact the Proposed Rules may have on the adoption of new technologies in the market for crypto asset security trading services.

(c) Broker-Dealer Registration Requirements

In addition to the compliance costs associated with the requirements of Regulation ATS, non-broker-dealer-operated New Rule 3b-16(a) Systems without a broker-dealer affiliate would incur additional compliance costs related to registering with the Commission as broker-dealers, becoming members of an SRO, such as FINRA, and maintaining broker-dealer registration and SRO membership. Furthermore, these non-broker-dealer operators could incur costs associated with altering business practices to come into compliance with the Proposed Rules.⁴⁰⁸ To the extent that the costs associated with changing business practices to come into compliance with the Proposed Rules is significant enough to render non-broker-dealer operators of New Rule 3b-16(a) Systems unprofitable to stay in the business, these operators of New Rule 3b-16(a) Systems would exit adversely impacting competition in the market for crypto asset securities trading services.⁴⁰⁹ However, to the extent that the market for crypto asset securities trading services is competitive and that a limited number of New Rule 3b-16(a) Systems exit the market, the adverse effect on overall competition would be mitigated.

(d) Ineffectiveness Declaration

The proposed ability for the Commission to be able to declare a Form ATS-N or Form ATS-N amendment ineffective could result in compliance costs for New Rule 3b-16(a) Systems that trade NMS stocks and may affect competition in the market for NMS

stock trading services. However, as discussed in the Proposing Release,⁴¹⁰ based on Commission staff's experience with NMS Stock ATSs that filed an initial Form ATS-N, the Commission preliminarily believes this would be an unlikely result. The Commission believes this unlikelihood would extend to the market for crypto asset securities that are NMS stocks.

(e) Fair Access

The Commission believes that applying the Fair Access Rule to New Rule 3b-16(a) Systems could increase competition between market participants in the markets for corporate debt securities, municipal securities, NMS stocks, and equity securities that are not NMS stocks. As discussed above, to the extent that there are market participants currently excluded from trading on significant New Rule 3b-16(a) Systems, applying the Fair Access Rule to New Rule 3b-16(a) Systems could increase trading venue options available to these market participants, which could lower their trading costs. This, in turn, could increase competition among market participants trading on these platforms, which could be significant sources of liquidity and represent a significant portion of trading volume in their respective markets. However, these competitive effects may be reduced to the extent that some existing subscribers of trading venues that are subject to the Fair Access Rule redirect their trading interest to other trading venues not subject to the Fair Access Rule in order to preserve some of the benefits they may receive from a trading venue limiting access. If the Proposed Rules to apply certain aggregate volume thresholds increase the number of smaller affiliate ATSs that would be subject to the Fair Access Rule, it could also increase competition among market participants, to the extent that certain market participants are currently excluded from accessing these platforms. The Commission believes that these effects on competition would apply to New Rule 3b-16(a) Systems that trade crypto asset securities in the same manner that they would to New Rule 3b-16(a) Systems that trade non-crypto asset securities.

Additionally, as discussed in the Proposing Release, the Proposed Rules to apply certain aggregate volume thresholds to the Fair Access Rule could also harm competition among trading venues in the markets for corporate debt, municipal securities, NMS stock and equity securities that are not NMS

⁴⁰⁸ See *supra* section V.C.2.a.ii for discussion about the costs associated with changing business practices to come into compliance with the Proposed Rules.

⁴⁰⁹ The Commission believes that the costs associated with the broker-dealer registration requirements could adversely affect the rate of innovation. See *supra* sections V.C.3.a.i and V.C.3.a.i.c) for discussion about the impact of the Proposed Rules on the rate of innovation.

⁴¹⁰ See Proposing Release at 15636 including notes 1180 and 1183.

⁴⁰⁵ See *supra* section VIII.C.2.a.i.

⁴⁰⁶ See Proposing Release at note 1165.

⁴⁰⁷ See *supra* section VIII.C.2.a.i and Proposing Release, section VIII.C.2.a.i.

stocks if they cause a broker-dealer or affiliated broker-dealers that operate multiple ATSs to restrict trading in one or more securities, or shut down one or more of their smaller ATSs, in order to avoid triggering the Fair Access volume threshold. However, because the trading volume on these smaller ATSs would likely be absorbed and redistributed amongst other ATSs or non-ATS venues, the Commission believes that the overall effects on competition among trading venues may not be significant. To the extent that the markets for trading services are competitive, the Commission believes that such competitive effects would be applicable to New 3b–16(a) Systems that trade crypto asset securities that are corporate debt securities, municipal securities, NMS stock, and equity securities that are not NMS stocks.

(f) Public Disclosure

As discussed in the Proposing Release,⁴¹¹ the public disclosure of Form ATS–N would enhance the operational transparency of New 3b–16(a) Systems that trade in NMS stocks, including crypto asset securities that are NMS stocks. The enhancement in the operational transparency of New Rule 3b–16(a) Systems would promote competition in the markets for crypto asset securities trading services. The increase in competition could result in lower venue fees, improve the efficiency in customer trading interest or order handling procedures, and promote innovation. To the extent that non-ATS venues compete with ATSs' order flows, the increased operational transparency of ATSs could also incentivize non-ATS trading venues to reduce their fees to compete with ATSs. The Commission believes that these effects would apply to the market for crypto asset securities trading services. However, because New Rule 3b–16(a) Systems using smart contracts operate using code which may be, at least in part, publicly viewable, it is possible that the impacts of Form ATS–N disclosures on competition may be reduced, for such systems. However, because this code is not disclosed in a form that is standardized or readable to a layman, the Commission believes that this reduction of impact may not be significant.

As discussed in the Proposing Release,⁴¹² because the public disclosure of Form ATS–N would make it easier for market participants to compare the quality of trading services, such as innovative trading functionalities, order handling

procedures, and execution statistics, market participants would be more likely to send their trading interests or orders to ATSs, including New 3b–16(a) Systems, that offer better trading services. This would promote greater competition in the market for trading services and incentivize ATSs to innovate, including in particular, technology related to trading services to improve the quality of such services to attract more subscribers. The Commission believes these effects on competition and innovation would apply to ATSs trading in crypto asset securities that are NMS stocks in the same manner that they do to ATSs that trade non-crypto asset securities.

As discussed in the Proposing Release,⁴¹³ the public disclosure of Form ATS–N would also result in market participants redirecting their trading interest away from ATSs that offer lower quality trading services compared to other ATSs, which could result in these ATSs earning less revenue. If the loss in revenue causes these ATSs to become unprofitable, they might choose to exit the market. The Commission believes these effects would apply to ATSs trading in crypto asset securities that are NMS stocks in the same manner that they do to ATSs that trade non-crypto asset securities.

As discussed in the Proposing Release,⁴¹⁴ the public disclosure of previously nonpublic information regarding innovative operational facets of a New Rule 3b–16(a) System that trades NMS stock could adversely impact competition in the market for trading services and also reduce the incentives for these trading venues to innovate. As in the Proposing Release, the Commission believes that the risk of these adverse effects occurring would be low, because the information disclosed on Form ATS–N is not likely to include detailed enough information regarding operational facets or innovations such that the public disclosure would adversely affect the competitive position of the disclosing ATS. To the extent that any crypto asset security is an NMS stock, the Commission believes that these effects would apply as described in the Proposing Release to market participants wishing to trade such a security.

As discussed in the Proposing Release,⁴¹⁵ although the Commission acknowledges that some NMS stock ATSs could restructure their operations to be non-ATSs to avoid being subject to the public disclosure of Form ATS–

N, the risk of this occurring may be mitigated because the proposed amendments to Rule 3b–16 may make it difficult for an ATS, including one that trades crypto asset securities, to restructure their operations to be non-ATSs.

ii. Regulation SCI

The Commission believes that the requirements imposed by Regulation SCI may not have a significant adverse effect on competition in the market for crypto asset security trading services, or on market participants' trading costs in the market for crypto asset securities.

As discussed in the Proposing Release,⁴¹⁶ the Commission believes that the compliance costs imposed by Regulation SCI may not have a significant adverse effect on competition among SCI ATSs, non-SCI ATSs, and non-ATS venues in the NMS stock market due to mitigating factors. If SCI ATSs pass on the compliance costs to their subscribers in the form of higher fees, SCI ATSs would lose order flow or their subscribers to other, non-SCI ATSs and non-ATS venues with lower fees. Adverse competitive effects, however, would be mitigated because an SCI ATS would likely have more robust systems, fewer disruptive systems issues, and better up-time compared to non-SCI ATSs. Furthermore, any adverse competitive effect may be minor if an SCI ATS is large and has a more stable and established subscriber base than other ATSs and non-ATS venues. The Commission expects these effects to apply to ATSs trading in crypto asset securities that are NMS stocks in the same manner.

As discussed in the Proposing Release,⁴¹⁷ the compliance costs associated with participating in business continuity and disaster recovery plan testing would affect competition among subscribers of SCI ATSs and also would raise barriers to entry for new subscribers. Because some subscribers would incur compliance costs associated with Rule 1004 and others would not, it would adversely impact the ability for those subscribers of SCI ATSs to compete. The Commission expects these effects to apply to ATSs trading in crypto asset securities that are NMS stocks in the same manner that they apply to ATSs that trade non-crypto asset securities, but as in the Proposing Release, the Commission lacks sufficient information to estimate the extent of impact on competition. If larger subscribers of SCI ATSs already maintain connections to

⁴¹¹ See Proposing Release at 15637.

⁴¹² See *id.*

⁴¹³ See *id.*

⁴¹⁴ See *id.* at 15638.

⁴¹⁵ See *id.*

⁴¹⁶ See *id.*

⁴¹⁷ See *id.*

backup facilities including for testing purposes, the adverse impact on competition would be mitigated because the incremental compliance costs associated with the business continuity and disaster recovery plan testing requirements under Rule 1004 would be limited for those larger subscribers. The Commission believes that, in the market for crypto asset securities as in the market for non-crypto asset securities, new subscribers are less likely to be designated immediately to participate in business continuity and disaster recovery plan testing than are existing larger subscribers because new subscribers might not initially satisfy the ATS's designation standards as they establish their businesses.

As discussed in the Proposing Release,⁴¹⁸ it is difficult to estimate the costs of Regulation SCI for third-party vendors that operate SCI systems or indirect SCI systems on behalf of SCI ATSs. If Regulation SCI imposes compliance costs on such vendors, the compliance costs would affect the competition among third-party vendors in the market for SCI systems or indirect SCI systems. If the costs associated with Regulation SCI for third-party vendors outweigh the benefits of continuing to operate SCI systems or indirect SCI systems on behalf of SCI ATSs, these third-party vendors would exit the market for SCI systems or indirect SCI systems. In this respect, Regulation SCI would adversely impact such vendors and reduce the ability for some third-party vendors to compete in the market for SCI systems and indirect SCI systems, with attendant costs to SCI ATSs. If this happens, SCI ATSs would incur costs from having to find a new vendor, form a new business relationship, and adapt their systems to those of the new vendor. SCI ATSs might also elect to perform the relevant functions internally. If the current third-party vendors are the most efficient means of performing certain functions for SCI ATSs, and to the extent that any third-party vendor exits the market, finding new vendors or performing the functions internally would represent a reduction in efficiency for SCI ATSs. The Commission expects these effects to apply to ATSs trading in crypto asset securities that are NMS stocks, and their vendors, in the same manner that they apply to ATSs that trade non-crypto asset securities.

b. Efficiency and Capital Formation

As discussed in the Proposing Release,⁴¹⁹ the Commission believes the

Proposed Rules could promote price efficiency and capital formation by reducing trading costs and the potential for systems disruptions on ATSs that capture a significant portion of trading volume. As discussed in the Proposing Release,⁴²⁰ the proposed requirement for certain New Rule 3b-16(a) Systems to publicly disclose Form ATS-N could help reduce trading costs for market participants. Subjecting significant New Rule 3b-16(a) Systems to the Fair Access Rule could also help reduce market participants' trading costs. A reduction in trading costs could, in turn, reduce limits to arbitrage and help facilitate informed traders impounding information into security prices, which could enhance price efficiency. Extending Regulation SCI and Rule 301(b)(6) would help improve systems up-time for ATSs and would also promote more robust systems that directly support execution facilities, order matching, and the dissemination of market data, which could also enhance price efficiency. The Commission expects these effects to apply to ATSs that trade crypto asset securities in the same manner that they apply to ATSs that trade non-crypto asset securities.

Proposed Rules could also adversely affect the price efficiency of crypto asset securities. It may no longer be possible for a New Rule 3b-16(a) System to facilitate trading crypto asset securities for crypto assets that are not securities. To the extent that the markets for crypto asset securities denominated in crypto assets that are not securities reduce transaction costs, market participants would experience higher transaction costs, reducing price efficiency, and impeding the price discovery process.⁴²¹ Also, if ATSs restrict trading volume in certain securities to stay below the Fair Access Rule, Regulation SCI, and Rule 301(b)(6) thresholds, it could adversely affect price efficiency and capital formation. The Commission expects these effects to apply to ATSs that trade crypto asset securities in the same manner that they apply to ATSs that trade non-crypto asset securities.

As discussed in the Proposing Release,⁴²² enhanced price efficiency could also promote capital formation. On the other hand, the Commission believes that the proposed amendments of the Fair Access Rule, Regulation SCI, and Rule 301(b)(6) could also adversely affect price efficiency and capital

formation if ATSs that are close to satisfying the volume threshold limit trading over some period restrict trading or cease operating to stay below the volume thresholds and avoid being subject to these rules. To the extent that this keeps ATSs from getting larger, it would increase fragmentation, and thus, adversely affect price efficiency in those markets, harming capital formation. The Commission expects these effects to apply to ATSs that trade crypto asset securities in the same manner that they apply to ATSs that trade non-crypto asset securities.

D. Reasonable Alternatives

The Commission has considered several alternatives to the Proposed Rules: (1) delay subjecting New Rule 3b-16(a) Systems that exclusively trade crypto asset securities to the Proposed Rules; (2) subject only New Rule 3b-16(a) Systems that trade government securities to the Proposed Rules; (3) subject only New Rule 3b-16(a) Systems that trade fixed income securities to the Proposed Rules; (4) exempt New Rule 3b-16(a) Systems that use only non-firm trading interest from the Fair Access Rule; (5) exempt New Rule 3b-16(a) Systems that use only non-firm trading interest from Regulation SCI; (6) stipulate that systems offering non-firm trading interest only meet the definition of an exchange if they offer anonymous interactions; and (7) use a more explicit and prescriptive approach in defining the type of non-firm trading interest system that meets the definition of an exchange.

1. Delay Subjecting New Rule 3b-16(a) Systems That Exclusively Trade Crypto Asset Securities to the Proposed Rules

As discussed above, the Commission received comment, and is soliciting comment, on the application of the Proposed Rules to systems that trade crypto asset securities. As an alternative, the Commission could adopt the proposed changes to Rule 3b-16(a), but delay applying the changes to New Rule 3b-16(a) Systems that trade crypto asset securities.⁴²³

Importantly, this alternative of a delayed compliance period would be

⁴²³ Alternatively, a delay could be implemented for other types of securities. See *supra* section III.E. As discussed above, for purposes of adopting a different compliance date for New Rule 3b-16(a) Systems that trade crypto asset securities, crypto asset securities could be defined as, for example, securities that are also issued and/or transferred using distributed ledger or blockchain technology, including, but not limited to, so-called "virtual currencies," "coins," and "tokens," to the extent they rely on cryptographic protocols. The Commission is soliciting comment on the definition. See *id.*

⁴²⁰ See *id.*

⁴²¹ See *supra* section V.C.2.b for discussion about the costs associated with the trading of crypto asset securities for crypto assets that are not securities on Communication Protocol Systems.

⁴²² See *id.*

⁴¹⁸ See *id.*

⁴¹⁹ See Proposing Release at 15639.

only with respect to the application of the new rules. Notwithstanding inclusion of this alternative of providing a delayed compliance date with respect to New Rule 3b–16(a) Systems that trade crypto asset securities, the Commission emphasizes that operators of trading systems, including those trading crypto asset securities, need to evaluate whether they meet the criteria of existing Exchange Act Rule 3b–16(a), and thus must register as a national securities exchange or operate pursuant to an exemption to such registration, or meet the definition of a “broker” or “dealer” that is required to register with the Commission and become a member of a self-regulatory organization. In this regard, the Commission will continue to evaluate whether currently operating systems are acting consistently with federal securities laws and the rules thereunder.

Relative to the proposal, this alternative would result in delayed benefits and costs because market participants that trade in crypto asset securities using New Rule 3b–16(a) Systems would not accrue benefits⁴²⁴ and costs⁴²⁵ discussed in sections V.C.1 and V.C.2 or in the Proposing Release until the delayed compliance date. Similarly, this alternative would result in delayed effects on efficiency, competition, and capital formation discussed above.⁴²⁶

This alternative could result in several additional effects. It may be that New Rule 3b–16(a) Systems that trade in both crypto asset securities and non-crypto asset securities would have the incentive to separate crypto asset securities trading, which would be subject to the delay. This could reduce efficiency. Relative to the proposal, New Rule 3b–16(a) Systems that trade exclusively in crypto asset securities would enjoy a competitive advantage for a longer period of time over New Rule 3b–16(a) Systems that trade both crypto asset securities and securities that are not crypto assets due to delayed compliance costs. Furthermore, relative to the proposal, to the extent that crypto asset securities of any type of security may be considered substitutes for non-

crypto asset securities of the same type, and that platforms that trade such crypto asset securities compete with those that trade their non-crypto asset security counterparts, the platforms that trade crypto asset securities would enjoy a competitive advantage over those that trade non-crypto asset securities.

2. Subject Only New Rule 3b–16(a) Systems That Trade Government Securities to the Proposed Rules

As an alternative, the Commission considered subjecting only New Rule 3b–16(a) Systems that trade government securities to the Proposed Rules. New Rule 3b–16(a) Systems play a significant role in the market for government securities. One of the roles of these New Rule 3b–16(a) Systems is to provide a means to communicate trading interest in the dealer-to-customer market. The Commission understands that these systems are a significant component of the dealer-to-customer segment of government securities market and account for a significant portion of the total trading volume in government securities.⁴²⁷

Under this alternative, New Rule 3b–16(a) Systems that trade securities other than government securities would not be subject to the Proposed Rules. Relative to the proposal, this alternative would result in smaller benefits and costs as well as reduced effects on efficiency, competition, and capital formation. Market participants that utilize New Rule 3b–16(a) Systems to trade securities other than government securities would not accrue benefits from the requirements of Regulation ATS discussed in the Proposing Release. Under this alternative, relative to the proposal, market participants trading in securities other than government securities would not accrue the benefits of the Proposed Rules including the enhancement in regulatory oversight and investor protection, the reduction in trading costs, and the enhancement of price discovery and liquidity.⁴²⁸ In addition, to the extent that ATSs and New Rule 3b–16(a) Systems compete for order flows in securities markets other than government securities, ATSs would not be able to compete against New Rule 3b–16(a) Systems on a more equal regulatory basis, which would adversely impact competition relative to the proposal. On the other hand, relative to the proposal, the Commission believes that reduced regulatory requirements would help maintain

operational flexibility, which in turn, would help promote innovations for New Rule 3b–16(a) Systems that trade securities other than government securities. Furthermore, the Commission believes that lower compliance costs would help promote competition in the market for trading services with respect to non-government securities relative to the proposal.

3. Subject Only New Rule 3b–16(a) Systems That Trade Fixed Income Securities to the Proposed Rules

As an alternative, the Commission could consider subjecting only New Rule 3b–16(a) Systems that trade fixed income securities that are not crypto asset securities⁴²⁹ to the Proposed Rules. New Rule 3b–16(a) Systems play a significant role by providing means to communicate trading interest in the dealer-to-customer market in fixed income securities trading. The Commission understands that these New Rule 3b–16(a) Systems account for a significant portion of the total trading volume in fixed income securities.⁴³⁰

Under this alternative, New Rule 3b–16(a) Systems that trade securities other than fixed income securities would not be subject to the Proposed Rules. Relative to the proposal, this alternative would result in smaller benefits and costs as well as reduced effects on efficiency, competition, and capital formation. Market participants that utilize New Rule 3b–16(a) Systems to trade securities other than fixed income securities would not accrue benefits from the requirements of Regulation ATS discussed in the Proposing Release. For example, market participants that trade crypto asset securities via New Rule 3b–16(a) Systems would not benefit from investor protection provisions of Regulation ATS. On the other hand, relative to the proposal, the Commission believes that reduced regulatory requirements would help maintain operational flexibility, which in turn, would help promote innovations for New Rule 3b–16(a) Systems that trade securities other than fixed income securities. Furthermore, relative to the proposal, the Commission believes that lower compliance costs would help promote competition in the market for trading services with respect to non-fixed income securities.

⁴²⁴ Affected benefits would include delayed enhancements to regulatory oversight and investor protection, delayed reductions of trading costs, delayed improvements to execution quality, smaller enhancements of price discovery and liquidity, and delayed benefits from electronic filing requirements as described above. See *supra* section V.C.1.

⁴²⁵ Affected costs would include delayed implementation costs, delayed costs associated with broker-dealer requirements, ineffectiveness declaration, the Fair Access Rule, Rule 301(b)(6), and Regulation SCI, and delayed indirect costs as described above. See *supra* section V.C.2.

⁴²⁶ See *supra* section V.C.3.

⁴²⁷ See Proposing Release at 15601 and 15602.

⁴²⁸ See *supra* section V.C.1 for discussion about the benefits of the Proposed Rules.

⁴²⁹ Fixed income securities would include government securities, corporate debt securities, municipal securities, and asset-backed securities as discussed in the Proposing Release.

⁴³⁰ See Proposing Release at 15601, 15602, 15605, 15606, 15607, and 15609.

4. Exempt New Rule 3b–16(a) Systems That Use Only Non-Firm Trading Interest From the Fair Access Rule

As an alternative, the Commission considered exempting New Rule 3b–16(a) Systems that only use non-firm trading interests from the Fair Access Rule of Regulation ATS. Relative to the proposal, significant New Rule 3b–16(a) Systems that only use non-firm trading interests would not incur the costs associated with the Fair Access Rule, which may potentially include significant costs for altering business practices to comply with the rule. On the other hand, to the extent that there are market participants who are unreasonably denied access to significant New Rule 3b–16(a) Systems that only use non-firm trading interests, the execution quality for these market participants would be worse relative to the proposal.

5. Exempt New Rule 3b–16(a) Systems That Use Only Non-Firm Trading Interest From Regulation SCI

As an alternative, the Commission considered exempting New Rule 3b–16(a) Systems that only use non-firm trading interests from Regulation SCI. The requirements of Regulation SCI would result in significant costs for significant New Rule 3b–16(a) Systems. Relative to the proposal, significant New Rule 3b–16(a) Systems that only use non-firm trading interests would not incur the costs associated with Regulation SCI, which could include significant costs for establishing and maintaining geographically diverse backup facilities. This could promote competition by lowering the barriers to entry and reducing the incidences of exit relative to the proposal. On the other hand, relative to the proposal, the frequency and severity of systems issues could be higher and the duration of systems issues could be longer, which would harm price discovery and adversely impact trading costs of market participants.

6. Stipulate That Systems Offering Non-Firm Trading Interest Only Meet the Definition of an Exchange if They Offer Anonymous Interactions

As an alternative, the Commission considered excluding systems that only use non-firm trading interests and do not offer anonymous protocols⁴³¹ from the definition of an exchange. Under this alternative, many significant fully disclosed dealer-to-customer RFQ

platforms that trade fixed income securities including government securities, corporate debt securities, and municipal securities would not meet the definition of an exchange, and thus, would not incur the costs associated with the Proposed Rules. Furthermore, lower costs would help promote innovation in the market for securities trading services relative to the proposal. However, because this alternative would exclude many significant trading systems that would meet the definition of exchange as proposed to be amended that trade fixed income securities, the benefits of the Proposed Rules would be significantly reduced relative to the proposal.

7. Use a More Explicit and Prescriptive Approach in Defining the Type of Non-Firm Trading Interest System That Meets the Definition of an Exchange

As an alternative, the Commission considered a more explicit and prescriptive approach in defining an exchange by providing a list of specific types of systems that meet the definition of an exchange (or, by providing a list of specific types of systems that do not meet the definition of an exchange). Relative to the proposal, this approach would reduce uncertainty and the costs associated with the proposed activity-based definition of an exchange. A more explicit and prescriptive definition of an exchange could reduce legal costs associated with complying with the proposed activity-based definition of an exchange.⁴³² Furthermore, the reduction in such costs could help promote innovation in the market for securities trading services. On the other hand, a more explicit and prescriptive definition of an exchange could make it easier for a trading venue to modify its systems to operate as a non-exchange, which would not be subject to the Proposed Rules. Relative to the proposal, this would result in lower benefits. For example, market participants that utilize such trading venues would not benefit from investor protection provisions of Regulation ATS.

E. Request for Comments

44. In the Proposing Release, the Commission proposed to replace the term “uses” with the term “makes available” before “established, non-discretionary methods” in Rule 3b–16(a)(2) because the Commission proposed to include as an established,

non-discretionary method communication protocols under which buyers and sellers can interact and agree to the terms of a trade.⁴³³ Would this proposed change have costs for developers of technology that are not reflected in the economic analysis? Would adopting alternative language (such as “Uses established, non-discretionary methods (whether by providing, *directly or indirectly*, a trading facility . . .),” “[E]stablishes non-discretionary methods (whether by providing, *directly or indirectly*, a trading facility or . . .)”) result in different costs than the proposed language?⁴³⁴

45. Do commenters agree with the Commission’s characterization of platforms in the market for crypto assets securities? Please provide any relevant details that you believe are missing from the Commission’s description.

46. Please provide any information on the number and type of venues that permit trading crypto asset securities for fiat currency.

47. Do commenters agree with the Commission’s characterization of the technology used by systems in the market for crypto assets securities? Please provide any relevant details that you believe are missing from the Commission’s description.

48. Do commenters agree with the Commission’s characterization of New Rule 3b–16(a) Systems that trade crypto asset securities? Please provide any relevant details that you believe are missing from the Commission’s description.

49. Please provide any data on crypto asset securities trading volume and trading volume share of New Rule 3b–16(a) Systems.

50. Please provide any information on the types of protocols used by New Rule 3b–16(a) Systems that trade crypto assets securities.

51. Do commenters agree with the Commission’s characterization of other methods (other than platforms) of trading in the market for crypto assets securities? Please provide any relevant details that you believe are missing from the Commission’s description.

52. Please provide any information on the current market practice for bilateral voice trading and electronic chat messaging in trading crypto assets securities.

53. Please provide any information on the role of bilateral voice trading in the market for crypto assets securities.

54. Do commenters agree with the Commission’s characterization of crypto

⁴³¹ An anonymous protocol in this context means that counterparties stay anonymous until the terms (*i.e.*, price and quality) of the trade is fixed between the two counterparties engaged in a transaction.

⁴³² See also *supra* section V.C.2.b.ii for discussion about the costs associated with complying with the proposed functional-test-based definition of an exchange.

⁴³³ See Proposing at 15506. See also *supra* section III.B.

⁴³⁴ See *supra* Requests for Comment #10–11.

asset securities trading services? Please provide any relevant details that you believe are missing from the Commission's description.

55. Would the Proposed Rules enhance regulatory oversight and investor protection in the market for crypto asset securities? Would requiring New Rule 3b-16(a) Systems that trade crypto asset securities to register as broker-dealers help lead to these benefits? Would the Proposed Rules lead to improvements in the safeguarding of confidential information in the market for crypto asset securities?

56. Do commenters agree that the Proposed Rules would reduce trading costs and improve execution quality for market participants that use New Rule 3b-16(a) Systems? Do commenters agree that Regulation SCI would improve the resiliency of New Rule 3b-16(a) Systems in the applicable securities markets? Do commenters agree that Rule 301(b)(6) would improve the resiliency of such systems in the applicable securities markets?

57. Are there any other benefits of subjecting to the exchange regulatory framework a New Rule 3b-16(a) System which uses certain technologies that allow them to run portions of their operations using smart contracts deployed on an underlying blockchain? Please explain.

58. Do commenters agree with the Commission's assessment of the entities that would incur costs in the crypto asset security market as a result of the Proposed Rules? If not, please provide examples of additional entities that would incur costs.

59. Do commenters agree with the Commission's assessment of the implementation costs estimated in the Reopening Release? If not, please provide as many quantitative estimates to support your position on costs as possible.

60. Please provide any insights or data on the costs associated with the proposed broker-dealer requirements for New Rule 3b-16(a) Systems that are operated by non-broker-dealers.

61. The Commission solicits comment on any circumstances in which actors within a group of persons, which can include, for example, the provider(s) of the DeFi application or user interface, developers of AMMs or other DLT code, DAO, validators or miners, and issuers or holders of governance or other

tokens, may incur costs in connection with their activities that may constitute, maintain, or provide a market place or facilities for bringing together buyers and sellers of securities under Exchange Rule 3b-16, as proposed to be amended.

62. Do commenters agree with the Commission's assessment of the costs for systems that use certain technology and trade crypto asset securities as described in section V.C.2.c? Please explain.

63. Do commenters agree with the Commission's assessment that the compliance costs associated with bringing a New Rule 3b-16(a) System that uses certain technologies that allow them to run portions of their operations using smart contracts deployed on an underlying blockchain into compliance may be greater than those for other platforms that trade crypto asset securities? If so, which costs do commenters expect to be greater, and why? Please explain and share any relevant data.

64. Do commenters agree with the Commission's assessment of the costs that may be associated with bringing a New Rule 3b-16(a) System that uses certain technologies that allow it to run portions of its operations using smart contracts deployed on an underlying blockchain into compliance? Do commenters believe that such costs could be significant? Please explain and share any relevant data.

65. Do commenters agree with the Commission's assessment of the initial compliance costs for New Rule 3b-16(a) Systems that use certain technologies that allow them to run portions of their operations using smart contracts deployed on an underlying blockchain? Please explain.

66. Do commenters agree with the Commission's assessment of the costs that miners or validators may bear? Please explain and share any relevant data.

67. Please provide examples of automation of New Rule 3b-16(a) Systems by means of immutable smart contracts.

68. Do commenters agree with the Commission's assessment of the impact of the Proposed Rules on efficiency, competition and capital formation? Do commenters agree that the Proposed Rules would allow for competition among trading systems on a more equal basis? Do commenters agree with the

Commission's assessment as to the risks of increasing barriers to entry and causing current trading systems to exit the market? Please explain.

69. To what extent would the Proposed Rules increase the barriers to entry for new trading venues or cause some existing trading venues to exit the market? How would these effects vary based on the size and/or type of trading venue and the securities market in which it operates? Please explain.

70. How would the Proposed Rules affect innovation? Please explain. Which provisions of the Proposed Rules would affect innovation the most and how? Please explain.

71. To what extent would the Proposed Rules cause existing trading venues to cease operating in the United States, if at all? If the Proposed Rules would have any such effect, which provisions of the Proposed Rules would be most responsible for this effect, and how? Please explain and share any relevant data.

72. Do commenters agree with the Commission's assessment of the effects of an alternative to delay subjecting New Rule 3b-16(a) Systems that exclusively trade crypto asset securities to the Proposed Rules?

73. Do commenters agree with the Commission's assessment of the effects of an alternative to subject only New Rule 3b-16(a) Systems that trade government securities to the Proposed Rules?

74. Do commenters agree with the Commission's assessment of the effects of an alternative to subject only New Rule 3b-16(a) Systems that trade fixed income securities to the Proposed Rules?

75. For purposes of determining compliance with the Fair Access Rule and Regulation SCI, an ATS must determine its trading volume to assess whether the ATS is subject to these rules. Does an ATS have the ability to obtain the necessary information to calculate thresholds to determine if the ATS is subject to Regulation SCI and Regulation ATS? Why or why not?

By the Commission.

Dated: April 14, 2023.

J. Matthew DeLesDernier,
Deputy Secretary.

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Federal Baseline Water Quality Standards for Indian Reservations;
Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 131, 230, and 233

[EPA-HQ-OW-2016-0405; FRL-5868-03-OW]

RIN 2040-AF62

Federal Baseline Water Quality Standards for Indian Reservations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to establish Federal water quality standards (WQS) for Indian reservation waters that currently do not have WQS in effect under the Clean Water Act (CWA or the Act), with limited exceptions. These WQS (referred to as baseline WQS) would establish human health and environmental objectives as the basis for CWA protections. EPA would implement the baseline WQS, in consultation with Tribes, in a manner that would address location-specific water quality conditions and Tribal circumstances, as appropriate, and consistent with all relevant public participation requirements to ensure transparency for stakeholders. Tribes are encouraged to seek authority to administer their own WQS program under the Act's provision for eligible Tribes to be treated in a similar manner as states (TAS). Baseline WQS would not apply in instances where Tribes with TAS authority have EPA-approved WQS now or in the future. EPA will continue to work closely with, and offer support to, Tribes that wish to develop their own WQS under the CWA.

DATES: Comments must be received on or before August 3, 2023.

Public Hearings: The first public hearing will be on Tuesday, June 27 from 2 p.m. to 4 p.m. ET. The second public hearing will be on Wednesday, July 12 from 2 p.m. to 4 p.m. ET.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OW-2016-0405, at <https://www.regulations.gov> (our preferred method), or the other methods identified in this **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. EPA will publish all comments received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written

comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

EPA is offering two online public hearings so that interested parties may provide oral comments on this proposed rule. The first public hearing will be on Tuesday, June 27 from 2 p.m. to 4 p.m. ET. The second public hearing will be on Wednesday, July 12 from 2 p.m. to 4 p.m. ET. EPA plans to make a transcript of the public hearings available to the public in the rulemaking docket. EPA will respond to substantive comments received as part of developing the final rule and will include comment responses in the rulemaking docket. For more details on the public hearings and a link to register, please visit <https://www.epa.gov/wqs-tech/promulgation-tribal-baseline-water-quality-standards-under-clean-water-act>.

FOR FURTHER INFORMATION CONTACT:

James Ray, U.S. EPA, Office of Science and Technology, Standards and Health Protection Division, 1200 Pennsylvania Avenue NW (MC 4305T), Washington, DC 20460, (202) 566-1433, ray.james@epa.gov. Additional information is also available online at <https://www.epa.gov/wqs-tech/promulgation-tribal-baseline-water-quality-standards-under-clean-water-act>.

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I. General Information

Does this action apply to me?

Tribes,¹ states, local governments, and citizens concerned with water

¹ "Tribe" means an Indian or Alaska Native Tribe, band, nation, pueblo, village, community, or other

quality and how water quality may be defined and protected on Indian reservations may be interested in this rulemaking. Entities discharging pollutants to waters of the United States may be indirectly affected by this rulemaking since water quality standards (WQS) are used to develop

National Pollutant Discharge Elimination System (NPDES) permit limits and serve as a basis for Clean Water Act (CWA) section 402 permit decisions. WQS also form the basis for assessing water quality, identifying impaired waters, and developing total maximum daily loads (TMDLs). See

CWA sections 305(b) and 303(d). In CWA section 404 permits, WQS are used during the review of permits authorizing the discharge of dredged or fill material. Categories and entities that may be affected include the following:

Category	Examples of potentially affected entities
States, Tribes, and Territories.	Federally recognized Tribes with Indian reservations currently without CWA-effective WQS and states and authorized Tribes near or bordering such reservations.
Federal Agencies	Federal agencies with projects or other activities that may affect surface waters on Indian reservations currently without CWA-effective WQS.
Industry	Industries discharging pollutants that may affect surface waters on Indian reservations currently without CWA-effective WQS.
Municipalities	Publicly owned treatment works and stormwater outfalls discharging pollutants that may affect surface waters on Indian reservations currently without CWA-effective WQS.

This table is not exhaustive, but rather it provides a guide that identifies entities that could be affected by this proposed rule. Other types of entities not listed in the table could also be affected. If you have questions regarding the effect of this action on a particular entity, please consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

II. Background

A. Role of Water Quality Standards Under the Clean Water Act

The CWA establishes the basic structure for regulating pollutant discharges into waters of the United States. In the CWA, Congress established the national objective to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA also sets forth the interim goal of achieving water quality, wherever attainable, that provides for both (i) the protection and propagation of fish, shellfish, and wildlife and (ii) recreation in and on the water (sections 101(a) and 101(a)(2)). 33 U.S.C. 1251(a), (a)(2). To help achieve these goals, the CWA created two complementary structures for regulating discharges in CWA section 402 NPDES permits: first, technology-based effluent limitations (TBELs) that set a floor of performance for categories of dischargers, and second, water quality-based effluent limitations (WQBELs) that are established where TBELs are insufficient to meet applicable WQS or site-specific water quality goals. 33 U.S.C. 1342(a). TBELs in NPDES permits are derived from secondary treatment standards, which are

minimum requirements for municipal wastewater treatment plants (CWA sections 301, 33 U.S.C. 1311), effluent limitations guidelines, which are national regulatory standards for industrial wastewater discharged to surface waters and municipal sewage treatment plants (CWA sections 304 and 1314), and new source performance standards, which are standards for water pollution discharges of industrial wastewater to surface waters (CWA section 306, 33 U.S.C. 1316) promulgated by EPA. If TBELs are not sufficient to meet the WQS in the receiving water, the CWA (section 301(b)(1)(c), 33 U.S.C. 1311(b)(1)(c)) and EPA's NPDES regulation, 40 CFR 122.44(d), require that the permit writer develop more stringent, WQBELs.

WQS are the foundation of the water quality-based pollution control programs required by the CWA. Under CWA section 303(c) and EPA's regulation at 40 CFR part 131, WQS consist of designated uses for water bodies, water quality criteria to protect those uses, and an antidegradation policy to maintain water quality. 33 U.S.C. 1313(c). Such standards serve as a description of the desired water quality for particular water bodies. In addition, they serve as the basis for several CWA programs, including:

- WQBELs issued through state or National Pollutant Discharge Elimination System (NPDES) Program under section 402, 33 U.S.C. 1342;
- Section 303(d), 33 U.S.C. 1313(d), water body assessments and determinations of TMDLs;
- Section 401, 33 U.S.C. 1341, certifications of Federal licenses and permits; and

- Section 404, 33 U.S.C., 1344, permits for dredged or fill material.

CWA section 303(c) gives states the primary responsibility to establish, review, and revise WQS applicable to their waters. In 1987, Congress amended the CWA to add section 518, the CWA provision for eligible Indian Tribes to be treated in a similar manner as states, or TAS. 33 U.S.C. 1377. In CWA section 518, Congress expressly delegated authority to Indian Tribes to administer CWA regulatory programs over their entire reservations, including over nonmember activities on fee lands within the reservation of the applicant Tribe, subject to certain eligibility requirements. For a Tribe to be eligible to obtain TAS authority and administer a CWA program, the Tribe must be federally recognized and maintain governmental authority over a reservation, among other requirements.²

EPA's use of "Tribe" in the context of this proposed rule refers to "Tribal government authority" that serves as the ultimate decision-maker for the Tribe.

Pursuant to CWA section 518, Tribes can obtain TAS under the CWA for water resources on their reservation. See 33 U.S.C. 1377(e)(2) (referring to waters "within the borders of an Indian reservation"); 81 FR 30183, 30191, May 16, 2016. Many named Indian reservations were established through Federal treaties with Tribes, Federal statutes, or Executive orders of the President. Such reservations are often referred to as formal reservations. EPA's longstanding approach under the CWA and other statutes administered by EPA is that, in accordance with judicial precedent, the term "reservation" includes both formal reservations and

entity that the Secretary of the Interior acknowledges to exist as an Indian Tribe pursuant to the Federally Recognized Indian Tribe List Act of 1944, 25 U.S.C. 479a.

² Under CWA section 518 and EPA's implementing regulation at 40 CFR 131.8(a), four requirements must be satisfied before EPA can approve a Tribe's application for treatment in a

similar manner as a state for purposes of administering water quality standards under CWA section 303(c).

informal reservations such as trust land that has been validly set apart for use by a Tribe even if such trust land is located outside of the exterior boundaries of a formally designated reservation. See 56 FR 64876, 64881, December 12, 1991; see also *Oklahoma Tax Commission v. Citizen Band Pottawatomie Indian Tribe of Oklahoma*, 508 U.S. 114, 123 (1991) (“Congress has defined Indian country broadly to include formal and informal reservations, dependent Indian communities, and Indian allotments, whether restricted or held in trust by the United States”); *HRI v EPA* 198 F.3d 1224 (10th Cir. 2000) (same); *Arizona Public Service Co. v EPA*, 211 F.3d 1280 (D.C. Cir. 2000) (Upholding EPA’s interpretation of “reservation” in the Clean Air Act as including tribal trust lands and pueblos, and noting that “[t]his view is consonant with other Federal court holdings that an Indian reservation includes trust lands.”). An Indian Tribe that obtains EPA approval for TAS to administer a WQS program over its reservation is referred to as an “authorized Tribe.”

CWA section 303(c) also provides for EPA to promulgate Federal WQS in two situations. First, EPA must act if it determines that a state’s or authorized Tribe’s new or revised WQS is not consistent with the requirements of the Act, and the state or authorized Tribe fails to submit a modified standard within 90 days. In that case, section 303(c)(4)(A) requires EPA to propose and promulgate a revised or new standard for the waters involved, unless prior to promulgation, the state or authorized Tribe adopts a WQS that EPA determines to be consistent with the Act. Second, section 303(c)(4)(B) grants the EPA Administrator discretion to promulgate standards in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of the Act. A determination pursuant to section 303(c)(4)(B) is referred to as an “Administrator’s Determination.” See 40 CFR 131.22(b).

B. Clean Water Act-Effective Water Quality Standards Currently Applicable in Indian Country

“Indian country” is defined by Federal statute at 18 U.S.C. 1151.³

³ Indian country is defined at 18 U.S.C. 1151 as: (a) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state; and (c) all Indian allotments, the Indian titles to which have not been

Pursuant to that definition, Indian country includes all territory within an Indian reservation (including land owned in fee simple by non-Indians). It also includes “dependent Indian communities” (DICs) and Indian allotments, the titles to which have not been extinguished, regardless of whether those lands are located within a reservation. EPA generally directly implements Federal environmental programs in Indian country where it has not approved a non-Federal entity to implement the program.⁴ See EPA’s 1984 Indian Policy (“EPA Policy for the Administration of Environmental Programs on Indian Reservations,” EPA, November 8, 1984); see also *Phillips Petroleum Co. v. EPA*, 803 F.2d 545, 556 (10th Cir. 1986) (holding that EPA had authority to prescribe regulations in Indian country, and noting that the court’s conclusion was “also consistent

extinguished, including rights-of-way running through the same. Indian reservations are thus a subset of the broader geographic area that comprises Indian country as a whole.

⁴ In a few instances, EPA has determined that, due to unique jurisdictional frameworks enacted by Congress, certain states have jurisdiction to administer WQS on Indian reservations under the CWA. These include the reservations, including trust lands, of all four Tribes in Maine (Houlton Band of Maliseet Indians, Mi’kmaq Nation, Passamaquoddy Tribe, and Penobscot Nation), the reservation of the Catawba Indian Nation in South Carolina, non-Indian fee lands of the Puyallup Reservation in Washington, and reservation lands (excluding Tribal trust lands, Indian allotments, and certain Tribal fee lands) in Oklahoma. See, e.g., Letter from H. Curtis Spalding, Regional Administrator, EPA Region 1, to Patricia W. Aho, Commissioner, Maine Department of Environmental Protection, “Re: Review and Decision on Water Quality Standards Revisions” (February 2, 2015), Attachment A at 2; Letter from Daniel Opalski to Laura Watson, Director, Washington Department of Ecology, Re: Clean Water Act Section 401 Implementation within the Puyallup Tribe of Indians 1873 Survey Area (August 9, 2021) (Noting that the State of Washington is authorized “to administer all Clean Water Act delegated and authorized programs on non-trust lands, as defined in the 1988 Lands Claims Settlement Agreement,” pursuant to the Puyallup Tribe of Indians Settlement Act of 1989, 25 U.S.C. 1773); EPA, 87 FR 3673, *Air Plan Approval; South Carolina; Catawba Indian Nation Portion of the Charlotte-Gastonia-Rock Hill Area Limited Maintenance Plan for the 1997 8-Hour Ozone NAAQS* (January 25, 2022) (“Pursuant to the Catawba Indian Claims Settlement Act, S.C. Code Ann. 27–16–120 . . . ‘all state and local environmental laws and regulations apply to the [Catawba Indian Nation] and Reservation and are fully enforceable by all relevant state and local agencies and authorities.’”); Letter from Andrew R. Wheeler to The Honorable J. Kevin Stitt, Governor of the State of Oklahoma, Re: Approval of State of Oklahoma Request Under Section 10211(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (October 1, 2020). (On December 22, 2021, EPA publicized a “Notice of Proposed Withdrawal and Reconsideration of October 1, 2020 SAFETEA Decision and Opportunity for Comment.” EPA’s reconsideration is currently ongoing, and Oklahoma’s approval to administer WQS in the stated areas of Indian reservations remains in place during that process.)

with the presumption that Congress intends a general statute applying to all persons to include Indians and their property interests.”); 40 CFR 144.2 (Underground Injection Control Program); 40 CFR 123.1(h) (National Pollution Discharge Elimination System Program); 40 CFR 71.4(b) (Clean Air Act Title V Permit Program); 40 CFR 281.12(a)(2) (Underground Storage Tanks Program). Because EPA-approved state WQS generally do not apply in Indian country, in the absence of Federal WQS or EPA-approved Tribes’ WQS, no CWA-effective WQS apply in the many Indian country waters where Tribes have not yet obtained TAS and established EPA-approved WQS.⁵

The Federal Government has recognized 574 Tribes.⁶ More than 300 of these Tribes have formal and/or informal reservations: e.g., named formal reservations, Pueblos, Rancherias, and lands held in trust by the United States for Tribal governments that are not designated as formal reservations. With few exceptions,⁷ any of these Tribes may apply to EPA under CWA section 518 to administer specific environmental programs, including WQS, for water resources within the boundaries of the Tribe’s reservation. As explained in section II.A. of this preamble, waters within the boundaries of a Tribe’s reservation also refers to waters on Tribal trust lands not formally designated as reservations.

EPA has approved TAS applications for 84 Tribes to administer the CWA section 303(c) program. Tribes with an approved TAS application may adopt WQS under section 303(c) of the CWA and submit them to EPA for review pursuant to CWA section 303(c) and EPA’s implementing regulation. To date, 47 of the 84 Tribes have submitted Tribal WQS that EPA has approved in this manner. EPA’s website, *EPA Actions on Tribal Water Quality Standards and Contacts*⁸ lists these Tribes and the dates their TAS authority and WQS were approved. EPA updates this list continually. EPA also provides technical assistance to Tribes in developing TAS applications and WQS.⁹

⁵ Some Tribes may have WQS effective under Tribal law. Such standards are not effective for CWA purposes, however, until they are approved by EPA. 40 CFR 131.21.

⁶ See *Indian Entities Recognized by and Eligible to Receive Services from the United States Bureau of Indian Affairs: Notice*, Department of the Interior, 86 FR 7554 (January 29, 2021).

⁷ See *supra* note 4.

⁸ <https://www.epa.gov/wqs-tech/epa-actions-tribal-water-quality-standards-and-contacts>.

⁹ <https://www.epa.gov/wqs-tech/water-quality-standards-tools-tribes>.

In one instance, EPA has promulgated Federal WQS for an Indian reservation. In 1986, the Confederated Tribes of the Colville Reservation (CTCR) in Washington requested EPA to promulgate the CTCR's WQS as Federal standards for waters of the reservation. The CTCR was concerned that their WQS could not otherwise be recognized under the CWA at that time. After EPA received the request from the CTCR, Congress passed the CWA amendments of 1987 to add the TAS provisions of section 518 described in section II.A of this preamble. Despite the pending opportunity to qualify for TAS for purposes of administering a WQS program, the CTCR supported EPA's promulgation of Federal WQS for the reservation. EPA finalized the CTCR promulgation in 1989 at 40 CFR 131.35. In 2018, the CTCR obtained TAS authority to administer a WQS program and is in the process of developing its own Tribe-adopted WQS for CWA purposes.

III. EPA's Rationale for Proposing Baseline Water Quality Standards

A. Status of Water Quality Standards Protection in Indian Country

As mentioned in section II.B of this preamble, while more than 300 Tribes with Indian reservations are eligible to apply for TAS, only 84 Tribes have applied and been approved to administer a WQS program. Of these 84 Tribes, only 47 Tribes to date have adopted WQS and submitted them to EPA for review and approval under the CWA. EPA has generally excluded Indian reservations from state WQS approvals, subject to limited exceptions.¹⁰ EPA estimates that about 76,000 miles of rivers and streams and 1.9 million acres of lakes, reservoirs, and other open surface waters within Indian reservations currently lack CWA-effective WQS; these reservations are home to approximately 550,000 people.¹¹ As a result, 50 years after enactment of the CWA, the majority of Indian reservations do not have this foundational protection laid out by Congress in the CWA for their waters.

Tribal interest in obtaining TAS and adopting their own WQS has increased in recent years, especially after EPA's action in 2016 to revise its interpretation of CWA section 518, which streamlined aspects of a Tribe's

TAS application.¹² A total of 27 of the 84 Tribes with TAS for the WQS program have been approved in the six years since then. Nonetheless, acquiring TAS authorities and adopting WQS is a time and resource-intensive process. At the current pace, it could take more than a decade for CWA-effective WQS to be put in place for all Indian reservations.

The lack of CWA-effective WQS for most Indian reservations means that those waters do not have the human health and environmental objectives in place that form the basis for CWA protections. WQS are central to implementing the water quality framework of the CWA. Although it is EPA's preference for Tribes to obtain TAS and develop WQS tailored to the Tribes' individual environmental goals and reservation waters, EPA's promulgation of baseline WQS would safeguard water quality until Tribes obtain TAS and adopt CWA WQS themselves.

B. Benefits of EPA Promulgating Baseline Water Quality Standards for Indian Reservations Where Clean Water Act-Effective Water Quality Standards Are Not in Place

EPA is proposing a national rule to establish baseline WQS to safeguard water quality for certain Indian reservation waters. The proposed rule will ensure that the core CWA framework to protect water quality is in place for these waters until the Tribe applies for TAS to administer a WQS program and adopts its own Tribal WQS consistent with CWA section 303(c). EPA is proposing to establish the following WQS:

- designated uses consistent with the CWA protection and restoration goals for aquatic life and users of surface water;
- a designated use that protects cultural and traditional uses;
- water quality criteria to protect those uses;
- an antidegradation policy with associated implementation procedures; and
- general WQS polices such as a mixing zone policy and compliance schedule authorizing provision.

EPA recognizes that WQS specific to the site-specific chemical, physical and biological conditions of each reservation might be more desirable than Federal baseline WQS. However, developing WQS tailored to each reservation, and potentially to different categories of waters within each reservation, would

further delay needed protections. Instead, EPA is relying on its role as both the promulgating entity and the primary implementing authority to allow a degree of site-specific tailoring within the regulatory construct of the WQS during subsequent implementation of the proposed rule. This tailoring would be accomplished by use of the narrative criteria and binding translation procedures identified in the rule. For example, a particular Tribe's fish consumption rates could be used during the implementation stage as part of the calculation to set the appropriate human health criteria value for its waters.

Because no Tribes have yet applied for TAS to administer the CWA section 402 NPDES permitting program, EPA is typically the NPDES permitting authority in Indian country. In the absence of CWA-effective WQS for these waters, EPA permit writers have utilized various tools to write protective NPDES permits, such as relying on downstream state WQS to inform relevant permit limits. However, these mechanisms are limited in their ability to protect Tribal waters reflecting Tribal priorities.

C. History of EPA's Efforts To Establish Baseline Water Quality Standards

EPA has been working with Tribes on the concept of promulgating baseline WQS for over two decades. Between 1998 and 2003, EPA consulted with Tribes, and sought input from states and the public on the possibility of EPA promulgating certain Federal WQS referred to as "core water quality standards" for Indian country waters without CWA-effective WQS. On January 18, 2001, EPA Administrator Carol Browner determined, pursuant to CWA section 303(c)(4)(B), that new or revised WQS were necessary for certain Indian country waters lacking CWA-effective WQS. Pursuant to the Determination, Administrator Browner signed a proposed rule to promulgate the core WQS under CWA section 303(c).¹³ Specifically, the Determination provides as follows:

[E]xcept where the Tribe wants to have its Indian country waters excluded from this rule and the Tribe and/or EPA has or intends to develop a plan for establishing water quality standards under the Clean Water Act within a reasonable time, and for off-reservation allotments . . . the EPA Administrator finds under the Clean Water Act sections 303(c)(4)(B) and 501(a) that

¹³ Federal Water Quality Standards for Indian Country and Other Provisions Regarding Federal Water Quality Standards. 2001: https://19january2017snapshot.epa.gov/sites/production/files/2016-08/documents/federal_wqs_for_indian_country_proposal_signed_1-18-01.pdf.

¹⁰ See *supra* note 4.

¹¹ See EPA's draft analysis, *Analysis of Tribal Reservation Lands without Applicable WQS (Draft)*, in the docket for this rulemaking.

¹² See *Revised Interpretation of Clean Water Act Tribal Provision*, final interpretive rule, 81 FR 30183, May 16, 2016.

water quality standards are necessary to meet the requirements of the Clean Water Act for all Indian country waters where EPA has not either (1) promulgated other Federal water quality standards or (2) explicitly found State or Tribal jurisdiction to adopt water quality standards (and Tribal or State standards are in effect) under the Clean Water Act.

The proposed rule excepted waters from the Determination where a Tribe demonstrated to the Regional Administrator that it had a plan in place, was working to develop such a plan, or the Tribe and Regional Administrator have agreed on a plan for adopting CWA-effective WQS within a “reasonable amount of time.” On January 22, 2001, EPA withdrew that proposal prior to its publication in the **Federal Register** to allow additional review.

In 2015, EPA renewed its efforts to engage in rulemaking to provide WQS protections in Indian country, focusing on Indian reservation waters that did not have CWA-effective WQS in place. In 2016, EPA published an advance notice of proposed rulemaking (ANPRM) to initiate a formal dialogue with Tribes, states, the public, and other stakeholders regarding whether EPA should initiate a rulemaking and, if so, what approach EPA should take regarding key policy issues raised by such a rulemaking. 81 FR 66900, September 29, 2016. EPA engaged in extensive consultation and coordination with Tribes leading up to the publication of the ANPRM in the **Federal Register**. EPA provided a public comment period on the ANPRM and received comments from 12 Tribal governments and associations; 11 state officials, agencies, and associations; 11 private citizens; and the Domestic Energy Producers Alliance. Refer to Docket ID No. EPA-HQ-OW-2016-0405 to view comments submitted to EPA on the ANPRM and EPA’s website at <https://www.epa.gov/wqs-tech/advance-notice-proposed-rulemaking-federal-baseline-water-quality-standards-indian>.

As a general summary, most comments associated with the ANPRM from Tribal governments expressed support for promulgation of baseline WQS at the time. However, some Tribes expressed concerns with this effort, perceiving it as an infringement on Tribal sovereignty, and requested that EPA not promulgate baseline WQS for Tribes who did not want to be covered by a WQS baseline rule. Comments raised the need for baseline WQS to accommodate regional tailoring, fish consumption rates reflecting individual Tribes’ consumption rates, inclusion of protections for cultural and traditional

uses, and reliance on antidegradation policies to ensure protection of high quality waters. States raised concerns about EPA’s CWA authority and resources to promulgate and effectively implement baseline WQS on Indian reservations. States also commented that baseline WQS might differ from neighboring states’ standards and potentially affect upstream dischargers.

On June 11, 2021, EPA sent a “Notification of Consultation and Coordination” letter to all 574 federally recognized Tribes to initiate a 90-day pre-proposal Tribal consultation and coordination period that began on June 15, 2021, and ended on September 13, 2021. In addition to two national Tribal listening sessions, EPA presented at 16 meetings with Tribal staff and leadership, held four staff-level coordination/engagement meetings, and held four government-to-government meetings. EPA continued outreach and engagement with Tribes at national and regional Tribal meetings after the end of the consultation period. For more information on the comments raised during these meetings and the comment letters received, please refer to EPA’s *Summary Report of Tribal Consultation and Coordination for the Proposed Rule: Federal Baseline Water Quality Standards for Indian Reservations* available in the docket associated with this rulemaking. In addition, on September 15, 2021, EPA consulted with state representatives from the Association of Clean Water Administrators (ACWA) to hear their initial views on the proposed regulatory changes. Participants raised questions about EPA’s implementation of baseline WQS under the CWA, EPA’s prioritization of Tribes obtaining TAS to administer their own WQS programs, the ability of baseline WQS to be tailored to reflect regional and location-specific information, and how EPA would reconcile differences between downstream Federal baseline WQS and upstream state WQS.

This proposed rule builds upon the prior initiatives and the comments and feedback provided to date which directly inform the baseline WQS articulated in this proposed rule.

D. EPA’s Authority for Establishing Baseline Water Quality Standards

Section 303(c)(4)(B) of the CWA provides that the Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new WQS for the navigable waters in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of the CWA. As explained

in section III.C. of this preamble, in 2001 the EPA Administrator made an Administrator’s Determination that new or revised WQS are necessary for certain Indian country waters.

EPA is not proposing to amend the Administrator’s Determination. This remains the source of authority for EPA’s proposal of WQS for Indian country waters that lack such standards. As explained further below in section IV.B of this preamble, this proposed rule would effectuate a significant portion of that Determination, recognizing that Tribes’ individual circumstances may vary and focusing initially on Indian reservation waters where EPA and the relevant Tribes agree that baseline WQS are appropriate at this time. This approach would ensure that the Tribes themselves have a role in determining the application of this rule, so that EPA may appropriately target resources to those Indian reservation waters where the agency and the Tribes determine the need for baseline WQS is most pressing. EPA will continue to monitor the development of WQS for Indian reservation waters and consider future action to effectuate the remainder of the Determination. This is discussed further in section IV.B of this preamble.

IV. Where the Proposed Baseline Water Quality Standards Would Apply

A. Waters to Which the Baseline Water Quality Standards Would Apply and Waters That Would be Automatically Excluded

EPA is proposing to promulgate baseline WQS for all waters of the United States in Indian country, with the following automatic exclusions:

(1) The baseline WQS would not apply to Indian reservation waters for which EPA has promulgated other Federal WQS. Currently, EPA has promulgated WQS for only one Tribe, the Confederated Tribes of the Colville Reservation (see 40 CFR 131.35). If EPA were to promulgate other Federal WQS for other Tribes in the future, consistent with applicable regulations, that rulemaking would result in the new Federal WQS being CWA-effective, rather than the baseline WQS.

(2) The baseline WQS would not apply to Indian reservation waters where EPA has explicitly found that a state has jurisdiction to adopt WQS or authorized a Tribe to adopt WQS pursuant to the TAS regulation and where EPA has approved the applicable state or Tribal WQS. As mentioned previously, 47 Tribes have adopted WQS approved by EPA and there are four instances where EPA found states have jurisdiction to administer WQS under the CWA on reservations or parts of reservations.

(3) The baseline WQS would not apply to Indian country waters in off-reservation allotments or dependent Indian communities (DICs), which are included in the definition of Indian country under 18 U.S.C. 1151.

The first two exclusions flow directly from the Administrator's Determination, excerpted in section III.C of this preamble, where the agency explicitly found that standards are not necessary for Indian country waters where EPA has (1) promulgated other Federal water quality standards, or (2) found that a state or Tribe has jurisdiction to adopt WQS and EPA has approved the applicable state or Tribal WQS.

The third exclusion also flows from the Administrator's Determination, which excepted off-reservation allotments from the scope of the Determination. EPA believes that the third exclusion, which also adds an exception for DICs, is warranted because of the infeasibility of covering these waters at this time. As noted in section II.A of this preamble, Indian country includes "allotments," which are lands held in trust by the Federal Government or under a restriction on alienation for the benefit of individuals. Allotments may be within the boundaries of a Tribe's reservation, and thus subject to this proposed rule along with other Indian reservation waters,¹⁴ or outside of a Tribe's reservation boundaries. There are likely many thousands of off-reservation allotments, many of which are scattered throughout the United States. The Department of the Interior's Bureau of Indian Affairs and Bureau of Land Management are in the process of identifying and locating off-reservation allotments in several geographical areas around the country. Until this information is confirmed, EPA is concerned that it would not be practical to ensure uniform implementation of the baseline WQS and would ensure that persons affected by this proposed rule have a meaningful opportunity to comment and engage in the process. Thus, EPA is not currently considering a new Administrator's Determination regarding off-reservation allotments.¹⁵

As noted in section II.A. of this preamble, the definition of Indian country also includes "dependent Indian communities" (DICs). While the term "dependent Indian communities" is not further defined in the statutory definition of Indian country, the Supreme Court has held that the term

dependent Indian communities "refers to a limited category of Indian lands that are neither reservations nor allotments, and that satisfy two requirements—first, they must have been set aside by the Federal Government for the use of the Indians as Indian land; second, they must be under Federal superintendence." *Alaska v. Native Village of Venetie*, 118 S. Ct. 948 (1998). Given the lack of information regarding the location of dependent Indian communities, the application of baseline standards to these areas at this time raises similar implementation concerns as allotments. As explained further in section IV.B of this preamble, in this proposed rule the agency is acting on a significant portion of a nationwide Administrator's Determination and has chosen to focus this initial effort on waters where the agency is best positioned to implement the baseline WQS in collaboration with Tribal partners. Thus, the agency is not currently proposing new or revised WQS for DICs.

EPA invites comment on the automatic exclusions included in the proposal. EPA specifically invites comment on whether dependent Indian communities should be excluded and whether EPA's concerns, outlined above, are warranted.

B. Additional Option for Case-by-Case Exclusions From Application of the Baseline Water Quality Standards

Section 131.XX(a)(4) of the proposed rule enables the Regional Administrator to exclude additional waters on a case-by-case basis informed by consultation with Tribes. The Administrator's Determination explicitly excluded waters where "the Tribe and/or EPA has or intends to develop a plan for establishing water quality standards under the Clean Water Act within a reasonable time." Thus, in this proposed rule, consistent with the Administrator's Determination, the agency is providing that Tribes may seek exclusion from coverage due to ongoing efforts toward establishing WQS. In addition, EPA is providing an option for Tribes to seek exclusion from coverage in the absence of such a plan to establish WQS at this time, upon approval by the relevant EPA Regional Administrator. As noted above, in this proposed rule the agency has chosen to focus this initial effort on Indian reservation waters where Tribes are best positioned to work with the agency to implement WQS.

Although it is important that WQS be established for all Indian reservation waters currently lacking WQS effective under the CWA, EPA recognizes that

Tribes' individual circumstances may vary. After consulting over many years with Tribes, and most recently engaging in coordination and consultation with Tribes to inform this proposal (see EPA's *Summary Report of Tribal Consultation and Coordination for the Proposed Rule: Federal Baseline Water Quality Standards for Indian Reservations* available in the docket associated with this rulemaking), EPA understands that, while some Tribes are presently working toward seeking TAS for WQS and/or the adoption of WQS for submittal to EPA, other Tribes may not be in a position to do so at this time. EPA also recognizes that some Tribes may need additional time to gather more information about baseline WQS and prepare for the partnership opportunities the WQS would afford.

To accommodate these considerations, EPA is proposing to allow Tribes to work with the appropriate Regional Administrator to seek an exclusion from the applicability of baseline WQS under this rule. This approach is consistent with the exception in the Administrator's Determination for Tribes that have a plan in place for establishing WQS for EPA approval or are working on a plan and do not yet have EPA-approved WQS for EPA in effect. Specifically, Tribes with such a plan in place or that are working on a plan are not subject to the Administrator's Determination. Similar to its approach to DICs, the agency is proposing to add an exception for coverage under this proposed rule to allow for potential exclusion from coverage for Tribes that do not yet have EPA-approved WQS but demonstrate to the Regional Administrator that baseline WQS are not consistent with Tribal priorities at this time. This approach would ensure that the Tribes themselves have a role in determining the application of this rule. Allowing Tribes to be excluded from applicability of the baseline WQS at this time will also enable EPA staff to appropriately target current resources toward working with those Tribes that are ready to partner with EPA in implementing baseline WQS in the near term. EPA will continue to work with those Tribes that are excluded from coverage at this time on ensuring that water quality on their Indian reservations is protected consistent with the CWA.

To seek exclusion from the scope of coverage of the baseline WQS rule, a Tribe should communicate with the Regional Administrator, explaining the basis of the Tribes' request to be excluded from coverage at this time and providing any supporting information, including, where applicable, plans for

¹⁴ As explained in section II.A of this preamble, Indian reservation refers to both formal reservations and Tribal trust lands.

¹⁵ The Administrator's Determination, see section III.C of this preamble, explicitly carved out off-reservation allotments due to "gaps in information regarding such allotments[.]" [Federal Water Quality Standards for Indian Country and Other Provisions Regarding Federal Water Quality Standards, 2001: https://19january2017snapshot.epa.gov/sites/production/files/2016-08/documents/federal_wqs_for_indian_country_proposal_signed_1-18-01.pdf].

developing WQS and the associated timeline for doing so. The timeframe for a Tribe seeking to be excluded to communicate to the Regional Administrator begins upon publication of this proposed rule in the **Federal Register** and ends no later than 90 days after the final rule is published in the **Federal Register**. See the discussion of the effective date of the final rule in section VIII of this preamble.

The Regional Administrator, informed by consultation with the Tribe, would approve or disapprove a Tribe's exclusion from the baseline WQS rule. In making a decision regarding exclusion from the initial coverage of the baseline standards, in the absence of a plan to develop Tribal CWA-effective WQS, the Regional Administrator would consider the impacts that exclusion from the baseline WQS rule would have on reservation water quality, including potential impacts to overburdened communities. The Regional Administrator would document the decision for the record.

Under this proposed rule, EPA would maintain a publicly available list, on a dedicated website, of all Tribes with Indian reservations for purposes of this proposed rule and would indicate which of those Tribes are covered by baseline WQS, which are excluded from coverage at this time, and which Tribes already have CWA-effective WQS in place.

A Tribe whose waters are excluded from baseline WQS coverage under the option described above may at any later time request the Regional Administrator to rescind the exclusion. Rescinding the exclusion will result in baseline WQS becoming applicable for waters of the Tribe. The Regional Administrator would document this decision for the record, and the Tribe would be listed as covered by baseline WQS on the website above.

EPA invites comments on the above proposed approach for EPA to allow exclusions from coverage by the baseline WQS.

V. Proposed Baseline Water Quality Standards

The CWA specifies that WQS shall protect public health or welfare, enhance the quality of water, and serve the purposes of the Act. To "serve the purposes of the Act" (as defined in sections 101(a)(2), and 303(c) of the Act), WQS must provide, wherever attainable, water quality for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, and must consider the use and value of the waters for those uses and for public water supplies,

industrial purposes, and navigation. (40 CFR 131.2). Per 40 CFR 131.22(c), when EPA promulgates WQS, it is subject to the "same policies, procedures, analyses, and public participation requirements established for States in these regulations." The following sections describe the designated uses, water quality criteria, antidegradation implementation methods, and certain other WQS provisions that EPA proposes to promulgate as the applicable baseline WQS for the Indian reservation waters discussed in section IV of this preamble.

Consistent with the *EPA Policy on Consultation and Coordination with Indian Tribes*,¹⁶ the proposed rule would require the Regional Administrator to initiate Tribal consultation with a Tribe(s) when taking actions under this proposed rule that may affect Tribal interests. See proposed 40 CFR 131.XX(b). That is, the Regional Administrator would notify the Tribe(s) of the opportunity for government-to-government consultation when taking actions under the baseline WQS rule.

EPA defines consultation in its 2011 *EPA Policy on Consultation and Coordination with Indian Tribes* as "a process of meaningful communication and coordination between EPA and tribal officials prior to EPA taking actions or implementing decisions that may affect tribes." As a process, consultation includes several methods of interaction that may occur at different levels. The appropriate level of interaction is determined by past and current practices, policy adjustments, the continuing dialogue between EPA and Tribal governments, and program and regional office consultation procedures and plans. EPA would seek information and input regarding implementation of baseline WQS in accordance with the 2011 *EPA Policy on Consultation and Coordination with Tribes*, the 2016 *EPA Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussing*

Tribal Treaty Rights,¹⁷ applicable EPA regional consultation procedures,¹⁸ or any other applicable EPA Tribal consultation policies in effect at the time the proposed rule would be applied. EPA would consider all relevant information obtained through consultation to help ensure that EPA is fully informed before taking a WQS action for Tribes covered by the final baseline WQS rule.

EPA would attempt to honor consultation requests from Tribal governments considering the nature of the activity, past consultation efforts, available resources, timing considerations, and all other relevant factors. EPA would generally agree to consult when such a request for consultation is made by a Tribal government, assuming the proposed action may affect the Tribe.

If a Tribe wishes to consult, EPA would follow the *EPA Policy on Consultation and Coordination with Indian Tribes*, and consultation procedures established by the relevant EPA regional office. If a Tribe declines consultation or prefers coordination without government-to-government consultation, the EPA Region would document this in the file associated with the Regional Administrator's action and consultation efforts would be concluded. If the Tribe does not respond, and reasonable efforts to reach out to the Tribe are unsuccessful, the EPA Region would document this in the file associated with the action and would conclude efforts to initiate consultation. Even if the EPA Region concludes such efforts without government-to-government consultation, EPA will nonetheless consider the potential interests of the Tribe, as well as EPA's responsibilities under the CWA, in its decision-making, pursuant to the general trust relationship and other policies.

A. Proposed Baseline Designated Uses

EPA's WQS regulation at 40 CFR part 131 requires states and authorized Tribes to specify appropriate water uses to be achieved and protected (40 CFR 131.10(a)). These uses are referred to as "designated uses" and defined at 40 CFR 131.3(f) as designated uses specified in WQS for each water body or segment whether or not they are being attained. Designated uses establish, and communicate to the public, the environmental management objectives and water quality goals for a

¹⁶ The EPA Policy on Consultation and Coordination with Indian Tribes (<https://www.epa.gov/sites/default/files/2013-08/documents/cons-and-coord-with-indian-tribes-policy.pdf>) applies to agency actions and decisions that "may affect tribal interests." Under Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments) agencies must have an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory policies that "have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Tribes." See Section XI.F of this preamble for a discussion of E.O. 13175.

¹⁷ Available online at <https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes-guidance-discussing-tribal-treaty>.

¹⁸ Available online at <https://www.epa.gov/tribal/forms/consultation-and-coordination-tribes>.

state or authorized Tribe's waters. Clear and accurate designated uses are essential to meet the ultimate objective of CWA section 101(a) to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

The CWA distinguishes between two broad categories of uses: uses specified in section 101(a)(2) of the Act and uses specified in section 303(c)(2) of the Act. The national goal in CWA section 101(a)(2) is water quality that provides for the protection and propagation of fish, shellfish, and wildlife and for recreation in and on the water "wherever attainable." CWA section 303(c)(2)(A) also requires states and authorized Tribes to establish WQS "taking into consideration their use and value" for a number of purposes, including those addressed in section 101(a)(2) of the Act.

The term "uses specified in section 101(a)(2) of the CWA" as used in EPA's WQS regulations, refers to uses, including subcategories of uses, that provide for the protection and propagation of fish (including aquatic invertebrates), shellfish, and wildlife, and recreation in and on the water.¹⁹ In addition, EPA interprets CWA section 101(a)(2) to refer not only to protecting water quality so that fish and shellfish and other aquatic life thrive, but also to protecting aquatic life as a food source.²⁰ EPA defines "non 101(a)(2) uses" as those uses that are not related to the protection or propagation of fish, shellfish, wildlife, or recreation in or on the water (see 40 CFR 131.3(q)). These uses include public water supply, agricultural activity, industrial activity, and navigation which are listed in CWA section 303(c)(2)(A) but not in CWA section 101(a)(2). The CWA requires that states and authorized Tribes take all of the uses listed in CWA section 303(c)(2)(A) into consideration when designating uses, but their uses must include 101(a)(2) uses unless the State or authorized Tribe demonstrates that such uses are unattainable. 40 CFR 131.10(j).

Consistent with CWA section 101(a)(2) and EPA's regulation at 40 CFR 131.10, EPA proposes to promulgate the following designated uses for Indian reservation waters consistent with section 101(a)(2). Water quality must provide for:

- *Aquatic Life:* Protection and propagation of fish, shellfish, and

wildlife, which includes protection of the health of human consumers of fish, shellfish, and other aquatic life.

- *Primary Contact Recreation:* Provides for recreation in and on the water.

Since 1983, EPA's WQS regulation at 40 CFR 131.10(j) and (k) has required that WQS protect CWA section 101(a)(2) uses unless states and authorized Tribes demonstrate that those uses are infeasible to attain through a use attainability analysis (UAA) consistent with 40 CFR 131.10, effectively creating a rebuttable presumption of attainability.²¹ If a state or authorized Tribe adopts designated uses other than the uses specified in section 101(a)(2) of the Act, it must document how its consideration of the use and value of water for those uses appropriately supports the state's action (§ 131.10(a)).

During the Tribal consultation process, many Tribes stressed the value and importance of protecting water quality at levels appropriate for use in various cultural and traditional activities of individual Tribes. CWA section 303(c)(2)(A) provides that uses are to protect the "public health or welfare" and consider a water body's use and value for various enumerated and other purposes.²² Cultural and traditional uses serve to protect the health and welfare of Tribal members exercising such uses and are thus within the purposes enumerated in the Act. EPA proposes to promulgate an explicit cultural and traditional designated use as part of the baseline WQS to ensure full protection of such uses. Accordingly, the baseline WQS would contain a third designated use in addition to the two described above:

- *Cultural and traditional uses:* Protection of cultural and traditional uses of reservation waters.

EPA is not proposing to define cultural and traditional uses in more detail in this rule because they can include a variety of uses specific to the ceremonies and traditions of each Tribe, and each use may require different levels of protection. For example, when

developing NPDES permit limits, a separate limit may not be necessary to protect full body immersion in the water or fishing-related cultural or traditional practices, if the limit to protect the primary contact recreation use is sufficient. However, practices that require protection of aquatic plants used for basket weaving, for example, may not be adequately covered by an aquatic life use or its protective criteria. Further, Tribal treaty or other reserved rights to fish, hunt, and/or gather on Indian reservations could generally be protected by such cultural and traditional designated uses, to the extent they are not protected by an aquatic life use or primary contact recreation use.

EPA is considering whether to promulgate any non-101(a)(2) uses, such as public water supply use, agricultural use, or industrial use, for all waters covered by this baseline WQS rule in light of the requirements of 303(c) and 40 CFR 131.10(a). Specifically, EPA is soliciting comment on whether EPA should designate a public water supply use for all Indian reservation fresh waters²³ covered by the scope of this rule or whether this use is best addressed by allowing Tribes to request such a designation, as explained below. Many states have established such a use on large numbers of their water bodies, and EPA anticipates that many Tribes may similarly desire such a use to be designated on some or most of their waters to help protect public water supply sources. However, an important consideration is that designating a public water supply use for all Indian reservation waters in this rule without accounting for local considerations could result in a designation on a water body where such a use is not appropriate (e.g., waters that may not have enough flow to support public water supply uses).

If EPA does not promulgate a public water supply use for all Indian reservation fresh waters covered by the final baseline WQS rule, a Tribe may subsequently request the Regional Administrator designate a public water supply use for its reservation water bodies if available information indicates that (1) there is use and value for such a use and (2) it is thus appropriate to be designated after this rule becomes effective. Conversely, if EPA were to promulgate a public water supply use for all Indian reservation waters covered by the final baseline WQS rule, a Tribe

²¹ EPA's 1983 regulation and "the rebuttable presumption stemming therefrom" have been upheld as a "permissible construction of the statute" (*Idaho Mining Association v. Browner*, 90 F. Supp. 2d 1078, 1097–98 (D. Idaho 2000)). Also refer to, Water Quality Standards Regulatory Revision (80 FR 51019, p. 51024 and FN 12), August 21, 2015.

²² CWA section 303(c)(2)(A): Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

¹⁹ 80 FR 51024, August 21, 2015. Preamble to the final Water Quality Standards Regulatory Revisions, 2015.

²⁰ 80 FR 51024, August 21, 2015. Preamble to the final Water Quality Standards Regulatory Revisions, 2015.

²³ Waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time. *Model Water Quality Standards Template for Waters on Indian Reservations*, June 2020. <https://www.epa.gov/wqs-tech/water-quality-standards-tools-tribes#tab3>.

could subsequently request that the Regional Administrator remove such a designation, consistent with 40 CFR 131.10(a) and (k)(3), from specific waters if information is available indicating that (1) there is no use and value for such a designated use; and (2) it is not an appropriate designated use.

EPA recognizes that the designated uses proposed in this rule may not be attainable in all Indian reservation waters because of Tribe-specific or site-specific factors. In such circumstances, EPA is proposing a process to subsequently revise designated uses (or establish WQS variances) in the future or add additional designated uses consistent with EPA's WQS requirements. Discussion of a Federal administrative procedure for a Regional Administrator to revise baseline designated uses for specific Indian reservation water bodies is provided in section VI of this preamble.

EPA invites comments on the proposed designated uses. Specifically, EPA requests comments on establishing an aquatic life use and primary contact recreation use consistent with CWA section 101(a)(2) for all Indian reservation waters covered by the final baseline WQS rule. EPA also requests comments on the explicit inclusion of a cultural and traditional designated use. Additionally, EPA requests comments on whether to include any of the designated uses specified in CWA section 303(c)(2)(A) but not included in CWA section 101(a)(2) such as public water supply use, agricultural use, or industrial use for all Tribal reservation waters identified for coverage under this baseline WQS proposed rule.

B. Proposed Baseline Water Quality Criteria

1. Overview of Water Quality Criteria in Standards

EPA's WQS regulation at 40 CFR 131.11 requires states and authorized Tribes to adopt water quality criteria that protect designated uses. These criteria must be based on sound scientific rationale, must contain sufficient parameters to protect the designated use, must support the most sensitive use where multiple use designations apply, and may be expressed in either narrative or numeric form. (See 40 CFR 131.11(a) and (b)) Special requirements apply to priority pollutants as discussed below. Narrative criteria are qualitative descriptions of the conditions necessary to protect a water body's designated use, while numeric criteria—expressed as levels, concentrations, toxicity units or other values—are quantitative descriptions of

those conditions. Narrative criteria accompanied by binding translation procedures, as part of the water quality standards, provide a basis for determining case-specific numeric values to protect the applicable designated use. Both narrative and numeric criteria provide a basis for the development of NPDES permit limits, water quality assessments, and other CWA purposes.

CWA section 304(a)(1) requires EPA to develop and publish, and from time-to-time update, recommended criteria for water quality accurately reflecting the latest scientific knowledge regarding concentrations of specific chemicals or levels of parameters in water that protect aquatic life and human health. These recommended criteria are based on sound scientific rationale to protect the designated use(s), and are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. CWA section 304(a)(1) criteria do not reflect consideration of economic impacts or the technological feasibility of meeting the concentrations in ambient water.

CWA section 304(a)(2) requires EPA to develop and publish, and from time-to-time update, information on the factors necessary to restore and maintain the chemical, physical, and biological integrity of all navigable waters and the factors necessary for the protection and propagation of shellfish, fish, and wildlife for classes of receiving waters and to allow recreation in and on the water.

States and authorized Tribes should establish numeric criteria based on EPA's recommended CWA section 304(a) criteria, CWA section 304(a) criteria modified to reflect site-specific conditions, or other scientifically defensible methods. See 40 CFR 131.11(b)(1). EPA's regulation at 40 CFR 131.11(b)(2) provides that states and authorized Tribes should establish narrative criteria where numeric criteria cannot be determined or to supplement numeric criteria. EPA must comply with these requirements when it promulgates Federal WQS (40 CFR 131.22(c)).

CWA section 303(c)(2)(B) requires states to adopt numeric criteria, where available, for all toxic pollutants listed pursuant to CWA section 307(a)(1) for which EPA has published CWA section 304(a) criteria, as necessary to support the states' and authorized Tribes' designated uses. "Priority toxic pollutants" are identified in 40 CFR part 423, appendix A—126 Priority Pollutants. As articulated in EPA's

guidance²⁴ that addresses the adoption of criteria for priority toxic pollutants in WQS, one approach to meet this requirement includes adopting a procedure for applying a narrative WQS provision that prohibits toxicity in receiving waters. Such a procedure would be used in calculating derived numeric values, which are to be used for all purposes under CWA section 303(c). At a minimum, states and authorized Tribes must develop numeric values for CWA section 307(a) toxic pollutants for which EPA has published CWA section 304(a) criteria where these pollutants are discharged or present in the affected waters and could reasonably be expected to interfere with designated uses.

As discussed in more detail below, EPA proposes narrative criteria with binding numeric translation procedures designed as the applicable WQS to protect the proposed designated uses for Indian reservation waters covered by a final rule. EPA would use these procedures to translate the narrative criteria into numeric values on a case-by-case basis to best reflect site-specific conditions and consideration of new and/or available information representing the latest sound science as discussed in more detail below. These procedures would be used for all purposes under CWA section 303(c) as necessary to protect the applicable designated uses. Although not specifically required for non-priority pollutants, providing the same information for those other pollutants is helpful toward meeting the CWA goals and increasing transparency for stakeholders.

2. EPA's Proposed Approach for Baseline Water Quality Criteria

This rulemaking proposes to establish CWA-effective WQS for waters on more than 250 Indian reservations nationwide where EPA is the primary CWA implementing authority. The baseline criteria would provide scientifically sound criteria, protect the applicable designated uses, and enable an appropriate degree of customization to best account for site-specific conditions and water attributes of importance to individual Tribes.

Consistent with the requirements of the CWA and EPA's regulation at 40 CFR part 131, EPA proposes to establish the narrative water quality criteria in proposed 40 CFR 131.XX(d)(1) to protect the applicable baseline

²⁴ Transmittal of Final "Guidance for State Implementation for Water Quality Standards under CWA section 303(c)(2)(B)." December 1988. <https://www.epa.gov/sites/production/files/2014-10/documents/cwa303c-hanmer-memo.pdf>.

designated uses proposed in this rule and discussed in section V.A of this preamble. The proposed narrative criteria are as follows:

1. All waters shall be free from toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances in amounts that will prevent attainment of the applicable baseline designated uses;

2. All waters shall be free from adverse impacts to the chemical, physical or hydrologic, or biological integrity caused by pollutants or pollution that prevent the attainment of applicable designated uses;

3. All waters shall be free from substances attributable to wastewater or other discharges that:

- A. Settle to form objectionable deposits;
- B. Float as debris, scum, oil, or other matter to form nuisances;
- C. Produce objectionable color, odor, taste, or turbidity; or
- D. Produce undesirable or nuisance aquatic life.

4. All waters shall be free from conditions that would likely jeopardize the continued existence of any threatened or endangered species listed under the Federal Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.

5. All waters shall maintain a level of water quality at their pour points to downstream waters that provide for the attainment and maintenance of the water quality standards of those waters, including the waters of another state or a federally recognized Tribe.

For the first proposed element of the baseline narrative criteria under 1., the term "polluting substances" includes "pollutants" as defined in CWA section 502(6) and 40 CFR 122.2. The statute defines "pollutant" broadly to include dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal, or agricultural waste discharged into water. CWA section 502(6). For regulatory purposes, pollutants are grouped into conventional, toxic, and nonconventional pollutant categories under the National Pollutant Discharge Elimination System (NPDES) program:

Conventional pollutants are those defined in CWA section 304(a)(4) and 40 CFR 401.16 (5-day biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease).

Toxic (priority) pollutants are those defined in CWA section 307(a)(1) (and listed in 40 CFR 401.15 and appendix A of 40 CFR part 423) and include 126 metals and predominately manmade organic compounds.

Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic

pollutants) and include parameters such as chlorine, ammonia, nitrogen, phosphorus, dissolved oxygen, temperature, chemical oxygen demand (COD), and whole effluent toxicity (WET).²⁵

The second proposed element of the baseline narrative criteria under 2. relates to adverse impacts, caused by pollutants or pollution, to the chemical, physical or hydrologic, or biological integrity of the waters covered under this proposed rule. The term "pollution" is defined in CWA section 502(19) as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

Chemical characteristics of waterbodies include values for parameters such as ions, hardness, pH, and dissolved organic carbon (DOC).

Physical and hydrologic characteristics and physical habitat of waterbodies, in the broad sense, include all those structural attributes that influence or provide sustenance to organisms within the water body, including the characteristic pattern of flow magnitude, timing, duration, frequency, and rate of change of a water body.^{26 27} Hydrology and habitat play a central role in supporting the chemical, physical, and biological integrity of streams and rivers and the services they provide. In addition, those characteristics are critical for addressing resiliency of watersheds in the face of climate change. EPA recognizes that Tribes are disproportionately vulnerable to the impacts of climate change, due in part to their dependence on specific geographic areas for their livelihoods; unique cultural, economic and political characteristics; and limited resources to prepare for, respond to and recover from climate-related hazards.²⁸ There is a strong need to develop adaptation strategies in partnership with Tribes that promote sustainability and reduce the impact of climate change on Tribes.²⁹ Observations, oral and written knowledge, innovations, practices, and beliefs developed by Tribes through interaction and experience with the environment contributes to the

²⁵ See https://www.epa.gov/sites/default/files/2015-09/documents/pwm_chapt_01.pdf.

²⁶ Consolidated Assessment and Listing Methodology, USEPA, July 2002.

²⁷ USGS-EPA Technical Report: *Protecting Aquatic Life from Effects of Hydrologic Alteration*, also called the Hydrologic Criteria Technical Document. 2016.

²⁸ See <https://www.epa.gov/system/files/documents/2021-09/epa-climate-adaptation-plan-pdf-version.pdf>.

²⁹ See <https://www.epa.gov/sites/default/files/2016-04/documents/ow-climate-change-adaptation-plan.pdf>.

scientific, technical, social, and economic advancements of the United States and our collective understanding of the natural world. This knowledge should be fully integrated into the adaptation strategies. Adaptive capacity, or the ability of a stream ecosystem to withstand climate-driven stresses, may be seen in rivers whose flow patterns more closely resemble the natural flow regime.³⁰

Biological characteristics of water bodies include the ability of an aquatic ecosystem to support and maintain a balanced and indigenous community of organisms having species composition, diversity, population densities, and functional organization similar to that of reference conditions.

The third proposed element of the baseline narrative criteria under 3. relates specifically to the discharge of substances that adversely affect the waters covered by this proposed rule. This element includes provisions that would prohibit the discharge of substances that would limit the enjoyment or utility of these waters.

The fourth proposed element of the baseline narrative criteria under 4. would prohibit conditions that would likely jeopardize endangered or threatened species that are listed under the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.

The fifth proposed element of the baseline narrative criteria under 5. would require that all waters maintain a level of water quality at their pour points to downstream waters that provide for the attainment and maintenance of the water quality of downstream waters of those waters, including the waters of another state or a federally recognized Tribe. In this context, "pour points" refers to the points of entry into downstream water bodies. Pursuant to CWA sections 303 and 101(a), the Federal regulation at 40 CFR 131.10(b) requires that upstream WQS ensure the attainment and maintenance of downstream WQS.

The rationale for establishing a downstream protection narrative criterion is described in an EPA guidance document entitled "Protection of Downstream Waters in Water Quality Standards: Frequently Asked Questions (June 2014)." In that document, EPA interprets the term "downstream" to include both intra- and interstate waters, as well as waters that form a boundary between adjacent

³⁰ USGS-EPA Technical Report: *Protecting Aquatic Life from Effects of Hydrologic Alteration*, also called the Hydrologic Criteria Technical Document. 2016.

jurisdictions. The document highlights that designated uses and water quality criteria that ensure attainment and maintenance of downstream WQS (1) help to avoid situations where downstream segments become impaired due, either in part or exclusively, to pollution source(s) located in upstream segments; (2) may help support more equitable use of any assimilative capacity available to upstream and downstream pollution sources and/or jurisdictions and may facilitate restoration of the downstream waters; and (3) prevents the shifting of responsibility for pollution reductions from upstream sources and/or jurisdictions to downstream sources and/or jurisdictions.

The document further notes that state and Tribal designated uses and criteria that protect downstream waters may increase the resiliency of the United States' waters to climate change and may help address environmental justice issues in urban waters. In addition, designated uses and criteria that ensure

attainment and maintenance of downstream WQS facilitate consistent and efficient implementation and coordination of water quality-related management actions (e.g., water quality monitoring and assessment, development of TMDLs; watershed-based restoration and protection plans; NPDES permitting; and CWA section 401 certifications).

EPA invites comments on the proposed narrative water quality criteria.

3. Proposed Numeric Translation Procedures

EPA is proposing binding numeric translation procedures as part of the baseline WQS that would be used to develop numeric values, or "translations," of the narrative criteria in local situations to protect the applicable designated uses. Specifically, the binding numeric translation procedures in proposed 40 CFR 131.XX(d)(2) would require the Regional Administrator to use the procedures as

necessary to derive numeric translations for specific water bodies as needed for all purposes under the CWA. As such, these translations would occur during CWA implementation and would comply with public participation requirements of applicable CWA implementation programs. EPA has included the words "as necessary" to recognize not only that numeric values may be needed for different parameters in different circumstances, in accordance with EPA regulations, but also to reflect variations in the way criteria are applied in different CWA implementation programs.

a. Proposed Numeric Translation Procedures and Derivation of Numeric Values

The proposed numeric translation procedures are provided in 40 CFR 131.XX(d)(2) of the proposed rule. The five options established under the procedures are summarized in Table 1 of this preamble below.

TABLE 1—SUMMARY OF PROPOSED PROCEDURES FOR EPA TO TRANSLATE NARRATIVE CRITERIA TO NUMERIC VALUES

<i>Option One</i>	
For parameters for which EPA has section 304(a) criteria recommendations.	Translate the baseline narrative criteria using EPA's national recommended water quality criteria published under section 304(a).
<i>Option Two</i>	
For parameters for which EPA has section 304(a) criteria recommendations, and information and/or data are available that more accurately reflect site-specific conditions.	Translate the baseline narrative criteria using EPA's national recommended water quality criteria published under section 304(a) of the CWA modified to reflect site-specific conditions and aquatic communities based on a sound scientific rationale, including EPA published methodologies if available, incorporating where relevant: • A fish consumption rate protective of Tribal fish consumers or EPA's latest default fish consumption rate, if appropriate, or • Available ambient monitoring data reflecting site-specific water chemistry inputs, or • Protective default water chemistry inputs reflecting published EPA guidance, where available, or • Indigenous Knowledge, often referred to as Traditional Ecological Knowledge, as appropriate, or • Other scientifically defensible assessments, for example, guidance published by EPA regions, or those related to Endangered Species Act consultation.
<i>Option Three</i>	
Where Tribal or state numeric criteria are available (as described at right) that are more appropriate, and for parameters for which EPA does not have CWA section 304(a) criteria recommendations.	Translate the baseline narrative criteria using numeric criteria available in: • WQS adopted by the Tribe but not yet CWA effective, or • Applicable CWA-effective WQS in an adjacent or other relevant state(s) or Tribe(s) that are in either case based on a sound scientific rationale, reflect similar waterbody characteristics, and ensure protection of the applicable designated uses established under this rule, taking into consideration Indigenous Knowledge, as appropriate.
<i>Option Four</i>	
For waters of the Great Lakes System ...	Translate the baseline narrative criteria using provisions of the Water Quality Guidance for the Great Lakes System (40 CFR part 132), where applicable, to ensure that the translations are as protective as required by 40 CFR part 132.
<i>Option Five</i>	
If none of the above options apply or are available.	EPA may rely on existing CWA implementation provisions to translate applicable narrative criteria, as necessary.

Details regarding each of these options are as follows.

Option One. In translating the narrative criteria for specific situations, the Regional Administrator could rely on EPA's current national recommended CWA section 304(a) water quality

criteria,³¹ where available, to set appropriate standards to ensure protection of the applicable baseline designated uses. These water quality criteria provide guidance for states and

³¹ See *Current Water Quality Criteria Tables* at <https://www.epa.gov/wqc>.

authorized Tribes in adopting WQS under CWA section 303(c). They also provide guidance to EPA when promulgating WQS.

Option Two. The Regional Administrator could rely on *Option Two* if information or data are available that more accurately reflect site-specific

conditions. The second option of the binding translation procedure provides that EPA would modify the CWA section 304(a) recommended criteria to protect site-specific conditions based on a sound scientific rationale, including EPA published methodologies, if available, and, as appropriate, Indigenous Knowledge (IK), often referred to as Traditional Ecological Knowledge (TEK), where consistent with EPA's regulations and CWA statutory requirements.^{32 33} incorporating where relevant, but not limited to: (1) a fish consumption rate protective of Tribal fish consumers or EPA's latest default fish consumption rate, if appropriate, or (2) available ambient monitoring data reflecting site-specific water chemistry inputs, or (3) protective default inputs reflecting published EPA guidance where available, or (4) other scientifically defensible assessments, for example, those related to Endangered Species Act consultation.

This option provides that EPA may consider available data and information concerning the physical, chemical, and biological quality of the waters in Indian country and adjacent waters; scientifically defensible technical and scientific information, including EPA published methodologies, IK, as appropriate, ambient monitoring data reflecting site-specific waterbody chemistry and any EPA technical and regional guidance to inform those calculations; information regarding Tribal treaty or other reserved rights to aquatic or aquatic-dependent resources; and any EPA guidance on policy for, and implementation of, the WQS program, including the Water Quality Standards Handbook.³⁴

EPA has developed several procedures to derive site-specific aquatic life criteria. The Recalculation Procedure accounts for relevant differences between the sensitivities of the aquatic organisms in the national dataset and the sensitivities of organisms that are present at the site. For more information, refer to EPA's Revised Deletion Process for the Site-specific Recalculation Procedure for Aquatic Life Criteria (2013). For fixed and hardness-based metals criteria

(currently metals other than aluminum and copper), the Water-Effect Ratio (WER) procedure accounts for relevant differences between the toxicities of a metal in laboratory dilution water and in the site water. In performing a WER, care must be taken to ensure that samples and tests are representative of the potential conditions at a site, such that the WER-derived criteria continue to be protective under conditions when the metals are highly bioavailable. For more information, refer to EPA's Interim Guidance on Determination and Use of Water-Effect Ratios for Metals (1994) and Modifications to Guidance Site-Specific Criteria (1997). EPA's national recommended CWA section 304(a) criteria for aluminum and copper both take site-specific water chemistry into account, obviating the need for a separate procedure like the WER.

During Tribal consultation, many Tribes expressed support for use of appropriate fish consumption rates, one of the input parameters used to calculate human health criteria, to reflect the true rate of subsistence consumption by a Tribe. EPA recommends that Regional Administrators calculating human health criteria select a fish consumption rate based upon local data. Where sufficient data are available, a fish consumption rate should be selected that reflects consumption that is not suppressed by fish availability or concerns about the safety of fish for human consumption. Regional Administrators could rely on use of the "Tribal/State Human Health Criteria Calculator,"³⁵ available on EPA's website, to adjust EPA's CWA section 304(a) human health criteria recommendations to reflect a Tribe's fish consumption rate and selected cancer risk level.

In 2015, EPA revised 94 of the existing CWA section 304(a) human health criteria recommendations to reflect the latest scientific information, including updated exposure factors (body weight, drinking water consumption rate, fish consumption rate), bioaccumulation factors, and toxicity factors (reference dose, cancer slope factor). The updated criteria follow EPA's current methodology for deriving human health criteria (USEPA 2000).³⁶ EPA's updated recommended fish consumption rate (22 g/day) is protective of the general population of fish consumers. EPA's national default

subsistence value of 142 g/day represents subsistence fishers whose daily consumption is greater than the general population, as presented in EPA's 2000 Human Health Methodology. A further discussion of fish consumption rates may be found in the 2000 Human Health Methodology and EPA's 2016 Guidance for Conducting Fish Consumption Surveys.

When translating the narrative criteria to protect consumers of fish, EPA would consult with the Tribe and determine the need for a modified fish consumption rate in those cases where the Tribe or EPA can support the modified rate with adequate scientifically defensible data and information,³⁷ or establish that Tribes rely on fish consumption for subsistence (thereby justifying applying the 142 g/day rate). Applicable treaty or other reserved fishing rights would inform this determination. In those consultations, EPA would apply its Guidance for Discussing Tribal Treaty Rights.³⁸

Option Three. The binding translation procedure allows the Regional Administrator to utilize *Option Three* where appropriate. Specifically, the Regional Administrator could utilize this option when WQS adopted by the Tribe are not yet CWA effective, or CWA-effective WQS applicable in an adjacent or other relevant state(s) or Tribe(s), are based on a sound scientific rationale, reflect similar waterbody characteristics, and ensure protection of the applicable designated uses, taking into consideration IK, as appropriate.

EPA proposes *Option Three* to recognize the feedback received during the Tribal consultation process. Many Tribes stressed the value and importance of relying on existing Tribal WQS that, although not yet EPA-approved, are based on a sound scientific rationale and could fill gaps or provide more refined coverage than is available under *Option One* or *Two*. Similarly, under *Option Three*, the Regional Administrator could also rely on Tribal or state numeric criteria that are more appropriate because, for example, they protect designated uses not considered in *Options One* or *Two* or consider site-specific factors, exposure routes, human health

³² Guidance for Federal Departments and Agencies on Indigenous Knowledge. <https://www.whitehouse.gov/wp-content/uploads/2022/12/OSTP-CEQ-IK-Guidance.pdf>.

³³ EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous People (2014). <https://www.epa.gov/sites/default/files/2017-10/documents/ej-indigenous-policy.pdf>.

³⁴ EPA Water Quality Standards Handbook. <https://www.epa.gov/wqs-tech/water-quality-standards-handbook>.

³⁵ See <https://www.epa.gov/wqs-tech/water-quality-standards-tools-tribes>.

³⁶ *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (2000), EPA-822-B-00-004, October 2000.

³⁷ Guidance for Conducting Fish Consumption Surveys. 2016: <https://www.epa.gov/sites/default/files/2016-12/documents/guidance-fish-consumption-surveys.pdf>.

³⁸ EPA Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussing Tribal Treaty Rights. February 2016. https://www.epa.gov/sites/default/files/2016-02/documents/tribal_treaty_rights_guidance_for_discussing_tribal_treaty_rights.pdf.

endpoints, or other factors not considered in *Option One* or *Two*; or for parameters for which EPA does not have CWA section 304(a) criteria recommendations.

Option Four. The Regional Administrator would use the Water Quality Guidance for the Great Lakes System (40 CFR part 132) (part 132 Guidance), where applicable, to translate the narrative criteria, as defined in 40 CFR 132.2, to ensure appropriate protection of Great Lakes waters. Both the Great Lakes provisions for water quality criteria discussed here (proposed 40 CFR 131.XX(d)(2)(iv)) and the broader requirements for baseline WQS decisions to be consistent with 40 CFR part 132 (proposed 40 CFR 131.XX(k)) are designed to reinforce the requirements in CWA section 118(c)(2) that all WQS, antidegradation policies, and implementation procedures within the Great Lakes system must continue to be consistent with the 40 CFR part 132 Guidance.

Option Five. For those parameters without established CWA section 304(a) water quality criteria recommendations, the Regional Administrator would follow *Option Three* or *Option Four* of the translation procedures if applicable. In circumstances where none of the first four options are applicable, *Option Five* provides that the Regional Administrator would rely on existing CWA implementation provisions to translate the baseline narrative criteria, where necessary. For example, the Regional Administrator could rely on 40 CFR 122.44(d)(1)(vi)(A) and (C) for NPDES permitting purposes. This fifth option would ensure consistency with the proposed requirement that the Regional Administrator derive numeric translations of the baseline narrative criteria for all purposes under CWA section 303(c) for specific parameters to protect the applicable designated uses for specific water bodies.

For all five options, when EPA translates the baseline narrative criteria for CWA implementation purposes after the final baseline WQS rule is in effect, the associated numeric values would be used for purposes of developing CWA section 402 and 404 permits, section 303(d) lists and TMDLs, and section 401 certifications, where applicable. In each case, EPA would identify and explain the derived numeric values as part of the public process associated with the respective CWA implementation program. EPA would rely on the public participation requirements associated with the respective CWA implementation programs to provide for public review of any resulting numeric values. At its discretion, a Regional

Administrator could also provide a specific public process on EPA's translation of the baseline narrative criteria, in advance of the public process associated with the respective CWA implementation program, to solicit input from affected parties specifically on the derivation of the numeric values. EPA would make the numeric values, along with the spatial extent (*i.e.*, waterbody segment) for which the narrative criteria were translated, publicly available at a website that will be provided in the final rule. At the request of a Tribe, EPA could also provide this information to the Tribe in a non-electronic format.

Making information available to the respective Tribe, the public, the regulated community, and other stakeholders is important to ensuring regulatory certainty and clarity. Documents associated with CWA implementation also provide transparency for the public. For federally issued NPDES permits, for example, EPA would describe in the permit fact sheet or statement of basis how it used the numeric values translated from the applicable baseline narrative criteria to derive WQBELs.

EPA solicits comment on EPA's proposed approach to rely on narrative criteria with an associated binding numeric translation procedure. EPA also invites comment on other approaches that should be considered, including reliance on IK, as appropriate.

b. EPA To Translate the Baseline Narrative Criteria

EPA is the authority responsible for translating the applicable baseline narrative criteria for use in CWA regulatory actions because the baseline WQS would be federally promulgated, and the proposed regulatory text directs EPA to undertake this translation step. The most common example would be EPA issuance of a NPDES permit for a discharge to Indian reservation waters where the baseline WQS would apply. The EPA regional office (including the WQS and implementing programs) would rely on the binding translation procedures to translate narrative criteria for pollutants in the discharge to determine if they have a reasonable potential to cause or contribute to an exceedance of WQS. EPA would use those numeric values to derive WQBELs for those pollutants. Other implementation examples are discussed in section VII of this preamble.

EPA also notes that if situations arise where there are significant differences between upstream state WQS and baseline WQS, EPA would address them similarly to how EPA currently works

with two states, or an authorized Tribe and a state, to address significantly differing standards set on a shared water body. Early communication among the potentially affected jurisdiction(s) and EPA is key to help define the scope of the issue and determine protective endpoints. This process entails working with the applicable entities to ensure all WQS are considered. States, Tribes, and EPA are also able to rely on the public notice and comment opportunities to inform the derivation of numeric values translated from the applicable baseline narrative criteria and the establishment of WQBELs as mentioned previously. In addition, EPA's regulation at 40 CFR 131.7 provides a mechanism for the resolution of unreasonable consequences that may arise from differing WQS set by states and authorized Tribes located on common bodies of water. Although 40 CFR 131.7 does not apply to situations with different Federal and state WQS on a shared water body, EPA could utilize procedural steps similar to those laid out in that section where appropriate to work with the relevant parties in a neutral fashion in an effort to resolve the issues involved.

C. Proposed Baseline Antidegradation Policy and Implementation Procedures

Antidegradation requirements are an essential component of WQS and play a critical role in maintaining and protecting valuable water resources. Antidegradation provides a framework for maintaining and protecting water quality that has already been achieved. This includes maintaining and protecting existing uses,³⁹ high quality waters, and the water quality of outstanding national resource waters (ONRWs). Maintaining water quality, particularly high water quality, is critical to supporting public health, economic growth, community growth, and high functioning natural systems. It provides a margin of safety that will afford the water body increased resilience to potential future stressors, including climate change. It is more cost effective and resource efficient to keep water clean than to restore or remediate waters that have been impaired. The Federal antidegradation regulation in 40 CFR part 131 requires development and adoption of an "antidegradation policy" and development of "antidegradation implementation methods." 40 CFR 131.12.

³⁹ 40 CFR 131.3(e). "Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards."

EPA is proposing an antidegradation policy for Indian reservation waters consistent with the antidegradation regulation at 40 CFR 131.12(a). The proposed antidegradation policy for Indian reservation waters would establish three levels of protection: protection for existing uses, protection for high quality waters, and protection for ONRWs. Please refer to the proposed antidegradation policy found at 40 CFR 131.XX(e) of this proposed rule.

Protection for existing uses (Tier 1) would require that the water quality necessary to protect existing uses be maintained. "Existing uses" are defined at 40 CFR 131.3(e) as those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards. Tier 1 protection would establish the floor of water quality for all Indian reservation waters.

Protection for high quality waters (Tier 2) would require that where water quality exceeds the levels necessary to support protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality shall be maintained and protected. A lowering of water quality could be allowed if the Regional Administrator finds with written agreement from the Tribe, after public involvement and intergovernmental coordination, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. "Exceeds" in this context refers to water quality being better than necessary to support CWA section 101(a)(2) uses. The Regional Administrator must assure that any lowering of high water quality still results in water quality that protects existing uses. In addition, the Regional Administrator must assure that no lowering of high water quality is allowed unless statutory and regulatory requirements for existing point sources and all Tribal-regulated,⁴⁰ cost-effective, and reasonable best management practices for nonpoint source controls are achieved. Tier 2 protection is intended to establish protection for high quality waters, and to provide a public, systematic decision-making process for determining whether to allow limited degradation of water quality in these high quality waters.

This approach is in accordance with 40 CFR 131.12(a)(2) which provides that water quality shall be maintained and protected unless "the State" finds that allowing lower water quality is

necessary to accommodate important economic or social development in the area in which the waters are located. Here the Regional Administrator, as the entity implementing the antidegradation policy, would be making such a finding. In order to ensure that Tribes are able to exercise appropriate oversight over their waters based on local priorities, proposed 40 CFR 131.XX(e)(2) provides that the Regional Administrator would not allow the lowering of high water quality unless the relevant Tribe agrees in writing that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. If the Tribe does not provide its written agreement, then the Regional Administrator will maintain the current high water quality WQS.

In determining whether a lowering of high water quality is necessary, the Regional Administrator and the Tribe would consider the results of an analysis of practicable alternatives, which is an analysis of pollution control and pollution prevention alternatives.⁴¹ If identified, a less or non-degrading practicable alternative would be selected for implementation consistent with 40 CFR 131.12(a)(2)(ii). The Regional Administrator and Tribe would also consider the results of a socio-economic analysis which would assess the social and economic importance of the activity to the community impacted by the degraded water quality. These analyses could be completed by the agency, the Tribe, or a third party (for example, the discharger affecting water quality). EPA is considering whether these analyses could be completed by third parties and solicits comment on whether this rule should include such a requirement, or alternatively leave open which entity will provide such information.

Protection for ONRWs (Tier 3) would require that water quality in water bodies of exceptional recreational, ecological, or cultural significance would be maintained and protected. The term "cultural significance" is not a part of 40 CFR 131.12(a)(3). EPA is proposing to include this language at proposed 40 CFR 131.XX(f)(4) to clarify that Tribes are able to identify highly valued waters on their reservations based on their cultural significance in keeping with the intended purpose of this rule. This provision would establish the highest level of protection for water bodies by prohibiting the permanent

lowering of water quality. However, activities that result in short-term and temporary changes in the water quality of the ONRW may be allowed. EPA interprets short-term and temporary as weeks or months, and not years. The intent is to limit degradation to the shortest possible time and prohibit any permanent degradation. EPA is not proposing to classify any water body as an ONRW in the final baseline standards rule. See the proposed antidegradation implementation method at proposed 40 CFR 131.XX(f)(4) and the associated preamble discussion of Tier 3 below for the process to nominate a water to be an ONRW.

The purpose of this antidegradation policy would be to maintain and protect the finite public resource of clean water and ensure that a decision to allow a lowering of high water quality is made in a public manner and serves the public good.

EPA invites comments on the proposed antidegradation policy provisions. EPA is not proposing to revise 40 CFR 131.12 with this proposal, and thus does not seek comment on the provisions in 40 CFR 131.12. Rather, EPA invites comment on the antidegradation policy as applied herein to certain Indian reservation waters for Tribal WQS decisions.

EPA also proposes to establish legally binding antidegradation implementation methods consistent with 40 CFR 131.12(b) and proposed 40 CFR 131.XX(e). Please refer to the proposed antidegradation implementation methods regulatory language found at 40 CFR 131.XX(f) of this proposed rule.

Antidegradation implementation methods (AIMs) are a set of provisions that describe how a state's or authorized Tribe's antidegradation policy will be implemented. As currently implemented under 40 CFR 131.12, AIMs can be legally binding or in guidance. As stated in 40 CFR 131.12(b), all states and authorized Tribes are required to develop AIMs that are consistent with 40 CFR 131.12(a) and their own antidegradation policy. States and authorized Tribes must make these AIMs available to the public and must provide the public an opportunity to provide input on the AIMs during their development and any subsequent revision (40 CFR 131.12(b)).

In addition to EPA's proposed antidegradation policy and consistent with 40 CFR 131.12, EPA is proposing antidegradation implementation methods, as provided at proposed § 131.XX(f), which address the following elements to implement EPA's proposed antidegradation policy:

⁴⁰ See <https://www.epa.gov/sites/default/files/2014-10/documents/davies-regrequire-memo.pdf>.

⁴¹ "Practicable, in the context of § 131.12(a)(2)(ii), means technologically possible, able to be put into practice, and economically viable." 40 CFR 131.3(n).

• *Existing use protection (Tier 1):* describes how the Regional Administrator would ensure the maintenance and protection of existing uses and the water quality to protect the existing uses. EPA would implement this provision for Tribes covered by this rule, by reviewing and determining whether a lowering of water quality would impair an existing use. If the Regional Administrator finds that a water body has an existing use that has not been designated, such as a public water supply use, the Regional Administrator would ensure protection of that undesignated, but existing use. If an undesignated use is identified as an existing use, then the Regional Administrator would work with the Tribe to adopt this use as a designated use to ensure its future protection. At minimum, 40 CFR 131.10(i) would dictate that the EPA and Tribe determine the best way to revise designated uses to protect any existing use that is presently being attained.

• *High quality water protection (Tier 2):* (1) describes how the Regional Administrator would identify high quality waters on a parameter-by-parameter basis; (2) describes how the Regional Administrator with written agreement from the Tribe, would determine whether a lowering of high quality water is necessary to accommodate important economic or social development in the area in which the waters are located through an analysis of alternatives and a socio-economic analysis; (3) describes how the Regional Administrator would provide for public involvement and intergovernmental coordination on any decision to lower water quality in a high quality water; (4) describes how the Regional Administrator would assure that any lowering of high water quality still results in water quality that protects existing uses fully; (5) describes how the Regional Administrator would assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all Tribal-regulated, cost-effective, and reasonable best management practices for nonpoint source control when allowing a lowering of water quality.⁴²

• *ONRW protection (Tier 3):* describes how the Regional Administrator would ensure the maintenance and protection of water quality for waters identified as ONRWs. It also describes the nomination process to assign waters as

ONRWs. In this process, any person or entity may nominate a specific water for such protection by providing written documentation of the qualifications of the reservation water to the Regional Administrator and the Tribe. The Regional Administrator would make a final decision with written agreement from the Tribe to assign the water as an ONRW and issue a public notice regarding that decision. EPA would provide a publicly available list of waters assigned as an ONRW at a website location to be provided in the final rule.

The requirements of the antidegradation policy and AIMs will be triggered by a request from a discharger or entity for authorization for any new or expanded regulated activity. Regulated activities include, but are not limited to, any activity that requires a permit, license, or water quality certification pursuant to sections 401, 402, and 404 of the CWA. States and authorized Tribes may implement antidegradation requirements in programs beyond those regulated under the CWA, such as state- or Tribal-regulated nonpoint source programs or voluntary programs. As part of the implementation of antidegradation in CWA section 402 permits, antidegradation protections will also be addressed in new or reissued general permits authorized, implemented, or administered by the Regional Administrator either at the time the permitting authority develops and issues the general permit or upon review of an applicant's request to be covered by a general permit.

For further discussion on AIMs, please refer to EPA's WQS Handbook, Chapter 4 Antidegradation.⁴³

EPA solicits comment on the proposed antidegradation implementation methods.

D. Other Proposed Water Quality Standards Provisions of Baseline Water Quality Standards

1. Mixing Zone Policy

The proposed rule contains a detailed mixing zone policy that would allow the Regional Administrator to establish mixing zones on a case-by-case basis. But it would prohibit mixing zones for discharges of bioaccumulative pollutants and for pathogens and pathogen indicators without adequate evidence that designated uses will be protected. EPA's proposed mixing zone policy in this proposed rule draws upon the mixing zone policy included in

EPA's Model WQS Template for Waters on Indian Reservations,⁴⁴ which builds upon mixing zone guidance produced by EPA over the years and the state of Washington's existing state mixing zone policy. EPA would follow its regulations regarding public notice and opportunity for public comment in applying its mixing zone policy in federally issued NPDES permits.

A mixing zone (sometimes also called a regulatory mixing zone) is defined through the NPDES permitting process and may be implemented in any waterbody type or discharge configuration where rapid and complete mixing does not occur. EPA's current guidance⁴⁵ describes a mixing zone as an allocated impact zone where certain water quality criteria may be exceeded, provided that there is no lethality to aquatic organisms that pass through the mixing zone; there are no significant health risks to humans; and the designated and existing uses of the water body as a whole are not impaired as a result of the mixing zone. Allocated impact zones or mixing zones, if disproportionately large, could unacceptably impact the integrity of the aquatic ecosystem and have unanticipated ecological consequences on the water body as a whole resulting in impairment of the designated or existing uses. A legally binding mixing zone policy is considered a WQS under EPA's existing regulations at 40 CFR 131.13. The policy describes the general characteristics of, and requirements associated with mixing zones without accounting for site-specific information. EPA's guidance has emphasized a holistic approach to mixing zone regulation which considers location, size, shape, outfall design, and in-zone quality.⁴⁶

Mixing Zone Size

To protect the designated uses of the water body as a whole, it is critical that pollutant concentrations within any mixing zone are not lethal to mobile, migrating, and drifting organisms in the water body or cause unacceptable human health risks considering likely pathways of exposure. One means of achieving these objectives is to limit the size of the mixing zone. EPA is

⁴⁴ <https://www.epa.gov/wqs-tech/water-quality-standards-tools-tribes#tab3>.

⁴⁵ EPA Water Quality Standards Handbook, <https://www.epa.gov/wqs-tech/water-quality-standards-handbook>.

⁴⁶ EPA's guidance on mixing zones has been detailed in several agency publications, including the Water Quality Standards Handbook, August 1994, the Technical Support Document for Water Quality-based Toxics Control (TSD), March 1991, and EPA's Compilation of Mixing Zone Documents, 2006.

⁴² See Davies, Tudor. 1994. Memorandum: Interpretation of Federal Antidegradation Regulatory Requirement. <https://www.epa.gov/sites/default/files/2014-10/documents/davies-regrequire-memo.pdf>.

⁴³ EPA Water Quality Standards Handbook, <https://www.epa.gov/wqs-tech/water-quality-standards-handbook>.

proposing to limit the size of mixing zones in 40 CFR 131.XX(g)(2)(vii) of this proposed rule by establishing specific metrics for: how far upstream and downstream mixing zones may extend; how much of the water body may be taken up by mixing zones (in terms of percentages); and prohibiting overlapping mixing zones. These proposed size metrics represent a balance among three interests: allowing a reasonable amount of water for mixing; allowing for sufficient space for human health protection and aquatic life survival, growth, and reproduction; and recognizing that multiple dischargers may exist on the same water. EPA solicits comments on the proposed size metrics and whether other metrics, metric values, or approaches may be more appropriate.

Mixing zone sizes are often determined using a set of critical conditions to ensure protection of the receiving water. Examples of critical conditions are the critical effluent concentration, critical effluent flow, and the critical low flow of the receiving stream. Critical low flows commonly used throughout the United States include these hydrologically-based metrics:

- 1Q10 (the lowest one-day average flow event expected to occur once every ten years) or the biologically-based 1B3 (the lowest one-day average flow event expected to occur once every three years) flow rate for acute aquatic life criteria;
- 7Q10 (the lowest seven-consecutive-day average flow event expected to occur once every ten years) or 4B3 (the lowest four-consecutive-day average flow event expected to occur once every three years) flow rate for chronic aquatic life criteria with a duration of less than 30 days and human health criteria based on a short-term toxicological effect; the 30Q10, 30Q5, or 30B3 flow rate for chronic aquatic life criteria with a duration of 30 days or longer; and
- harmonic mean flow rate for human health criteria is based on lifetime exposure.

Local, regional, and national guidance is available to determine critical low flows and other critical conditions for mixing zone calculations. EPA is proposing that for purposes of this rule, critical low flow will mean the 1Q10 or 1B3 flow rate for acute aquatic life criteria; the 7Q10 or 4B3 flow rate for chronic aquatic life criteria with a duration of less than 30 days and human health criteria based on a short-term toxicological effect; the 30Q10, 30Q5, or 30B3 flow rate for chronic aquatic life criteria with a duration of 30

days or longer; and the harmonic mean flow rate for human health criteria based on lifetime exposure.

Zones of passage within water bodies that allow for migrating, free-swimming, or drifting organisms are particularly important when determining the appropriate size of a mixing zone. Zones of passage are continuous water routes of such volume, area, and quality as to allow the passage of free-swimming and drifting organisms without significant adverse effects on their populations. Many species migrate for spawning and other purposes. Not only do migrating species (*e.g.*, anadromous and catadromous species) need to be able to reach suitable spawning areas, their young (and in some cases the adults) require a safe return route to their growing and living areas. Within a mixing zone, pollutant concentrations exceeding the established criteria can create barriers that hinder or prevent safe migration.

Mixing Zone Shape

The water body type, outfall design, and characteristics of the discharge will determine the shape of a mixing zone. The shape should be a simple configuration that is easy for both the discharger and the permitting authority to locate in a water body and that avoids impingement on biologically important areas. In lakes, a circle with a specified radius is generally preferable, but other shapes might be appropriate in the case of unusual site configurations. Mixing zone shapes and sizes may vary depending on the pollutant of concern and the specific criterion (*e.g.*, acute, chronic, or human health) being considered. Local, regional, and national guidance is available to determine mixing zone characteristics. Under EPA's proposal, the Regional Administrator would be able to adjust the size and extent of mixing zones within the limits allowable in proposed 40 CFR 131.XX(g)(2)(vii) to establish the desired shape of mixing zones where appropriate.

Outfall Design

Many different factors affect how well the outfall design allows the discharge to mix with the receiving water, including:

- The height of the outfall with respect to the surface and bottom of the water body. A surface discharge is least favorable for toxic discharges since it offers the least initial mixing. Submerged discharges offer greater flexibility in meeting the design goals for toxic discharges.
- The distance of the end of the pipe to the nearest bank (*i.e.*, whether the

outfall is in the middle of the water body or close to one side). Discharges at the shoreline of a water body can yield high surface concentrations along the shoreline when there is significant cross-flow.

- The angle of the discharge. The initial dilution can be maximized when submerged discharges direct the effluent at an angle to the ambient flow. For example, in rivers, the preferred arrangement for a submerged discharge is to direct the outfall into the current flow direction or vertically upward.

- The type of submerged discharge that is used (*i.e.*, single-port or multi-port diffuser). A multiport submerged discharge, or diffuser, can help effluent to be mixed more rapidly than a single-port submerged discharge.

Shore hugging plumes are a particular concern in all water bodies. Shore areas are often the most biologically productive and sensitive areas of a water body, and they are often used for recreation. Shore-hugging plumes generally do not mix as well with receiving waters and, thus, do not dilute as well as mixing zones with other shapes that do not hug shorelines. Because shore-hugging plumes tend to keep unmixed water over the benthic area or in the recreational area, they are more likely to adversely affect the designated uses of the water body. Therefore, EPA is including avoidance of shore-hugging plumes in the design of outfalls.

Because an outfall design affects the amount of initial mixing that occurs, EPA is proposing language to encourage dischargers to utilize the best practicable engineering design of the outfall to maximize initial mixing. Sometimes, modifying the design of the diffuser, the location of the outfall, or other outfall design characteristics can reduce significant adverse impacts to the water body.

Quantitative measures for certain mixing zone elements that are sufficient for permitting authorities to develop associated WQBELs in a transparent and straightforward manner provide for regulatory certainty and consistency. EPA solicits comments on its chosen measures and whether other measures may be more appropriate.

Mixing zone guidance⁴⁷ produced by EPA since 1972 has consistently emphasized the need to protect both sessile organisms and swimming and drifting organisms, as well as human recreation, when developing and

⁴⁷ For example, the Water Quality Standards Handbook, August 1994, the Technical Support Document for Water Quality-based Toxics Control (TSD), March 1991, and EPA's Compilation of Mixing Zone Documents, 2006.

locating a mixing zone. Preventing adverse impacts can involve not only limiting the scope and location of the discharge but may warrant prohibition of the mixing zone for the pollutant type or location.

Mixing zones may not be appropriate for all pollutants. For example, mixing zones may not be appropriate for bioaccumulative pollutants because greater bioaccumulation in the portion of the aquatic food web located within the mixing zone may elevate human health risks and prevent protection of the designated use of the water body as a whole. Because fish tissue contamination tends to be a far-field problem affecting entire or downstream water bodies rather than a near-field problem confined to the area within a mixing zone, EPA's position is that without adequate justification that designated uses will be protected, it is not advisable for mixing zone policies to allow mixing zones for discharges of bioaccumulative pollutants. EPA adopted a similar approach in 2000 when it amended its 1995 final Water Quality Guidance for the Great Lakes System at 40 CFR part 132 to phase out mixing zones for existing discharges of bioaccumulative pollutants and ban such mixing zones for new discharges within the Great Lakes Basin.

Mixing zones also may not be appropriate for pathogens, such as bacteria, or pathogen indicators because they may cause significant human health risks and endanger critical areas (e.g., recreational areas). EPA's position is that it is not advisable to allow mixing zones for bacteria or other pathogens in waters designated for primary contact recreation. For a river or stream segment designated for primary contact recreation, the presumption is that primary contact recreation can safely occur throughout the segment and, therefore, that pathogen levels will not exceed criteria throughout the segment. Epidemiological studies have demonstrated that illness rates are higher when the criteria are exceeded compared to when those criteria are not exceeded (see sections 3.2 and 3.3 of the EPA's Recreational Water Quality Criteria (2012)). Therefore, people recreating in or through a bacteria mixing zone (where bacteria levels may be elevated above the criteria levels) may be exposed to greater risk of gastrointestinal illness than would otherwise be allowed by the state or Tribal criteria for protection of the recreation use. For these reasons, EPA proposes in this rule to prohibit mixing zones for discharges of bioaccumulative pollutants and for pathogens and

pathogen indicators without adequate justification that designated uses will be protected.

EPA's proposed mixing zone policy does not preclude reliance on dilution allowances for situations in which rapid and complete mixing of a discharge occurs in the receiving water. The term "dilution allowance" refers to a portion of the flow in a river or stream allocated for dilution of a discharge of pollutants. A dilution allowance may be authorized by the Regional Administrator at the time a CWA section 402 or section 404 permit is issued, renewed, or materially modified and is in effect as long as the permit remains in effect. For more information on dilution allowances, refer to EPA's NPDES Permit Writers' Manual.⁴⁸

EPA invites comments on the proposed mixing zone policy and whether EPA should include a detailed mixing zone policy in its promulgation. In particular, EPA invites comments on the details proposed at 40 CFR 131.XX(g)(2)(vii)(A) and (B) of this proposed rule regarding mixing zone size and shape restrictions. EPA specifically seeks comment on whether: to alter any of the detailed restrictions; to include less detail in the final rule; or to consider additional information to inform the proposed mixing zone restrictions given the national scope of this rulemaking.

2. Compliance Schedule Authorizing Provision

EPA regulations also allow for compliance schedules to be included in NPDES permits to allow permittees additional time to comply with effluent limitations. Such schedules must require compliance by the permittees as soon as possible, but in no case may extend beyond compliance dates established by the CWA. See 40 CFR 122.47. Compliance schedules may not be issued for WQBELs unless authorized in the applicable water quality standards or implementing regulation. See 40 CFR 131.15.

EPA proposes to include a compliance schedule authorizing provision in the baseline WQS such that EPA could issue a compliance schedule as part of an NPDES permit that would require the discharger to comply as soon as possible with any WQBEL in a permit reissued or modified on or after the effective date of the final rule. EPA proposes the compliance schedule authorizing provision would provide that EPA may include compliance

schedules where appropriate in establishing effluent limitations to meet these baseline WQS for Indian reservation waters, consistent with 40 CFR 122.47.

EPA invites comment on the inclusion of a compliance schedule authorizing provision, and on the compliance schedule authorizing provision in the proposed baseline standards.

VI. Proposed Procedure To Revise a Designated Use, Add a Designated Use, or Establish a Water Quality Standards Variance After the Proposed Rule Is Final

EPA anticipates that data and information may become available after the baseline WQS rule becomes final that could lead EPA to identify a need, or a Tribe to request, that EPA revise or add designated uses and associated criteria or establish a WQS variance for Indian reservation waters covered by this rule. While EPA retains the discretion to issue a subsequent Federal rulemaking to take such actions, EPA is proposing to include a Federal administrative procedure that could result in revisions to the applicable baseline WQS, where appropriate, for specified water bodies covered by this WQS rule and consistent with 40 CFR part 131. The Regional Administrator will follow the public participation requirements of CWA section 303(c)(1), 40 CFR 131.20(b), and 40 CFR part 25 for any action taken under this procedure. Under this procedure, the Regional Administrator would prepare and make available to the public supporting documentation consistent with what EPA regulations require of states and authorized Tribes. EPA regulation 40 CFR 131.10 and 131.14, and would provide an opportunity for public comment on the proposed designated use revisions, additions, or establishment of a WQS variance.

EPA's WQS regulation: (1) specifies requirements that must be met when states and authorized Tribes adopt or revise designated uses (40 CFR 131.10); and (2) authorizes and specifies requirements for states and authorized Tribes to adopt WQS variances that provide time to make incremental progress towards the applicable WQS where the applicable designated use and associated criteria are not currently attainable (40 CFR 131.14).

To revise a use specified in CWA 101(a)(2), a Use Attainability Analysis (UAA) must be conducted that finds the use(s) are unattainable based on one of the factors in 40 CFR 131.10(g). The UAA, defined in 40 CFR 131.3(g), is a structured scientific assessment of the

⁴⁸ U.S. EPA NPDES Permit Writers' Manual. https://www.epa.gov/sites/default/files/2015-09/documents/pwm_2010.pdf.

factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors. When a UAA justifies revision of the unattainable designated use, 40 CFR 131.10(g) requires adoption of the highest attainable use. Additionally, states and authorized Tribes cannot remove an existing use, defined as those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the WQS. 40 CFR 131.3(e).

A non-101(a)(2) use as defined at 40 CFR 131.3(q) may be revised after taking into consideration the use and value of water for public water supplies, agricultural, industrial and other purposes including navigation. (See 40 CFR 131.10(k)(3))

WQS variances established in accordance with 40 CFR 131.14 provide a flexible but defined pathway to make incremental water quality improvements if the applicable designated use and associated criteria are not immediately attainable but may be attainable in the future. Per 40 CFR 131.14(b)(1)(ii), WQS variances specify the interim requirements that apply during the WQS variance term based on the highest attainable condition. Further, WQS variances, once applicable, serve as the basis for water quality based effluent limits in NPDES permits and for issuing certifications under CWA section 401 for the parameter and permittee or water body identified in the WQS variance. (40 CFR 131.14(a)(3)) Once the WQS variance expires, NPDES permits must be written to meet the underlying designated use and associated criterion or a subsequent WQS variance must be established. For additional information on WQS variances, please refer to <https://www.epa.gov/wqs-tech/water-quality-standards-variances>.

Title 40 CFR 131.XX(i) of this proposed rule lays out a Federal administrative procedure for the relevant Regional Administrator to determine whether a new or revised designated use and/or a WQS variance is appropriate for a water body covered by this rule. Under the proposed rule, in addition to the Regional Administrator being able to identify such a need, a Tribe whose Indian reservation is affected may also request a new or revised designated use and/or a WQS variance.

For additions or revisions of designated uses, the Regional Administrator would apply EPA regulations at 40 CFR 131.10 to evaluate whether the requested change is justified for the specified water body. If a Tribe requests the revision of any

CWA section 101(a)(2) designated use applicable through the baseline WQS rule, the Regional Administrator would determine through a UAA where required by 40 CFR 131.10(j) whether the use is an existing use and whether any of the factors in 40 CFR 131.10(g) preclude attainment of that designated use. If a Tribe requests additions or revisions of any designated non-101(a)(2) use, the Regional Administrator would determine whether the requested change is appropriate based on a use and value demonstration per 40 CFR 131.10(k)(3). If a Tribe requests to establish WQS variances, the Regional Administrator would apply the provisions of 40 CFR 131.14 to evaluate whether the requested WQS variance is justified, including whether there is a demonstrated need for the variance based on the factors in 40 CFR 131.14(b)(2)(i)(A).

Any final decisions made by a Regional Administrator through this Federal administrative procedure that the requested use change or WQS variance is appropriate and justified would result in revisions to the applicable WQS for the specific parameter(s), water body/waterbody segments(s), and discharger (in the case of a discharger-specific WQS variance). Such revised or additional designated uses and the associated criteria, and/or WQS variances would be effective for purposes of the CWA, including for CWA section 402 NPDES permitting purposes. For WQS variances, those CWA purposes are limited to developing NPDES permit limits under 301(b)(1)(C), where appropriate, and issuing certifications under section 401 of the CWA pursuant to 40 CFR 131.14(a)(3).

Pursuant to the proposed Federal administrative procedure, a decision by a Regional Administrator would be final and effective upon signature without necessitating a subsequent Federal rulemaking revising the baseline WQS rule. This is because this decision would not result in a change to the baseline WQS rule, which is a nationally applicable framework that is intended to be tailored to specific Indian reservation waters as implemented. Rather, the decision would result in a change to the individual WQS applicable to a particular Indian reservation, as opposed to a change to any provision of the rule itself. While the agency is proposing this Federal administrative procedure as an alternative to subsequent Indian reservation-specific promulgations of revised designated uses or WQS variances, the agency

could effectuate such changes through future rulemakings applicable to individual Indian reservations. This procedure is not integral to this proposed rule. Rather, this rule is designed to operate either with or without the Federal administrative procedure. To enhance public transparency under the proposed Federal administrative procedure, EPA would maintain a public website⁴⁹ containing an updated list of the applicable designated uses and associated criteria, and WQS variances with accompanying explanations of the statutory and regulatory basis for the decisions.

In all cases when implementing the procedure, the Regional Administrator would initiate consultation with the Tribe whose waters would be affected by the revised designated uses, consistent with the proposed Tribal consultation provision at 40 CFR 131.XX(b) and as described in section V of this preamble.

EPA solicits comment on whether EPA should include a provision as part of 40 CFR 131.XX(i) specifying that the Tribe must request in writing any designated use revision that would result in the designated use and associated criteria being less stringent than those applicable under the baseline WQS before the Regional Administrator would proceed with such an action. EPA solicits comment on whether a similar provision should be included when establishing a WQS variance. EPA is interested in whether such regulatory provisions would be beneficial to ensure Tribes have the opportunity to conduct appropriate oversight of any adoption of WQS less stringent than originally promulgated by this rule. Alternatively, rather than specify a requirement that a Tribe must make such a request in writing before the Regional Administrator would proceed with such an action, EPA seeks input on whether such Tribal oversight could be provided through existing Regional Tribal consultation procedures that will be implemented consistent with the proposed requirement at 40 CFR 131.XX(b) to initiate consultation on any action that may affect Tribal interests.

EPA envisions that the proposed Federal administrative procedure for revising or adding designated uses or establishing WQS variances would entail the following four steps:

- Step 1—The Regional Administrator identifies and/or the Tribe requests a water(s) for which a revised designated use or additional

⁴⁹EPA will specify the website in the final rule.

designated use may be justified or identifies the water(s), permittee(s) and parameters for which a WQS variance may be justified.

- Step 2—EPA, working with the Tribe, assembles the data (including any data provided by a third party), conducts the analyses required by the relevant regulatory provision (including any analyses provided by a third party), and prepares the supporting documentation demonstrating that (1) the revised or added designated use is justified consistent with the requirements of the CWA and EPA's regulation, specifically at 40 CFR 131.10, or (2) the WQS variance is justified consistent with the requirements of the CWA and EPA's regulation, specifically at 40 CFR 131.14.

- Step 3—Regional Administrator publishes a notice of a public hearing at least 45 days in advance of the public hearing describing the proposed designated use revision or addition and the associated criteria and/or WQS variance, providing the relevant analyses and documentation at least 30 days in advance of the public hearing, announcing its intent to hold at least one public hearing, and establishing a 45-day public comment period for the public to submit written comments on the proposed revisions. EPA intends to rely on EPA's Public Notices website⁵⁰ to publish public notices and to leverage any existing public notification processes that relevant Tribes may have in place. These efforts must be consistent with the public participation requirements of CWA section 303(c)(1), 40 CFR 131.20(b), and 40 CFR part 25.

- Step 4—The Regional Administrator reviews and considers comments and makes a final decision concerning whether revising a designated use, adding a designated use, and/or establishing a WQS variance is justified, consistent with the requirements of the CWA and EPA's regulations 40 CFR 131.10 and/or 131.14. Where the Regional Administrator makes such a final decision, those changes become applicable for CWA purposes. (As mentioned previously, for WQS variances, those CWA purposes are limited to purposes of developing NPDES permit limits under 301(b)(1)(C), where appropriate, and issuing CWA section 401 certifications pursuant to § 131.14(a)(3). EPA maintains and makes available to the public an updated list of the applicable designated uses and WQS variances with the

explanation of the statutory and regulatory basis for the decisions available at a website location to be provided in the final rule.

EPA is not reopening 40 CFR 131.10 or 131.14 with this proposal, and thus does not seek comment on the provisions in 40 CFR 131.10 or 131.14. Rather, EPA invites comment on the proposed Federal administrative procedure for EPA to revise a baseline designated use, add a designated use, or establish a WQS variance for a specific Indian reservation water body covered by this proposed rule based on consideration of location-specific factors involving the four steps as identified.

EPA continues to encourage Tribes who are interested in WQS that reflect site-specific, tailored designated uses for particular Indian reservation waters to obtain TAS for WQS and adopt their own WQS, subject to EPA review and approval under CWA section 303(c).⁵¹

VII. Implementation of Baseline Water Quality Standards in Clean Water Act Programs

A. Section 402 NPDES Discharge Permits

Under CWA section 402, any facility or activity that discharges pollutants (other than dredged or fill material) from a point source into the waters of the United States must obtain and comply with an NPDES permit. EPA regulations that describe the requirements and procedures for the development of NPDES permits are contained in 40 CFR parts 122, 124, 125, and 129. Effluent limitations for pollutants that are contained in NPDES permits can include TBELs and WQBELs. TBELs represent the level of pollutant reduction that can be achieved after application of secondary treatment for municipal publicly owned treatment works, defined at 40 CFR part 133, and best available treatment technologies for non-municipal (industrial) discharges. EPA has issued effluent limitation guidelines and standards that provide minimum national requirements that industrial discharges must meet. See 40 CFR chapter I, subchapter N. Where an EPA-promulgated applicable effluent limitations guideline is not available for an industry sector, permit authorities can develop TBELs based on best professional judgment. See CWA section 402(a)(1); 40 CFR 125.3(c)(2).

⁵¹ Any state or authorized Tribe that is adopting its own WQS has the discretion to use an administrative procedure to streamline the rulemaking process; however, CWA section 303(c)(2)(A) still requires the state or authorized Tribe to submit any WQS adopted pursuant to state or Tribal law to EPA for review and approval or disapproval.

Where TBELs are not sufficient to assure attainment of WQS, including water quality standards in downstream jurisdictions, WQBELs are required by the CWA. WQBELs are generally derived from the applicable WQS.⁵² See CWA section 301(b)(1)(C); 40 CFR 122.4(a) and (d). Congress intended that WQBELs in the NPDES program should derive from all applicable WQS, including Federal standards promulgated by EPA.

i. NPDES Permits for Discharges to Waters With Baseline Water Quality Standards

As described in section II.B of this preamble, EPA is generally the authority for issuing NPDES permits in Indian country unless and until EPA authorizes a Tribe to administer the NPDES permitting program. 40 CFR 123.1(h); see also 58 FR 67966, 67973–74 (December 22, 1993). When implementing baseline WQS in developing and issuing an NPDES permit, EPA would follow the regulation at 40 CFR part 122, including 40 CFR 122.44(d), and would be guided by procedures in the NPDES Permit Writers' Manual⁵³ and the Technical Support Document for Water Quality Based Toxics Control.⁵⁴ EPA would ensure public participation when EPA issues NPDES permits for discharges to Indian reservation waters, consistent with the requirements at 40 CFR part 124, subparts A and D. EPA also would consult with the appropriate Tribe when developing and issuing NPDES permits for discharges to Indian reservation waters to ensure that Tribal concerns and issues are considered.

ii. NPDES Permits for Upstream Facilities Discharging to Downstream Waters With Baseline Standards

Currently, there are no Tribes authorized to administer the NPDES program.⁵⁵ Tribes meeting the requirements of CWA section 518(e) may seek authorization to administer the NPDES program. EPA regulations

⁵² For pollutants for which an EPA-approved total maximum daily load (TMDL) has been established under section 303(d) of the CWA to restore impaired waters to meet WQS, the permit must include WQBELs consistent with the assumptions and requirements of any wasteload allocation assigned to the discharge as part of the TMDL. See 40 CFR 122.44(d)(1)(vii)(B).

⁵³ "NPDES Permit Writers' Manual," EPA Office of Wastewater Management, EPA-833-K-10-001, September 2010. Available at <https://www.epa.gov/npdes/npdes-permit-writers-manual>.

⁵⁴ "Technical Support Document for Water Quality-Based Toxics Control," EPA Office of Water, EPA/505/2-90-001, March 1991. Available at <https://www3.epa.gov/npdes/pubs/owm0264.pdf>.

⁵⁵ Currently, 47 states and one U.S. territory are authorized to administer the NPDES program.

⁵⁰ Public Notices at U.S. EPA, website at <https://www.epa.gov/publicnotices>.

that specify how a Tribe can seek authorization to administer the NPDES program are contained in 40 CFR 123.31 through 123.34.

NPDES permits must ensure compliance with the applicable WQS of all affected waters. See CWA sections 301(b)(1)(C) and 402(b)(1)(A); 40 CFR 122.4(a), (d) introductory text, and (d)(1). The proposed rule would allow EPA to ensure that NPDES permits issued by authorized states, Tribes, or territories⁵⁶ for discharges to waters upstream from Indian reservation waters comply with the final baseline WQS. If a permitting authority failed to meet this requirement, EPA could use its oversight authority of approved programs, which includes the authority to review permits.

Authorized states, territories or Tribes implementing EPA-authorized NPDES programs must provide copies of proposed or draft permits to EPA, except where permit review has been waived. 40 CFR 123.43(a)(2). EPA's right to review may not be waived for permits with discharges which may affect the waters of a state other than the one in which the discharge originates. 40 CFR 123.24(d)(2).

EPA will coordinate with Tribes to ensure that Tribal concerns and issues are considered when EPA is reviewing NPDES permits issued by authorized states that may affect Indian reservation waters covered by the baseline WQS. If EPA determines that a NPDES permit issued by an authorized state would not ensure compliance with downstream baseline WQS, EPA can object to the permit. See 40 CFR 123.44(c)(1), (7), and (8). A state may not issue an NPDES permit over EPA's objection. CWA section 402(d)(2), 40 CFR 122.4(c). If the state does not revise the permit to meet EPA's objection, EPA may issue the permit. See CWA section 402(d)(4); 40 CFR 123.44(h)(2) and (3). Tribes that have TAS for WQS that may be affected by a state issued permit would also receive notice under the public notice procedures of 40 CFR 124.10(c) and have the opportunity to provide comments on the permit. EPA encourages affected Tribes to raise any concerns with an upstream state issued NPDES permit to both the state and EPA. EPA would follow applicable requirements to ensure public participation and would coordinate, as appropriate, with adjacent states and Tribes, and other interested parties when implementing the standards.

B. Section 404 Permits for Discharges of Dredged or Fill Material

Water quality standards are among the criteria considered in the CWA section 404 program when reviewing permit requests for discharges of dredged or fill material into waters of the U.S. Currently, CWA section 404 permits for discharges must comply with all applicable state WQS (including standards in a downstream jurisdiction) in effect under the CWA. See CWA section 301(b)(1)(C); 40 CFR 230.10(b)(1) and 233.20(a). Section 404 of the CWA is jointly administered by the EPA and the United States Army Corps of Engineers (the Corps) or by states or Tribes with an EPA approved 404(g) program.

CWA section 404 permits for dredged or fill activities must include permit conditions to meet criteria set out in the section 404(b)(1) Guidelines, see 40 CFR part 230, discussed further below. These criteria are to include applicable WQS. The current section 404 program regulations at 40 CFR 230.10(b)(1), require permits to ensure compliance with any applicable state water quality standard. In this proposal, EPA is proposing to amend 40 CFR 230.10(b)(1) to clarify that, consistent with CWA section 301(b)(1)(C), CWA section 404 permits need to ensure compliance with federally promulgated WQS—which would include baseline WQS for Indian reservation waters—as well as with state WQS.

i. CWA Section 404 Permits Issued by the Army Corps of Engineers

The U.S. Army Corps of Engineers is the authority that issues CWA section 404 permits for discharge of dredged or fill material into “waters of the United States” where no state or Tribe has assumed responsibility for implementing the program. See CWA sections 404(a), (g)–(i). Generally, the Corps works closely with both state and Tribal governments to ensure that applicable WQS are met in CWA section 404 permitting actions.

In evaluating a CWA section 404 permit application, the Corps follows the requirements of 40 CFR part 230, commonly called the “Section 404(b)(1) Guidelines” after the CWA section authorizing their development. Except as provided in CWA Section 404(b)(2), the Corps may only issue a CWA section 404 permit if it determines that the proposed disposal site for the discharge of dredged or fill material complies with the 404(b)(1) Guidelines. The 404(b)(1) Guidelines require, among other things, that no discharge of dredged or fill material shall be permitted if it “causes

or contribute to a water quality violation of any applicable state water quality standard.” 40 CFR 230.10(b)(1).

Because a Corps-issued section 404 permit is a “Federal license or permit” for the discharge of dredged or fill material into “waters of the United States,” a CWA section 401 certification from a state or authorized Tribe is required. EPA provides section 401 certifications on behalf of Tribes that do not have the authority to give CWA section 401 certification. Section 401 is discussed further in section VII.C of this preamble.

EPA is proposing to amend 40 CFR 230.10(b)(1) to read “. . . any applicable state water quality standard or federally promulgated water quality standard.” This would clarify that the CWA section 404 program must protect all applicable water quality standards, including federally promulgated standards. The Corps must forward public notices for all CWA section 404 individual permit applications to EPA for its discretionary review. See 33 CFR 325.3. If EPA determines that a proposal for a CWA section 404 individual permit could cause or contribute to a violation of the baseline WQS for Indian reservation waters, or other criteria set out in the 404(b)(1) Guidelines, EPA may provide its views to the Corps. EPA may prohibit the specification (including the withdrawal of specification) of any defined area as a disposal site and is further authorized to deny or restrict the use of any defined area as a disposal site for dredged or fill material whenever EPA determines, after notice and opportunity for public hearing, that the discharge of such materials will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas. See CWA section 404(c).

ii. CWA Section 404 Permits Issued by States or Tribes Who Have Assumed the CWA Section 404 Program

States or eligible Tribes may assume the CWA section 404 program, as described in 40 CFR part 233. Currently, only three states (Florida, Michigan, and New Jersey) and no Tribes have requested and received EPA approval to administer the CWA section 404 program. State-issued CWA section 404 permits for discharges of dredged or fill material upstream or adjacent to Indian reservation waters covered by the baseline WQS would need to ensure compliance with those standards. See 40 CFR 230.10(b)(1) and 233.20(a). Under CWA section 404(j), states or Tribes who have assumed the CWA section 404 program must provide

⁵⁶ “Authorized” in this section refers to states, Tribes, or territories that are authorized to administer the NPDES program.

copies of public notices for standard individual permits and for draft general permits to EPA, except those for which permit review has been waived. 40 CFR 233.51 and 233.13(b)(1). EPA's right to review may not be waived for any permits for discharges with reasonable potential for adverse impacts on waters of another state. 40 CFR 233.51(b)(3). EPA proposes to amend this regulation to clarify that EPA's right to review may not be waived for permits with reasonable potential to adversely impact waters of another state or waters subject to federally promulgated WQS.

Under 40 CFR 233.50, the EPA Regional Administrator may object to a state or Tribe-issued CWA section 404 permit if the permit would not ensure compliance with the 404(b)(1) guidelines. A state or Tribe that has assumed the CWA section 404 program may not issue a CWA section 404 permit unless EPA's objections or requirements for a permit condition have been resolved. 33 U.S.C. 1344(j); 40 CFR 233.50(f). States, Tribes, or any other interested person may request a public hearing on the Regional Administrator's comments, objection, or permit recommendations. 33 U.S.C. 1344(j); 40 CFR 233.50(d)–(f). The Regional Administrator must hold a hearing whenever requested by the entity proposing to issue the permit, or if warranted based on significant public interest. 33 U.S.C. 1344(j); 40 CFR 233.50(g)–(i). If a state or Tribe that has assumed CWA section 404 authority does not prepare a permit revised to satisfy EPA's objection or requirement for a permit condition, or deny the permit, EPA transfers processing of the permit application to the Corps of Engineers. 33 U.S.C. 1344(j); 40 CFR 233.50(h)–(j). If a permit is transferred to the Corps of Engineers, and EPA has concerns that the proposed permit would cause or contribute to a violation of WQS, including these baseline WQS if codified, EPA could provide comments to the Corps of Engineers.

EPA intends to work closely with the appropriate Tribe in determining whether a proposed CWA section 404 permit would comply with the baseline WQS. EPA would follow applicable requirements regarding public participation and intends to coordinate as appropriate with adjacent states and Tribes, and other interested parties when implementing the standards.

C. Section 401 Certifications

Under section 401 of the CWA, a Federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a section 401

water quality certification is issued, or certification is waived.⁵⁷ States and authorized Tribes in which the discharge would originate or will originate are generally responsible for issuing water quality certifications.^{58 59} In cases where a state or Tribe does not have authority, EPA is responsible for issuing certification. 33 U.S.C. 1341(a)(1). Some of the major Federal licenses and permits subject to CWA section 401 include CWA section 402 permits issued by EPA, CWA section 404 permits issued by the Corps, Federal Energy Regulatory Commission (FERC) licenses for hydropower facilities and natural gas pipelines, and Rivers and Harbors Act of 1899 section 9 and 10 permits.

Tribes may receive TAS for section 401 when eligible for TAS to administer the section 303(c) program for water quality standards. 40 CFR 131.4(c) (“Where EPA determines that a Tribe is eligible to the same extent as a State for purposes of water quality standards, the Tribe likewise is eligible to the same extent as a State for purposes of certifications conducted under Clean Water Act section 401.”). To date, 81 federally recognized Tribes (out of 574) have received TAS for section 401 concurrently with obtaining TAS for section 303(c).⁶⁰

i. CWA Section 401 Certification by Authorized Tribes

In circumstances where a Tribe has obtained authority to administer the CWA section 401 program due to treatment in a similar manner as a state, the Tribe is authorized to issue certifications under CWA section 401 (see 40 CFR 131.4(c)). In acting on a certification request for a federally licensed or permitted activity which may result in a discharge that originates in Indian reservation waters covered by the baseline WQS, the Tribe would

⁵⁷ EPA recently proposed revisions to the Clean Water Act Section 401 Certification Rule located at 40 CFR part 121. See Clean Water Act Section 401 Water Quality Certification Improvement Rule, 87 FR 35318 (June 9, 2022).

⁵⁸ “Authorized tribes” in this section refers to tribes that are authorized to administer the CWA section 401 program due treatment in a similar manner as a state. See 40 CFR 131.4(c).

⁵⁹ “Authorized Tribes” in this section refers to Tribes that are authorized to administer the CWA section 401 program due treatment in a similar manner as a state. See 40 CFR 131.4(c).

⁶⁰ EPA recently proposed a section 401-specific set of requirements and procedures for tribes seeking TAS for purposes of making section 401(a)(1) and 401(d) certification decisions and for exercising their statutory rights as a “neighboring jurisdiction” under section 401(a)(2). 87 FR 35370, June 9, 2022. This proposed approach would provide an alternate path for tribes wishing to obtain TAS status only for section 401 and not also for section 303(c).

determine whether any such discharge will comply with the applicable provisions of sections 301, 302, 303, 306, and 307 of the CWA, which would encompass the baseline WQS. See 33 U.S.C. 1341(a)(1). In many cases, the applicable baseline WQS, including the narrative criteria, would provide a basis for the Tribe to make its determination on a certification request. In cases where the Tribe needs to evaluate specific parameters, the Tribe could request EPA to derive numeric translations for those parameters to aid the Tribe in making its determination.

ii. CWA Section 401 Certification by EPA

The EPA Administrator is the CWA section 401 certifying authority for any activity requiring a Federal license or permit that may result in a discharge into navigable waters in Indian country where Tribes have not obtained authority to administer the CWA section 401 program. See 33 U.S.C. 1341(a)(1). In these situations, if the proposed baseline WQS are finalized, the Administrator would be able to rely on the baseline WQS among other water quality requirements when deciding whether to grant or deny section 401 certifications, or to develop conditions. The Administrator must provide public notice of receipt of a CWA section 401 certification request. See *id.*

iii. Authorized Tribes and CWA Section 401(a)(2)

Under CWA section 401(a)(2), the Administrator provides notice to states and authorized Tribes if the Administrator determines that a discharge originating in another jurisdiction may affect their water quality. See 33 U.S.C. 1341(a)(2). After receiving such notice from the Administrator, authorized Tribes may raise objections to the issuance of the license or permit if they determine that the discharge will violate their water quality requirements.

Under the CWA section 401(a)(2) process, the licensing or permitting Federal agency must notify the Administrator upon receipt of an application for a Federal license or permit and related certification. *Id.* Within 30 days of receiving this notification from the licensing or permitting Federal agency, the Administrator may determine that a discharge originating in another jurisdiction may affect the water quality of any other state or authorized Tribe. *Id.* If the Administrator determines that a discharge may affect the water quality of another state or authorized Tribe, the Administrator is required to notify that

state or authorized Tribe, the licensing or permitting Federal agency, and the applicant. *Id.* The state or authorized Tribe has a 60-day opportunity after receiving the notice to determine whether the discharge will violate any of its water quality requirements. If they determine that the action will violate their water quality requirements, they may raise an objection to the issuance of the license or permit to EPA and the Federal agency in writing and request a public hearing. See *id.* The Federal agency issuing the license or permit must hold a public hearing if requested by the state or authorized Tribe in these circumstances. *Id.* The licensing or permitting Federal agency will consider the recommendations of the state or authorized Tribe and the Administrator, as well as any additional evidence presented at the hearing, and determine whether additional conditions may be necessary to assure compliance with applicable water quality requirements. See *id.* If imposition of additional conditions cannot assure such compliance, the Federal agency cannot issue the license or permit. *Id.*

D. Section 303(d) Impaired Water Listings and Total Maximum Daily Loads

WQS provide the basis for identifying impaired waters (waters not attaining the applicable standards) and developing TMDLs pursuant to CWA section 303(d). Where applicable, the baseline WQS would provide this basis. On September 26, 2016, EPA promulgated the final rule “Treatment of Indian Tribes in a Similar Manner as States for Purposes of Section 303(d) of the Clean Water Act.”⁶¹ That rule establishes regulatory procedures for eligible Tribes to apply for and obtain authority to identify impaired waters on their reservations and to establish TMDLs. 40 CFR 130.16. CWA section 303(d) provides for states and authorized Tribes to: (1) develop lists of impaired waters (and establish priority rankings for waters on the lists) and (2) establish TMDLs for these waters.

By listing impaired waters, a state or authorized Tribe identifies those waters in its territory that are not currently meeting applicable WQS, and/or are not expected to meet applicable WQS, even after the application of the TBELs required by CWA sections 301(b) and 306. 40 CFR 130.2(j). For purposes of determining whether a water body is impaired and should be included on the CWA section 303(d) list, EPA regulation requires states and authorized Tribes to assemble and evaluate all existing and

readily available water quality-related data and information. 40 CFR 130.7(b)(5). These data and information may include, for example, physical, chemical, and biological data, including fish and shellfish tissue concentration data. EPA’s regulation includes a non-exhaustive list of water quality-related data and information to be assembled and evaluated. *Id.* States and authorized Tribes establish priorities for development of TMDLs for waters on their CWA section 303(d) list considering the severity of the pollution and the uses to be made of the waters. 40 CFR 130.7(b)(4). States and authorized Tribes submit the list of impaired waters to EPA for review and approval.

Under the CWA, each state and authorized Tribe must, “from time to time,” establish and submit TMDLs for pollutants causing impairments in all the waters on its CWA section 303(d) list in accordance with the priority ranking. CWA sections 303(d)(1)(C) and 303(d)(2). A TMDL is a planning document intended to address impairment of waters. It includes the calculation and allocation to point and nonpoint sources of the maximum amount of a pollutant that a water body can receive and still meet applicable WQS. TMDLs must be established at a level necessary to implement the applicable WQS with seasonal variations and a margin of safety which accounts for any lack of knowledge concerning the relationship between effluent limitations and water quality. CWA section 303(d)(1)(C). Where a TMDL makes allocation tradeoffs between point and nonpoint sources, the TMDL record must also demonstrate “reasonable assurance” that the nonpoint source allocations will be achieved. 40 CFR 130.7(c)(1) and 130.2(i). The state or authorized Tribe submits the TMDL to EPA for review and approval. EPA notes that CWA section 303(d) does not establish any new implementation authorities for control of nonpoint source pollution, and nonpoint source load allocations are primarily implemented through existing state, local, Tribal, and other Federal programs.⁶²

To date, no Tribe has applied for TAS for the CWA section 303(d) program. EPA is providing technical assistance and is encouraging Tribes to apply for TAS. When a Tribe lacks TAS authorization for CWA section 303(d), EPA generally is the authority for establishing impaired waters lists and

TMDLs in Indian country. Where a Tribe is not in a position to apply for and receive TAS for the CWA section 303(d) program and is interested in having EPA develop lists or TMDLs for particular waters, EPA will work with the Tribe to determine appropriate next steps, consistent with available resources. In instances where EPA establishes lists of impaired waters and TMDLs for waters covered by baseline WQS or other WQS applicable in Indian country, EPA would work closely with impacted Tribes and would provide for full and meaningful public participation in both the listing and TMDL development processes.

VIII. Effective Date of the Baseline Water Quality Standards

EPA proposes to make a final rule effective for CWA purposes 120 days after it is published in the **Federal Register**. On that delayed effective date, baseline WQS would therefore become the CWA-effective WQS applicable to Indian reservation waters covered by a final rule. It would apply to all Indian reservation waters except those waters automatically excluded from coverage and those which the Regional Administrator has approved exclusion from coverage as discussed in sections IV.A and B of this preamble. EPA is proposing this delayed effective date to allow adequate time for Tribes to coordinate with the appropriate Regional Administrator regarding any possible exclusions from coverage by baseline WQS.

As mentioned in section IV.B of this preamble, a Tribe should communicate with the Regional Administrator after this proposal is published in the **Federal Register**, but no later than 90 days after the final rule is published, regarding Indian reservation waters to be excluded from coverage under the final baseline WQS rule. EPA expects that the Regional Administrator would decide, informed by consultation with the Tribe, no later than 120 days after the final rule is published in the **Federal Register** whether to approve an exclusion from coverage under the final baseline WQS.

EPA invites comments on whether there should be a delayed effective date and whether 120 days is an appropriate period of delay.

EPA further expects that after the final rule goes into effect for CWA purposes, the Regional Administrator generally would no longer exclude additional Indian reservation waters from coverage by the baseline WQS. EPA proposes this approach in the interest of promoting regulatory certainty and avoiding the confusion that could potentially result

⁶² Memorandum: New Policies for Establishing and Implementing TMDLs. See <https://www3.epa.gov/npdes/pubs/owm0124.pdf>.

⁶¹ 81 FR 65901, September 26, 2016.

after the effective date if waters are alternately covered or not covered by baseline WQS depending on the timing of discussions between Tribes and Regional Administrators about exclusions.

EPA acknowledges, however, that limited circumstances may warrant the ability of the Regional Administrator to exclude specific Indian reservation waters from coverage after the baseline WQS are in effect. EPA expects such circumstances would pertain to instances where a Tribe communicates with the Regional Administrator about an exclusion after a material change with respect to a Tribe's Indian reservation, for example, when (1) a Tribe becomes newly federally recognized after the effective date of a final rule and acquires Indian reservation lands or (2) a Tribe that was duly approved by the Regional Administrator to be excluded from coverage by baseline WQS later acquires new trust lands outside the boundaries of a formal reservation after the effective date of the final rule and wants to extend exclusion from coverage to the newly acquired trust lands.

EPA invites comments on this approach to limiting the exclusion of Indian reservation waters from coverage by baseline WQS after the final rule goes into effect for CWA purposes. Additionally, EPA invites comments on whether the proposed regulatory text should be amended to reflect the selected approach.

IX. Conditions Under Which Baseline Water Quality Standards Would No Longer Apply

Under the CWA, Congress gave states and authorized Tribes primary responsibility for developing and adopting WQS for their respective navigable waters (CWA sections 303(a) through (c)). Although EPA would be promulgating baseline WQS for Indian reservation waters covered by a final rule, federally recognized Indian Tribes retain the option to seek TAS authority to administer the WQS program and adopt and submit to EPA WQS consistent with CWA section 303(c) and EPA's implementing regulation at 40 CFR part 131. As discussed earlier in this preamble, EPA encourages and is committed to working with eligible Tribes to obtain TAS to administer a WQS program and adopt new/revised WQS for EPA approval.

Once a Tribe obtains TAS and submits WQS for EPA action, EPA will review and would approve those WQS if they meet the requirements of CWA section 303(c) and implementing regulation at 40 CFR part 131. Once a

Tribe's new WQS are approved by EPA, in accordance with proposed 40 CFR 131.XX(a)(2), the Federal baseline WQS will no longer apply. Specifically, that provision excludes from coverage of the rule "Indian reservation waters . . . where EPA has approved the applicable state or tribal water quality standards." Thus, a Tribe's WQS will go into effect for CWA purposes upon EPA's approval of the standards.⁶³

The public would have the opportunity to provide comment on the Tribe's new/revised WQS submission and the exclusion of the relevant Indian reservation waters from the baseline WQS rule upon EPA-approval of those WQS during the Tribe's public comment period and hearing associated with the proposed WQS submission. EPA would work with the Tribe to ensure that it included a statement in its public notice that exclusion from the scope of federally promulgated baseline WQS would be a consequence of EPA's potential approval of the Tribe's new/revised WQS. After approving an authorized Tribe's WQS, EPA would update the public website that it intends to provide in the final rule to indicate that the Tribe is no longer subject to the baseline WQS.

EPA invites comment regarding when Federal baseline WQS would no longer apply to the Tribe's waters subject to the Tribe's new WQS once approved by EPA.

X. Economic Analysis

The baseline WQS proposed in this rule would not themselves impose costs on any entity. However, to best inform the public of the potential impacts of this proposed rule, EPA has developed an analysis of the potential control actions and costs that point source facilities discharging into or upstream from waters covered by this rule may incur as a result of implementing the baseline WQS. This analysis and the

⁶³ 40 CFR 131.21(c) provides that WQS adopted by an authorized Tribe go into effect for CWA purposes upon EPA approval, "unless EPA has promulgated a more stringent water quality standard for the State or Tribe that is in effect." Emphasis added. Where a more stringent EPA-promulgated standard is in effect, 40 CFR 131.21(c) goes on to provide that the less stringent Tribal WQS will go into effect after EPA "withdraws" the more stringent Federal water quality standard. Here, in accordance with the proposed scope of coverage of the baseline WQS rule, 40 CFR 131.XX(a)(2) (excluding from coverage of the rule "Indian reservation waters . . . where EPA has approved the applicable state or Tribal water quality standards"), Tribal WQS will go into effect for CWA purposes upon EPA approval regardless of stringency. Thus, because the baseline WQS are no longer "in effect" for Indian reservation waters once EPA has approved applicable Tribal WQS, there is no need to "withdraw" the baseline WQS for those waters.

methods and assumptions used in estimating costs are documented in *Economic Analysis for Potential Federal Baseline Water Quality Standards for Indian Reservation Waters*, which can be found in the record for this rulemaking.

The current regulatory framework is the set of currently applicable requirements under the CWA without this proposed rule. These requirements include TBELs and WQBELs in NPDES permits. For purposes of this economic analysis, point source costs only reflect incremental changes that are needed to comply with new or more stringent WQBELs derived from the proposed baseline WQS.

As discussed in section V.B of this preamble, the water quality criteria in the proposed baseline WQS would consist of narrative water quality criteria with binding procedures to translate the narrative criteria into numeric values as needed for water quality regulatory purposes. Although the procedures include several options to fit case-by-case circumstances, for simplicity the economic analysis generally relies on *Option One* discussed in section V.B. of this preamble: that is, relying on EPA's national recommended CWA section 304(a) water quality criteria to protect human health and aquatic life.

Although the focus of the cost analysis is to estimate control costs for point sources, attaining the proposed baseline WQS may depend on additional actions such as nonpoint source controls. Nonpoint source controls, whether required through a nonpoint source program or implemented voluntarily, may lead to nonpoint sources incurring costs as an indirect result of the proposed baseline WQS. Conversely, implementing nonpoint source controls may relieve a portion of the estimated indirect burden on and cost to point sources within the same watershed. However, quantitative evaluation of the potential control needs beyond those potentially addressed under the NPDES program is not possible given the limited available data. Thus, EPA identified the types of controls and costs that may be incurred for nonpoint sources but did not develop nationwide nonpoint source cost estimates.

EPA seeks comment on all aspects of the economic analysis including, but not limited to, its assumptions relating to the current regulatory framework, affected entities, implementation, and compliance costs.

A. Identifying Affected Entities

EPA used a multi-step method for evaluating the effect of the proposed

baseline WQS applying to point sources. This method included the following steps: identification of potentially affected permittees, sample selection, extrapolation, determining the need for WQBELs (reasonable potential analysis), and projecting effluent limits.

EPA identified facilities discharging to Indian reservation waters as well as facilities within a five-mile radius and discharging upstream from Indian reservation waters. EPA focused its analysis on the 57 major⁶⁴ facilities identified; other facilities may also incur costs and EPA invites comments from minor facilities that believe they may be impacted. Seven of those facilities discharge directly to Indian reservation waters, and all these are sewerage systems.⁶⁵ Of the 50 major facilities discharging upstream from Indian reservation waters, 9 are industrial facilities, and 41 are sewerage systems. EPA evaluated all 7 direct dischargers to Indian reservation waters and all 9 upstream industrial facilities and selected a sample of 10 upstream sewerage systems with which to extrapolate for cost estimation purposes.

B. Method for Estimating Costs

EPA evaluated compliance scenarios and associated costs for the sample facilities based on available information about the facilities, their treatment systems, and current effluent quality. EPA determined whether a facility would most likely achieve compliance through optimization, pollution prevention and source control, additional effluent treatment, or alternative compliance mechanisms such as WQS variances or dilution

credits. In some cases, available information did not clearly point to one compliance alternative. In such cases, EPA estimated a range of costs for compliance.

EPA extrapolated costs to the remaining major upstream sewerage systems from the sample based on facility flow. Most options include one-time costs (e.g., costs to develop a pollution prevention program or develop a WQS variance) and on-going or annual costs (e.g., financing the capital cost of constructing additional effluent treatment, operation and maintenance [O&M] of treatment units, maintaining a pollution prevention program).

C. Results

Total cost estimates range from \$15.51 million in annualized costs over 20 years at a 3 percent discount rate (with \$6.1 million in one-time costs) to \$30.54 in annualized costs over 20 years at a 3 percent discount rate (with \$1.23 million in one-time costs). Using a discount rate of 7 percent over 20 years, total annualized costs range from \$18.94 million (also with \$6.1 million in one-time costs) to \$36.45 million (also with \$1.23 million in one-time costs). Total one-time costs are larger in the low estimate than in the high estimate because one-time WQS variance costs are often used in lieu of annualized effluent treatment costs for facility-specific low estimates for certain pollutants. The potential costs presented in the *Economic Analysis for Potential Federal Baseline Water Quality Standards for Indian Reservation Waters* are a product of a series of assumptions and subsequent analyses that are intended to be both conservative and as comprehensive as possible. The document identifies uncertainties in the analysis associated with data limitations, potential pollutant load reductions achievable, and the methods dischargers would use to comply with potential requirements and permit conditions that affect the estimated costs.

Promulgating baseline WQS for Indian reservation waters would promote the implementation of pollution control measures and best practices to help improve water quality and prevent future degradation of Indian reservation waters, as well as potentially providing positive water quality benefits to waters in adjacent jurisdictions. Improved water quality for Indian reservation waters will benefit Tribes as well as anyone who recreates on Indian reservation waters or values environmental quality regardless of

their current or anticipated uses of Indian reservation waters.

Although implementation of baseline WQS is likely to yield significant benefits, estimating the dollar value of these improvements to Tribes may not be feasible. First, Tribes often express the difficulty of placing a monetary value on ecosystem services, given the belief that these resources are sacred and beyond any earthly value. Second, estimating the value of water quality improvements to visitors of Indian reservations is challenging due to the lack of data on site-specific visitation, use (e.g., recreational fishing) and valuation. Therefore, EPA provided a qualitative description of benefits categories that may stem from baseline WQS. These benefits include those related to human health, ceremonial and subsistence harvests of fish and shellfish, recreation, and other social welfare improvements. EPA anticipates, however, that the abovementioned benefits will ultimately outweigh the potential estimated incremental costs associated with promulgation of this rule and that this rule will help address the environmental challenges Tribes are currently facing.

XI. Statutory and Executive Order Reviews

Additional information about these statutes and Executive orders can be found at <https://www.epa.gov/laws-regulations/laws-and-executive-orders>.

A. *Executive Order 12866: Regulatory Planning and Review; Executive Order 13563: Improving Regulation and Regulatory Review; and Executive Order 14094: Modernizing Regulatory Review*

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to Executive Order 12866 review have been documented in the docket. EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis, *Economic Analysis for Potential Federal Baseline Water Quality Standards for Indian Reservations*, is summarized in section XI of the preamble and is available in the docket.

B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations at 40 CFR part 131 and has assigned OMB control number 2040-0049.

⁶⁴ EPA uses the designation of "major" for municipal discharges of 1 million gallons per day (MGD) or more, or serving a population of 10,000 or more, and industrial discharges with a major rating code over a specified value based on the presence of toxics and size of discharge flow (EPA, 2010). Minor dischargers typically do not have monitoring requirements for toxic pollutants so data to evaluate reasonable potential for these facilities is often limited. In addition, these dischargers may not contribute significantly to instream loads even if such pollutants were present in the effluent from these facilities. Thus, the potential for minor facilities to incur costs as a result of the potential criteria is low, and minor facilities were not included in the analysis. However, EPA acknowledges minor facilities with smaller operating budgets, such as those managed by smaller communities, could have more difficulty complying with any additional requirements than would major facilities. EPA also has programs and tools available to assist Tribes in these situations, such as the Lagoon Wastewater Treatment Action Plan, and various infrastructure funding opportunities.

⁶⁵ Sewerage systems are those facilities both public and private that collect and treat primarily domestic wastewaters. Some EPA databases refer to sewerage systems as wastewater treatment facilities (WWTFs), or wastewater treatment plants (WWTPs).

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. EPA-promulgated standards are implemented through various water quality control programs including the NPDES program, which limits discharges to navigable waters except in compliance with an NPDES permit. The CWA requires that all NPDES permits include any limits on discharges that are necessary to meet applicable WQS. Thus, under the CWA, EPA's promulgation of WQS establishes standards that a state or EPA implements through the NPDES permit process. For this proposed rule, a state (upstream dischargers) or EPA has discretion in developing discharge limits, as needed to meet the standards. As a result of this action, states and EPA will need to ensure that permits they issue include any limitations on discharges necessary to comply with the standards established in the final rule. In doing so, states or EPA will have a number of choices associated with permit writing. While implementation of the rule may ultimately result in new or revised permit conditions for some dischargers, including small entities, EPA's action, by itself, does not impose any of these requirements on small entities. That is, the promulgated WQS are not self-implementing.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or Tribal governments or the private sector.

E. Executive Order 13132 (Federalism)

This action does not have federalism implications. EPA is proposing to promulgate Federal baseline WQS for Indian reservation waters that currently do not have CWA-effective WQS in place. However, it will not impose substantial direct compliance costs on state or local governments, nor will it preempt state law. Thus, Executive Order 13132 does not apply to this action.

Consistent with EPA's policy to promote communications between EPA and state and local governments, EPA nonetheless consulted with state officials early in the process of developing the proposed action to allow

them to provide meaningful and timely input into its development. On September 15, 2021, EPA consulted with state representatives from the Association of Clean Water Administrators (ACWA) to hear their initial views on the proposed regulatory changes. Participants raised questions about EPA's implementation of baseline WQS under the CWA, EPA's prioritization of Tribes obtaining TAS to administer their own WQS programs, the ability of baseline WQS to be tailored to reflect region or location-specific information, and how EPA would reconcile differences between downstream WQS and upstream state WQS. EPA has considered these comments in developing this proposal.

In keeping with the spirit of E.O. 13132, and consistent with EPA's policy to promote communications between EPA and state and local governments, EPA specifically solicits comment on this proposed rule from state and local officials. In particular, EPA requests comment on any provision in this proposed rule that state officials believe would impose an undue burden on state WQS programs.

F. Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments)

This action has Tribal implications, however it will neither impose substantial direct compliance costs on federally recognized Tribal governments, nor preempt Tribal law. Its primary effect will be to establish Federal WQS for waters of federally recognized Tribes with Indian reservations that currently do not have CWA-effective WQS. It could also affect Tribes with Tribal WQS applicable under the CWA to waters adjacent to such reservations. As mentioned above, EPA-promulgated standards are implemented through various water quality control programs including the NPDES program. Under the CWA, EPA's promulgation of WQS establishes standards that a state or EPA implements through the NPDES permit process; EPA implements the NPDES program in the majority of Indian country waters that would be subject to this rule. For this proposed rule, a state (upstream dischargers) or EPA has discretion in developing discharge limits, as needed to meet the standards. While implementation of the rule may ultimately result in new or revised permit conditions for some dischargers, which could include Tribal governments, EPA's promulgation action, by itself, does not impose any of these requirements on dischargers. In any case, in accordance with proposed

40 CFR 131.XX(b), EPA would conduct timely and meaningful consultation with Tribes on any EPA permit actions where Tribal interests may be affected.

EPA consulted with Tribal officials under the EPA Policy on Consultation and Coordination with Indian Tribes early in the process of developing this regulation to allow them to provide meaningful and timely input into its development. EPA notified the leaders of all 574 federally recognized Tribes and held a 90-day Tribal consultation and coordination period from June 15 through September 13, 2021, to inform development of the proposed rule.

The pre-proposal input that EPA received from Tribes during the consultation and coordination process is documented in *Summary Report of Tribal Consultation and Coordination for the Proposed Rule: Federal Baseline Water Quality Standards for Indian Reservations*, available in the docket for this proposed rule.

G. Executive Order 13045 (Protection of Children From Environmental Health and Safety Risks)

This action is not subject to Executive Order 13045 because it is not economically significant as defined in E.O. 12866, and because EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

H. Executive Order 13211 (Actions That Significantly Affect Energy Supply, Distribution, or Use)

This action is not a "significant energy action" because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action pertains to water quality standards, which do not regulate the supply, distribution, or use of energy.

I. National Technology Transfer and Advancement Act of 1995

This proposed rulemaking does not involve technical standards.

J. Executive Order 12898 (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations)

Executive Order 12898 (59 FR 7629, February 16, 1994) directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations (people of color and/or

Indigenous peoples) and low-income populations.

Environmental impacts to Tribes may be considered under the category of environmental justice in recognition that Tribal communities may at times be among the communities disproportionately impacted by environmental degradation. Where Tribal populations are part of a larger non-Tribal community, many of the environmental justice considerations are very similar to those of other vulnerable and underserved populations. However, there is a unique set of environmental justice considerations for Tribes, particularly where Tribal members are exercising their cultural practices. For EPA, the government-to-government relationship and trust responsibility that the Federal Government has with federally recognized Tribal governments further sets environmental justice issues for Tribes apart from those in other communities.⁶⁶

EPA and other Federal agencies focus on resolving EJ issues affecting Tribes through a unique combination of approaches which center on (1) supporting the Tribes' sovereignty and exercise of their own environmental authorities and (2) taking direct action on behalf of the Tribes as part of the Federal Government's Tribal trust responsibility. This proposed rule is relying on a combination of both approaches, as discussed below.

EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on Tribes. Many Tribes rely on aquatic and aquatic-dependent resources for their lifeways. Attaining and sustaining clean water to protect human health is essential to ensuring Tribes can continue to practice these traditional lifeways. However, due to water quality issues, many Tribes are unable to do so. The contamination of aquatic food resources above levels safe to consume in desired quantities results in what is often described as a

suppression effect. An illustration of a suppression effect is when the fish consumption rate for a given Tribe reflects a current level of consumption that is artificially diminished relative to the Tribe's heritage fish consumption rate.^{67 68 69}

The negative impacts of suppression extend well beyond Tribal health, leading to consequences for Tribal economies and cultures as well. Given that aquatic resources often support a Tribe's cultural self-determination and can be pivotal to the economic well-being of the community, impacts to these resources can affect the very foundation of Tribal social and political organization.⁷⁰ Impairments of aquatic resources may also impact a Tribe's ability to provide for present and future generations and the maintenance of their lifeways. Water quality impacts may stretch even further into a Tribe's sacred practices when members can no longer rely on their waters for ceremonial uses.⁷¹

EPA believes that this action is likely to reduce existing disproportionate and adverse effects on Indigenous peoples. Specifically, the proposed rule provides several mechanisms for EPA, in consultation with a Tribe, to address such issues. These mechanisms include: flexibilities allowing for the consideration of Tribe-specific fish consumption rates when translating narrative criteria into numeric values; an opportunity for Tribes to protect culturally significant waters by nominating them to be designated as outstanding national resource waters; and the ability for EPA and Tribes to ensure the protection of unique Tribal cultural and traditional uses while implementing the baseline WQS. In

short, implementing CWA-effective WQS in Indian reservation waters would provide a strong basis for NPDES permit limits and other controls that is not presently available to protect such waters. Establishing the baseline WQS would also enhance EPA's existing implementation in Indian country of section 401 certifications and other programs that rely on WQS in protecting Tribal waters.

EPA additionally identified and addressed environmental justice concerns by considering how this proposed rulemaking also promotes Tribal sovereignty over Tribes' water resources. The processes established in the rule would foster the active participation of Tribes in EPA's administration of baseline WQS. This participation should, in turn, improve Tribal understanding of CWA programs and may even help remove perceived barriers for some Tribes to obtain authority to administer CWA TAS programs themselves.

To achieve the benefits associated with a final rule, EPA recognizes that some facilities may need to add pollution control measures and incur additional compliance costs over time. This includes an estimated 164 NPDES dischargers on Indian reservations potentially covered by this rule and 274 NPDES dischargers located within 5 miles upstream from those reservations.⁷² Most of these facilities are non-Tribally owned. Nevertheless, approximately 118 tribally-owned facilities could face added requirements. Given that this rule's intention is to address disproportionate impacts currently faced by Tribes, EPA realizes the importance of considering any potential impacts Tribes may experience in association with implementation of a final rule.

Several Federal funding streams available to facilities that serve Tribal communities in Indian country may help ensure that capital improvement costs, which are estimated to be \$1 million to \$3 million in aggregate, would not be passed on to ratepayers.⁷³ The Federal Tribal Infrastructure Task Force has developed a matrix summarizing the various Federal assistance vehicles for water and wastewater treatment services in Indian

⁶⁶ EPA recognizes our responsibility to work with both federally recognized Tribes and all other indigenous peoples, per the EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples (2014) to address their EJ concerns. As defined in the policy, Indigenous Peoples "includes state-recognized tribes; indigenous and tribal community-based organizations; individual members of federally recognized tribes, including those living on a different reservation or living outside Indian country; individual members of state-recognized tribes; Native Hawaiians; Native Pacific Islanders; and individual Native Americans." Policy available at <https://www.epa.gov/environmentaljustice/epa-policy-environmental-justice-working-federally-recognized-tribes-and>.

⁶⁷ National Environmental Justice Advisory Council (NEJAC). 2001. *Fish Consumption and Environmental Justice*. https://www.epa.gov/sites/default/files/2015-02/documents/fish-consump-report_1102.pdf. p. vii. Accessed 10/20/2021.

⁶⁸ EPA. 2016. Idaho Tribal Fish Consumption Survey. <https://www.epa.gov/columbiariver/idaho-tribal-fish-consumption-survey>. Accessed 1/26/2022.

⁶⁹ Northwest Indian Fisheries Commission. 2019. Opposition to EPA's 2019 Actions to Roll Back Washington's Human Health Water Quality Criteria. Docket No. EPA-HQ-OW-2015-0174. Available online at <https://www.regulations.gov/comment/EPA-HQ-OW-2015-0174-0970>. Accessed 10/18/21.

⁷⁰ Ranco, D.J., O'Neill, C.A., Donatuto, J., & Harper, B.L. 2011. Environmental Justice, American Indians and the Cultural Dilemma: Developing Environmental Management for Tribal Health and Well-being. *Environmental Justice* 4:4, DOI: 10.1089/env.2010.0036.

⁷¹ Martin, C., Simonds, V.W., Young, S.L., Doyle, J., Lefthand, M., Eggers, M.J. Our Relationship to Water and Experience of Water Insecurity among Apsáalooke (Crow Indian) People, Montana. *Int. J. Environ. Res. and Public Health* 2021, 18, 582. <https://doi.org/10.3390/ijerph18020582>. Accessed 1/26/2022.

⁷² Facilities 5 miles upstream from areas that would be covered by baseline WQS were considered in the rule's economic analysis. However, facilities located greater than 5 miles upstream may be affected by the rule depending on local factors considered during the downstream protection analysis for a given facility.

⁷³ See EPA's *Economic Analysis for Potential Federal Baseline Water Quality Standards for Indian Reservation Waters*.

country and Alaskan Native Villages.^{74,75}

Although there is funding for capital improvements, there is a general lack of Federal funding sources to support operation and maintenance (O&M) of such wastewater facilities. As a result, some Tribal communities may need to contribute toward O&M needs, which are estimated to range from approximately \$50,000 to \$500,000 in aggregate per year. Tribal communities, along with other communities that receive services, would need to fulfill these O&M needs with the resources and expertise they have on hand or by imposing an additional burden on ratepayers.

EPA anticipates, however, that the abovementioned benefits will ultimately outweigh these potential pass-through costs and that this rule will help address the environmental justice challenges Tribes are currently facing Tribes.

For more information on how EPA provided meaningful participation opportunities for Tribes in developing this proposal, please see Section F. Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments).

List of Subjects

40 CFR Part 131

Environmental protection, Indians—lands, Intergovernmental relations, Reporting and recordkeeping requirements, Water pollution control.

40 CFR Parts 230 and 233

Environmental protection, Administrative practice and procedure, Indians—lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control.

Michael S. Regan,
Administrator.

For the reasons set forth in the preamble, the EPA proposes to amend 40 CFR parts 131, 230, and 233 as follows:

⁷⁴ In 2007, the multi-agency Tribal Infrastructure Task Force was created to develop and coordinate Federal activities in delivering water infrastructure, wastewater infrastructure and solid waste management services to tribal communities. EPA is a member of the Task Force. See <https://www.epa.gov/tribal/federal-infrastructure-task-force-improve-access-safe-drinking-water-and-basic-sanitation>.

⁷⁵ Tribal Infrastructure Task Force. 2018. Tribal Resource Directory Matrix of Federal Assistance for Water and Wastewater Treatment Services. <https://www.epa.gov/tribal/tribal-resource-directory-matrix-federal-assistance-water-and-wastewater-treatment-services>.

PART 131—WATER QUALITY STANDARDS

■ 1. The authority citation for part 131 continues to read as follows:

Authority: 33 U.S.C. 1251 *et seq.*

■ 2. Add § 131.XX to read as follows:

§ 131.XX Federal baseline water quality standards for Indian reservation waters.

(a) *Scope.* The Federal water quality standards in this section apply to all waters of the United States in Indian country except:

(1) Indian reservation waters for which EPA has promulgated other Federal water quality standards;

(2) Indian reservation waters where EPA has explicitly found that a state has jurisdiction to adopt water quality standards or authorized a Tribe to adopt water quality standards pursuant to § 131.8, and where EPA has approved the applicable state or Tribal water quality standards;

(3) Indian country waters on off-reservation allotments and off-reservation dependent Indian communities; and

(4) Indian reservation waters of Tribes for which the Regional Administrator approves an exclusion from application of the standards in this section, informed by consultation with the Tribe. EPA will maintain a publicly available list of Indian reservation waters that are excluded from coverage of the baseline water quality standards in this section at [EPA website to be inserted in final rule].

(b) *Consultation with Tribes.* In taking actions under this section, the Regional Administrator will initiate Tribal consultation with the Tribe(s) whose interests may be affected, consistent with applicable EPA Tribal consultation policies.

(c) *Federal baseline designated uses.* The following designated uses apply to all Indian reservation waters specified in paragraph (a) of this section except where paragraph (i) of this section applies:

(1) *Aquatic life.* Protection and propagation of fish, shellfish, and wildlife, which includes protection of human health of consumers of fish, shellfish, and other aquatic life.

(2) *Primary contact recreation.* Provides for recreation in and on the water.

(3) *Cultural and traditional uses.* Protection of cultural and traditional uses of reservation waters.

(d) *Federal baseline water quality criteria—(1) Narrative criteria.* The following narrative criteria apply to all waters covered by paragraph (a) of this

section and designated for the uses in paragraph (c) of this section or as revised per paragraph (i) of this section.

(i) All waters shall be free from toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances in amounts that will prevent attainment of the designated uses specified in paragraph (c) of this section and revised designated uses made under paragraph (i) of this section, where appropriate;

(ii) All waters shall be free from adverse impacts to the chemical, physical or hydrologic, or biological integrity caused by pollutants or pollution that prevent the attainment of applicable designated uses specified in paragraph (c) of this section and revised designated uses made under paragraph (i) of this section, where appropriate;

(iii) All waters shall be free from substances attributable to wastewater or other discharges where appropriate, that:

(A) Settle to form objectionable deposits;

(B) Float as debris, scum, oil, or other matter to form nuisances;

(C) Produce objectionable color, odor, taste, or turbidity; or

(D) Produce undesirable or nuisance aquatic life;

(iv) All waters shall be free from conditions that would likely jeopardize the continued existence of any threatened or endangered species listed under the Federal Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat; and

(v) All waters shall maintain a level of water quality at their pour points to downstream waters that provide for the attainment and maintenance of the water quality standards of those waters, including the waters of another state or a federally recognized Tribe.

(2) *Procedures to translate narrative criteria.* The Regional Administrator shall utilize one of the options set forth in this paragraph (d)(2) to derive numeric translations of the narrative criteria in paragraph (d)(1) of this section for all purposes under Clean Water Act (CWA) section 303(c) for specific parameters as necessary to protect the applicable designated uses in paragraph (c) of this section or as revised per paragraph (i) of this section for specific water bodies.

(i) Translate the narrative criteria in paragraph (d)(1) of this section using EPA's national recommended water quality criteria published under section 304(a) of the CWA for parameters for which EPA has section 304(a) criteria recommendations; or

(ii) Where information and/or data are available that more accurately reflect site-specific conditions, translate the narrative criteria in paragraph (d)(1) of this section using EPA's national recommended water quality criteria published under section 304(a) of the CWA modified to reflect site-specific conditions and aquatic communities. The modifications shall protect the applicable designated uses in paragraph (c) of this section or as revised per paragraph (i) of this section and be based on a sound scientific rationale, including EPA published methodologies if available, and Indigenous Knowledge, as appropriate, incorporating where relevant:

(A) A fish consumption rate protective of Tribal fish consumers or EPA's latest default fish consumption rate, if appropriate; or

(B) Available ambient monitoring data reflecting site-specific water chemistry inputs; or

(C) Protective default water chemistry inputs; or

(D) Other scientifically defensible assessments, for example, guidance published by EPA regions or those related to Endangered Species Act consultation, and Indigenous Knowledge, as appropriate; or

(iii) Where appropriate, translate the narrative criteria in paragraph (d)(1) of this section using water quality standards adopted by the Tribe, or CWA-effective water quality standards applicable in an adjacent or other relevant state(s) or Tribe(s), that are based on a sound scientific rationale, reflect similar waterbody characteristics, and ensure protection of the applicable designated use(s), taking into consideration Indigenous Knowledge, as appropriate; or

(iv) Where applicable, translate the narrative criteria in paragraph (d)(1) of this section using provisions of 40 CFR part 132 (the Water Quality Guidance for the Great Lakes System) to ensure the translations are as protective as required by 40 CFR part 132; or

(v) Where paragraphs (d)(2)(i) through (iv) of this section are not applicable, the Regional Administrator shall rely on existing CWA implementation provisions in this part to derive numeric translations of the narrative criteria in paragraph (d)(1) of this section where necessary; and

(vi) The Regional Administrator shall maintain and make available to the public for informational purposes a list of numeric translations of the narrative criteria derived per paragraph (d)(2) of this section at [location of list to be provided in final rule].

(e) *Federal baseline antidegradation policy.* (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Regional Administrator finds with written agreement from the Tribe, after full opportunity for intergovernmental coordination and public involvement, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Regional Administrator shall assure water quality adequate to protect existing uses fully. Further, the Regional Administrator shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all Tribal-regulated cost effective and reasonable best management practices for nonpoint source control.

(i) Before allowing any lowering of high water quality, pursuant to paragraph (e)(2) of this section, the Regional Administrator shall find with written agreement from the Tribe, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the Regional Administrator shall only find with written agreement from the Tribe, that a lowering is necessary if one such alternative is selected for implementation.

(ii) [Reserved]

(3) Where high quality waters constitute an outstanding national resource, such as waters of national and Tribal parks and wildlife refuges and waters of exceptional recreational, ecological, or cultural significance, that water quality shall be maintained and protected.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the decision to allow such degradation shall be consistent with section 316 of the Clean Water Act.

(f) *Federal baseline antidegradation implementation methods—(1)*

Applicability. The antidegradation policy in paragraph (e) of this section and the antidegradation implementation methods in this paragraph (f) shall apply to all Indian reservation waters of the United States included in paragraph (a) of this section.

(i) The requirements of paragraphs (e) and (f) of this section shall be followed when considering all requests to authorize new or expanded regulated activities. Regulated activities include, but are not limited to, any activity that requires a permit, license, or water quality certification pursuant to sections 401, 402, and 404 of the CWA.

(ii) Antidegradation protections will be addressed in new or reissued general permits authorized, implemented, or administered by the Regional Administrator either at the time the Regional Administrator develops and issues the general permit or upon review of an applicant's request to be covered by a general permit. The Regional Administrator will describe in writing in the permit fact sheet how the general permit is consistent with the antidegradation requirements of this paragraph (f)(1)(ii) and the antidegradation policy in paragraph (e) of this section.

(2) *Existing instream use protection consistent with paragraph (e)(1) of this section.* For all waters, the Regional Administrator, shall ensure that the level of water quality necessary to protect existing uses is maintained. In order to achieve the requirement in this paragraph (f)(2), the Regional Administrator shall consider whether a regulated activity would lower the water quality to the extent that it would no longer be sufficient to protect and maintain the existing uses of that water body. If the lowering of water quality would not protect and maintain the existing uses of that water body, then the Regional Administrator would not allow the lowering of water quality. Such consideration shall be based on all existing and readily available water quality-related data and information, as well as any additional water-quality related data and information submitted during the public comment period for the authorization.

(3) *High quality water protection consistent with paragraph (e)(2) of this section.* In determining which waters will receive high quality water protection consistent with paragraph (e)(2) of this section, the Regional Administrator will identify high quality water on a parameter-by-parameter basis. Each parameter that is determined to be high quality shall be considered and evaluated independently, consistent with this paragraph (f)(3), at the time an

applicant requests authorization to lower high water quality. A parameter is high quality if its water quality level exceeds its water quality criterion in paragraph (d) of this section. The Regional Administrator shall ensure that no regulated activity that results in a lowering of high water quality occurs unless the components outlined in paragraph (f)(3)(i) of this section are available and the Regional Administrator has made a finding with written agreement from the relevant Tribe, consistent with paragraph (f)(3)(ii) of this section. If the Tribe does not provide its written agreement, then the Regional Administrator will maintain the current high water quality.

(i) When determining whether to allow a lowering of high water quality for one or more parameters that exceed levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, the Tribe and Regional Administrator will consider the following components and information:

(A) *Identifying information.* Name of the applicant, a description of the nature of the applicant's business and the pollutants to be discharged, location of the discharge, the name of and any water quality data for the receiving water body, daily maximum and average flow to be discharged, and effluent characterization.

(B) *Analysis of alternatives.* Identification and evaluation of a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity to determine whether the degradation of water quality is necessary. When the analysis of alternatives identifies one or more practicable alternatives, the Regional Administrator shall only find with written agreement from the Tribe that a lowering of high water quality is necessary, consistent with paragraph (e)(2)(ii) of this section, if one such alternative is selected for implementation.

(C) *Socio-economic analysis.* Identification and evaluation of the social and economic development benefits to the area in which the waters are located that will be foregone if the lowering of water quality is not allowed. Along with the analysis of alternatives, the socio-economic analysis is used to determine whether the lowering of high water quality will accommodate important economic and social development in the area in which the water is located. The "area in which the waters are located" shall be determined on a case-by-case basis and shall include all areas directly impacted by

the proposed regulated activity. Factors that must be considered in the socio-economic analysis include, but are not limited to, the ecological and economic importance of the affected waters, the importance of the development to the affected community, and the socio-economic health of the affected community as determined by appropriate analytical methods.

(ii) The Regional Administrator shall make a finding that a lowering of high water quality is necessary to accommodate important social and economic development in the area in which the water is located only if the information in paragraph (f)(3)(i) of this section supports such a conclusion and the Tribe has provided written agreement.

(A) If the lowering of high water quality is necessary to accommodate important social or economic development goals, and the Tribe has provided its written agreement, the Regional Administrator may allow a lowering of the high water quality as long as one of the alternatives identified in paragraph (f)(3)(i)(B) of this section is selected for implementation and incorporated into the authorization for the activity. If no practicable alternative was identified by the analysis of alternatives, but the lowering of high water quality will accommodate important social or economic development and the Tribe has provided written agreement, the Regional Administrator may allow the lowering of high water quality. If a non-degrading practicable alternative is selected, no lowering of the high water quality will occur, and the Regional Administrator does not need to allow the lowering.

(B) In no event will the Regional Administrator allow water quality to be lowered below the level required to fully protect existing and designated uses.

(C) To fulfill intergovernmental coordination, the Regional Administrator shall notify local, state, and Federal agencies that operate in the area impacted by the activity and request comment on the preliminary decision to allow a lowering of water quality in a high quality water based on whether it is necessary to accommodate important social and economic development in the area of the waters impacted by the activity.

(D) To ensure the opportunity for public involvement, the Regional Administrator shall provide public notice following EPA's own procedures and request public comment on the preliminary decision to allow a lowering of high water quality. In

addition, the Regional Administrator will rely on any existing public notification and input procedures in place for the Tribe. The preliminary decision will provide relevant information regarding the lowering of high water quality, including the alternatives analysis, socio-economic analysis, the estimated amount of assimilative capacity available in the water body, and the estimated amount of assimilative capacity to be utilized by the proposed activity.

(E) The Regional Administrator's authorization of the regulated activity shall serve as notice of the final decision on whether to allow a lowering of high water quality.

(F) Before allowing any degradation of high water quality, the Regional Administrator shall identify point sources and Tribal-regulated nonpoint sources that discharge to, or otherwise impact, the receiving water. The Regional Administrator shall coordinate with other agencies, as necessary, to assure compliance with the highest statutory and regulatory requirements for all new and existing point sources and/or all Tribal-regulated cost-effective and reasonable best management practices for non-point source control. If compliance with the highest statutory and regulatory requirements for all new and existing point sources and all Tribal-regulated cost-effective and reasonable best management practices for non-point sources cannot be assured, the Regional Administrator will not allow a lowering of high water quality.

(4) *Outstanding national resource water protection consistent with paragraph (e)(3) of this section.* For Indian reservation waters assigned as Outstanding National Resource Waters, the Regional Administrator shall ensure, through the application of appropriate controls on point and Tribal-regulated nonpoint pollutant sources, that water quality is maintained and protected. No new or expanded regulated discharges will be allowed to Outstanding National Resource Waters or tributaries to such waters that would result in lower water quality unless it is on a short term and temporary basis, consistent with paragraph (f)(4)(v) of this section.

(i) Any person or entity may nominate a specific Indian reservation water with applicable baseline water quality standards under this section to be assigned as an Outstanding National Resource Water. The person or entity may transmit a written nomination to the Regional Administrator and the Tribe, at any time, including why the Indian reservation water warrants Outstanding National Resource Water protection.

(ii) The Regional Administrator shall determine with written agreement from the Tribe whether the nominated water qualifies as an Outstanding National Resource Water as described in paragraph (f)(4) of this section.

(iii) The Regional Administrator shall issue a public notice, utilizing EPA's own procedures and any existing Tribal public notice procedures, regarding the decision to assign a water as an Outstanding National Resource Water.

(iv) The Regional Administrator will maintain a comprehensive list of the Indian reservation waters that have been assigned as Outstanding National Resource Waters consistent with paragraph (e)(3) of this section at [location of list to be provided in final rule].

(v) The Regional Administrator may allow short-term, temporary water quality degradation in an Outstanding National Resource Water only if the short-term, temporary degradation is limited to the shortest possible time, does not impact existing uses, and does not alter the essential or special characteristics that make the Indian reservation water an Outstanding National Resource Water. For purposes of this section, short-term shall be considered any period that is measured in the context of weeks to months, not years.

(g) *Policy on dilution allowances and mixing zones.* In conjunction with the issuance of CWA section 402 and 404 permits for discharges to Indian reservation waters covered in paragraph (a) of this section:

(1) *Dilution allowances.* Where the discharge has rapid and complete mixing with the receiving water, a dilution allowance may be established by the Regional Administrator at the time a CWA section 402 or section 404 permit is issued, renewed, or materially modified which is in effect as long as the permit remains in effect.

(2) *Mixing zones.* Where the discharge does not have rapid and complete mixing with the receiving water, a mixing zone may be established by the Regional Administrator at the time a CWA section 402 or section 404 permit is issued, renewed, or materially modified which is in effect as long as the permit remains in effect.

(i) *Mixing zone* means an allocated impact zone where water quality criteria can be exceeded only if acutely toxic conditions are prevented.

(ii) Mixing zones shall not be authorized for a pollutant when the receiving water does not meet water quality criteria for that pollutant. Effluent limits established consistent with the assumptions and requirements

of a wasteload allocation for the discharge in an EPA-approved or EPA-established total maximum daily load (TMDL) are acceptable if otherwise in accordance with this section.

(iii) Mixing zones shall not be authorized where they may fail to protect the applicable designated uses in paragraph (c) of this section or as revised per paragraph (i) of this section of the receiving water body, as a whole, including, but not limited to, any of the following scenarios:

(A) Impairment to the integrity of the aquatic community, including interference with successful spawning, egg incubation, rearing, or passage of aquatic life.

(B) Discharges into shellfish beds.

(C) Lethality to aquatic life passing through the mixing zone.

(D) Heat in the discharge that may cause thermal shock, lethality, or loss of cold water habitat or attract aquatic life to a toxic discharge.

(E) Conditions that impede or prohibit recreation in or on the water body.

(iv) Mixing zones shall not be authorized for pathogens, pathogen indicators, or bioaccumulative pollutants in the discharge, unless the Regional Administrator can demonstrate, after consideration of the effects of the mixing zone (including potential bioaccumulation within specific trophic levels of resident species or other relevant factors), that the designated use of the water body as a whole will be protected.

Bioaccumulative pollutant means a pollutant that is taken up and retained by an aquatic organism from any surrounding media (e.g., water, food, sediment).

(v) Mixing zones shall not overlap.

(vi) Water quality within an authorized mixing zone is allowed to exceed chronic water quality criteria for those parameters established by the Regional Administrator through the CWA section 402 or section 404 permit. Acute water quality criteria may be exceeded for such parameters within the zone of initial dilution inside the mixing zone. Acute criteria shall be met as near to the point of discharge as practicably attainable. Water quality criteria shall not be exceeded outside of the boundary of a mixing zone as a result of the discharge for which the mixing zone was authorized.

(vii) Mixing zones shall be no larger than necessary, and the concentrations of pollutants present shall be minimized. Mixing zones shall meet the following restrictions:

(A) Mixing zones in flowing waters shall not:

(1) Extend in a downstream direction for a distance from the discharge port(s) greater than 10 times the stream width plus the depth of water over the discharge port(s);

(2) Extend upstream for a distance of over 100 feet;

(3) Utilize greater than 25% of the applicable critical low flow when based on steady-state modeling;

(4) Utilize greater than 25% of the flow when based on dynamic modeling; nor

(5) Occupy greater than 25% of the width of the water body.

(B) Mixing zones in nonflowing waters shall not:

(1) Exceed 10% of the volume of the water body;

(2) Exceed 10% of the surface area of the water body (maximum radial extent of the plume regardless of whether it reaches the surface); nor

(3) Extend beyond 15% of the width of the water body.

(viii) *Critical low flow* means:

(A) The 1Q10 (the lowest one-day average flow event expected to occur once every ten years) or 1B3 (the lowest one-day average flow event expected to occur once every three years) flow rate for acute aquatic life criteria.

(B) The 7Q10 (the lowest seven-consecutive-day average flow event expected to occur once every ten years) or 4B3 (the lowest four-consecutive-day average flow event expected to occur once every three years) flow rate for chronic aquatic life criteria with a duration of less than 30 days and human health criteria based on a short-term toxicological effect.

(C) The 30Q10 (the lowest thirty-consecutive-day average flow event expected to occur once every ten years), 30Q5 (the lowest thirty-consecutive-day average flow event expected to occur once every five years), or 30B3 (the lowest thirty-consecutive-day average flow event expected to occur once every three years) flow rate for chronic aquatic life criteria with a duration of 30 days or longer.

(D) The harmonic mean flow rate for human health criteria based on lifetime exposure.

(ix) The Regional Administrator shall take the following elements into consideration when reviewing outfall designs as part of mixing zone applicability determinations and CWA section 402 permit development:

(A) Promote rapid mixing to the extent practicable through careful location and outfall design;

(B) Promote use of diffusers to the extent practicable; and

(C) Avoid shore-hugging plumes to the maximum extent practicable.

(h) *Authorization for NPDES permit compliance schedules.* When appropriate, the Regional Administrator may include a compliance schedule for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits consistent with 40 CFR 122.47, to permittees discharging to Indian reservation waters covered by paragraph (a) of this section.

(i) *Federal administrative procedure to revise baseline designated uses, add designated uses and establish water quality standards variances.* (1) The Regional Administrator may, upon the request of a Tribe for its reservation waters, or based on the Regional Administrator's identification, revise one or more designated uses in paragraph (c) of this section and associated criteria, add additional designated uses and associated criteria where such revisions will more appropriately reflect the Tribe-specific use and value of waters covered by paragraph (a) of this section, or establish water quality standards variances that apply to specific parameter(s), water body/waterbody segment(s), and permittee(s) covered by paragraph (a) of this section, as specified in the water quality standards variance. Any such designated use revision or addition, and associated criteria revisions, shall be consistent with §§ 131.10 and 131.11. Any such water quality standards variance shall be consistent with § 131.14.

(2) For any revision or addition of a designated use and associated criteria or water quality standards variance established under paragraph (i)(1) of this section, the Regional Administrator shall first provide for public notice of a public hearing on the proposed revision or addition to the designated use(s) and associated criteria and/or water quality standards variance at least 45 days in advance of the public hearing and hold a 45-day public comment period on the proposal, consistent with § 131.20(b) and EPA's public participation regulation at 40 CFR part 25. For any such proposal, the Regional Administrator shall prepare and make available to the public supporting documents identifying the specific

surface water(s) affected and include the justification for each proposed designated use revision and/or water quality standards variance consistent with the requirements of the CWA and EPA's implementing regulation, specifically at §§ 131.10 and 131.14, respectively. The documents shall be made available to the public at least 30 days in advance of the date of a public hearing consistent with 40 CFR 25.5.

(3) Where the Regional Administrator makes a final decision to revise the designated use and associated criteria, add a designated use and associated criteria, or establish a water quality standards variance, those changes become applicable for CWA purposes, consistent with the requirements of the CWA and EPA's regulations including §§ 131.10 and 131.14. For water quality standards variances, those CWA purposes are limited to purposes of developing NPDES permit limits under section 301(b)(1)(C) of the CWA, where appropriate, and issuing certification under section 401 of the CWA pursuant to § 131.14(a)(3).

(4) The Regional Administrator shall maintain and make available to the public for informational purposes an updated list of designated use revisions, additions, and the associated criteria, as well as water quality standards variances established pursuant to this paragraph (i) at [location of list to be provided in final rule]. The Regional Administrator shall also maintain and make available to the public the supporting documents for each designated use revision, addition, and water quality standards variance.

(5) Nothing in this paragraph (i) shall limit the Administrator's authority to revise the designated uses in paragraph (a) of this section or establish a water quality standards variance through subsequent Federal rulemaking.

(j) *Applicability date.* The Federal water quality standards in this section will become the applicable water quality standards, effective for CWA purposes, for the waters identified in paragraph (a) of this section [DATE 120 DAYS AFTER THE FINAL RULE IS PUBLISHED IN THE **FEDERAL REGISTER**].

(k) *EPA implementation of the Federal baseline water quality standards*

of this section in waters of the Great Lakes system. In making decisions under the CWA based on the water quality standards of this section for waters located in the Great Lakes System, as defined in 40 CFR 132.2, EPA will ensure that such decisions are consistent with the requirements for water quality standards, antidegradation policies, and implementation procedures for the Great Lakes System in 40 CFR part 132, as well as the water quality standards of this section.

PART 230—SECTION 404(b)(1) GUIDELINES FOR SPECIFICATION OF DISPOSAL SITES FOR DREDGED OR FILL MATERIAL

■ 3. The authority citation for part 230 is revised to read as follows:

Authority: 33 U.S.C. 1344(b) and 1361(a).

■ 4. Amend § 230.10 by revising paragraph (b)(1) to read as follows:

§ 230.10 Restrictions on discharge.

* * * * *

(b) * * *

(1) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard or federally promulgated water quality standard;

* * * * *

PART 233—404 STATE PROGRAM REGULATIONS

■ 5. The authority citation for part 233 continues to read as follows:

Authority: 33 U.S.C. 1251 *et seq.*

■ 6. Amend § 233.51 by revising paragraph (b)(3) to read as follows:

§ 233.51 Waiver of review.

* * * * *

(b) * * *

(3) Discharges with reasonable potential for adverse impacts on waters of another State or on waters subject to federally promulgated water quality standards;

* * * * *

[FR Doc. 2023–09311 Filed 5–4–23; 8:45 am]

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Part V

The President

Executive Order 14098—Imposing Sanctions on Certain Persons
Destabilizing Sudan and Undermining the Goal of a Democratic Transition

Presidential Documents

Title 3—

Executive Order 14098 of May 4, 2023

The President

Imposing Sanctions on Certain Persons Destabilizing Sudan and Undermining the Goal of a Democratic Transition

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the International Emergency Economic Powers Act (50 U.S.C. 1701 *et seq.*) (IEEPA), the National Emergencies Act (50 U.S.C. 1601 *et seq.*), section 212(f) of the Immigration and Nationality Act of 1952 (8 U.S.C. 1182(f)), and section 301 of title 3, United States Code,

I, JOSEPH R. BIDEN JR., President of the United States of America, hereby expand the scope of the national emergency declared in Executive Order 13067 of November 3, 1997 (Blocking Sudanese Government Property and Prohibiting Transactions With Sudan), and expanded by Executive Order 13400 of April 26, 2006 (Blocking Property of Persons in Connection With the Conflict in Sudan's Darfur Region), finding that the situation in Sudan, including the military's seizure of power in October 2021 and the outbreak of inter-service fighting in April 2023, constitutes an unusual and extraordinary threat to the national security and foreign policy of the United States.

It is the policy of the United States to support a transition to democracy and civilian transitional government in Sudan, to defend such a transitional government from those who would prevent its initial formation through violence and other methods, and, once formed, to protect it from those who would undermine it. The United States, in cooperation with like-minded partners, will help such a transitional government, when formed, meet the needs of the Sudanese people and prepare for democratic elections.

Accordingly, to address the threat described in this order and to take further steps with respect to this national emergency, I hereby order:

Section 1. (a) All property and interests in property that are in the United States, that hereafter come within the United States, or that are or hereafter come within the possession or control of any United States person of the following persons are blocked and may not be transferred, paid, exported, withdrawn, or otherwise dealt in:

(i) any foreign person determined by the Secretary of the Treasury, in consultation with the Secretary of State, to be responsible for, or complicit in, or to have directly or indirectly engaged or attempted to engage in, any of the following:

(A) actions or policies that threaten the peace, security, or stability of Sudan;

(B) actions or policies that obstruct, undermine, delay, or impede, or pose a significant risk of obstructing, undermining, delaying, or impeding, the formation or operation of a civilian transitional government, Sudan's transition to democracy, or a future democratically elected government;

(C) actions or policies that have the purpose or effect of undermining democratic processes or institutions in Sudan;

(D) censorship or other actions or policies that prohibit, limit, or penalize the exercise of freedoms of expression, association, or peaceful assembly by individuals in Sudan, or that limit access to free and independent news or information in or with respect to Sudan;

(E) corruption, including bribery, misappropriation of state assets, and interference with public processes such as government oversight of parastatal budgets and revenues for personal benefit;

(F) serious human rights abuse, including serious human rights abuse related to political repression, in or with respect to Sudan;

(G) the targeting of women, children, or any other civilians through the commission of acts of violence (including killing, maiming, torture, or rape or other sexual violence), abduction, forced displacement, or attacks on schools, hospitals, religious sites, or locations where civilians are seeking refuge, or through conduct that would constitute a serious abuse or violation of human rights or a violation of international humanitarian law;

(H) the obstruction of the activities of United Nations missions—including peacekeeping missions, as well as diplomatic or humanitarian missions—in Sudan, or of the delivery of, distribution of, or access to humanitarian assistance; or

(I) attacks against United Nations missions, including peacekeeping operations;

(ii) any foreign person determined by the Secretary of the Treasury, in consultation with the Secretary of State, to be or have been a leader, official, senior executive officer, or member of the board of directors of any entity:

(A) that has, or whose members have, engaged in any activity described in subsection (a)(i) of this section relating to the tenure of such leader, official, senior executive officer, or member of the board of directors; or

(B) whose property and interests in property are blocked pursuant to this order relating to the tenure of such leader, official, senior executive officer, or member of the board of directors;

(iii) any foreign person determined by the Secretary of the Treasury, in consultation with the Secretary of State, to be a spouse or adult child of any person whose property and interests in property are blocked pursuant to this order;

(iv) any foreign person determined by the Secretary of the Treasury, in consultation with the Secretary of State, to have materially assisted, sponsored, or provided financial, material, or technological support for, or goods or services to or in support of, any activity described in subsection (a)(i) of this section or any person whose property and interests in property are blocked pursuant to this order; or

(v) any foreign person determined by the Secretary of the Treasury, in consultation with the Secretary of State, to be owned or controlled by, or to have acted or purported to act for or on behalf of, directly or indirectly, any person whose property and interests in property are blocked pursuant to this order.

(b) The prohibitions in subsection (a) of this section apply except to the extent provided by statutes, or in regulations, orders, directives, or licenses that may be issued pursuant to this order, and notwithstanding any contract entered into or any license or permit granted before the date of this order.

Sec. 2. Following the issuance of a determination by the Secretary of State, in consultation with the Secretary of the Treasury and the Administrator of the United States Agency for International Development, that a civilian transitional government has been formed in Sudan, the Assistant to the President for National Security Affairs shall coordinate, through the inter-agency process identified in National Security Memorandum 2 of February 4, 2021 (Renewing the National Security Council System), or any successor memorandum, the executive branch actions necessary to implement the policy set forth in this order, including coordinating executive departments

and agencies (agencies) to mobilize international assistance to support such a civilian transitional government in implementing political, economic, security, and human rights-related reforms essential for completing a democratic transition.

Sec. 3. The prohibitions in section 1 of this order include:

(a) the making of any contribution or provision of funds, goods, or services by, to, or for the benefit of any person whose property and interests in property are blocked pursuant to this order; and

(b) the receipt of any contribution or provision of funds, goods, or services from any such person.

Sec. 4. I hereby determine that the making of donations of the types of articles specified in section 203(b)(2) of IEEPA (50 U.S.C. 1702(b)(2)) by, to, or for the benefit of any person whose property and interests in property are blocked pursuant to section 1 of this order would seriously impair my ability to deal with the national emergency declared in Executive Order 13067, and expanded by Executive Order 13400 and this order, and I hereby prohibit such donations as provided by section 1 of this order.

Sec. 5. (a) Any transaction that evades or avoids, has the purpose of evading or avoiding, causes a violation of, or attempts to violate any of the prohibitions set forth in this order is prohibited.

(b) Any conspiracy formed to violate any of the prohibitions set forth in this order is prohibited.

Sec. 6. (a) The unrestricted immigrant and nonimmigrant entry into the United States of noncitizens determined to meet one or more of the criteria set forth in section 1(a) of this order would be detrimental to the interests of the United States, and the entry of such persons into the United States, as immigrants or nonimmigrants, is hereby suspended, except when the Secretary of State or the Secretary of Homeland Security, as appropriate, determines that the person's entry would not be contrary to the interests of the United States, including when the Secretary of State or the Secretary of Homeland Security, as appropriate, so determines, based on a recommendation of the Attorney General, that the person's entry would further important United States law enforcement objectives.

(b) The Secretary of State shall implement this authority as it applies to visas pursuant to such procedures as the Secretary of State, in consultation with the Secretary of Homeland Security, may establish.

(c) The Secretary of Homeland Security shall implement this order as it applies to the entry of noncitizens pursuant to such procedures as the Secretary of Homeland Security, in consultation with the Secretary of State, may establish.

(d) Such persons shall be treated by this section in the same manner as persons covered by section 1 of Proclamation 8693 of July 24, 2011 (Suspension of Entry of Aliens Subject to United Nations Security Council Travel Bans and International Emergency Economic Powers Act Sanctions).

Sec. 7. For the purposes of this order:

(a) the term “entity” means a partnership, association, trust, joint venture, corporation, group, subgroup, or other organization;

(b) the term “noncitizen” means any person who is not a citizen or noncitizen national of the United States;

(c) the term “person” means an individual or entity; and

(d) the term “United States person” means any United States citizen, lawful permanent resident, entity organized under the laws of the United States or any jurisdiction within the United States (including foreign branches), or any person in the United States.

Sec. 8. For those persons whose property and interests in property are blocked pursuant to this order who might have a constitutional presence in the United States, I find that because of the ability to transfer funds or other assets instantaneously, prior notice to such persons of measures to be taken pursuant to this order would render those measures ineffectual. I therefore determine that for these measures to be effective in addressing the national emergency declared in Executive Order 13067, and expanded by Executive Order 13400 and this order, there need be no prior notice of a listing or determination made pursuant to section 1 of this order.

Sec. 9. The Secretary of the Treasury, in consultation with the Secretary of State, is hereby authorized to take such actions, including the promulgation of rules and regulations, and to employ all powers granted to the President by IEEPA as may be necessary to carry out the purposes of this order. The Secretary of the Treasury may, consistent with applicable law, redelegate any of these functions within the Department of the Treasury. All agencies of the United States shall take all appropriate measures within their authority to implement this order.

Sec. 10. Nothing in this order shall prohibit transactions for the conduct of the official business of the Federal Government or the United Nations (including its specialized agencies, programs, funds, and related organizations) by employees, grantees, or contractors thereof.

Sec. 11. Nothing in this order is intended to affect the continued effectiveness of any action taken pursuant to Executive Order 13761 of January 13, 2017 (Recognizing Positive Actions by the Government of Sudan and Providing for the Revocation of Certain Sudan-Related Sanctions), and Executive Order 13804 of July 11, 2017 (Allowing Additional Time for Recognizing Positive Actions by the Government of Sudan and Amending Executive Order 13761).

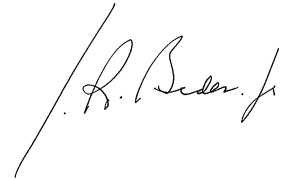
Sec. 12. (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

A handwritten signature in black ink, appearing to read "Joe Biden", is written over a diagonal line that extends from the bottom left towards the top right.

THE WHITE HOUSE,
May 4, 2023.

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