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This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

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

## FEDERAL RESERVE SYSTEM

### 12 CFR Part 201

[Docket No. 1874]

RIN 7100-AH06

#### Regulation A: Extensions of Credit by Federal Reserve Banks

**AGENCY:** Board of Governors of the Federal Reserve System.

**ACTION:** Final rule.

**SUMMARY:** The Board of Governors of the Federal Reserve System (“Board”) has adopted final amendments to its Regulation A to reflect the Board’s approval of a decrease in the rate for primary credit at each Federal Reserve Bank. The secondary credit rate at each Reserve Bank automatically decreased by formula as a result of the Board’s primary credit rate action.

**DATES:**

*Effective date:* This rule (amendments to part 201 (Regulation A)) is effective November 14, 2025.

*Applicability date:* The rate changes for primary and secondary credit were applicable on October 30, 2025.

**FOR FURTHER INFORMATION CONTACT:** M. Benjamin Snodgrass, Special Counsel (202–263–4877), Legal Division, or Francis Martinez, Financial Institution & Policy Analyst (202–243–8717), Division of Monetary Affairs; for users of telephone systems via text telephone (TTY) or any TTY-based Telecommunications Relay Services, please call 711 from any telephone, anywhere in the United States; Board of Governors of the Federal Reserve System, 20th and C Streets NW, Washington, DC 20551.

**SUPPLEMENTARY INFORMATION:** The Federal Reserve Banks make primary and secondary credit available to depository institutions as a backup source of funding on a short-term basis, usually overnight. The primary and secondary credit rates are the interest rates that the twelve Federal Reserve

Banks charge for extensions of credit under these programs. In accordance with the Federal Reserve Act, the primary and secondary credit rates are established by the boards of directors of the Federal Reserve Banks, subject to review and determination of the Board.

On October 29, 2025, the Board voted to approve a 0.25 percentage point decrease in the primary credit rate, thereby decreasing the primary credit rate from 4.25 percent to 4.00 percent. In addition, the Board had previously approved the renewal of the secondary credit rate formula, the primary credit rate plus 50 basis points. Under the formula, the secondary credit rate decreased by 0.25 percentage points as a result of the Board’s primary credit rate action, thereby decreasing the secondary credit rate from 4.75 percent to 4.50 percent. The amendments to Regulation A reflect these rate changes.

The 0.25 percentage point decrease in the primary credit rate was associated with a 0.25 percentage point decrease in the target range for the federal funds rate (from a target range of 4 percent to 4¼ percent to a target range of 3¾ percent to 4 percent) announced by the Federal Open Market Committee on October 29, 2025, as described in the Board’s amendment of its Regulation D published elsewhere in today’s **Federal Register**.

#### Administrative Procedure Act

In general, the Administrative Procedure Act (“APA”) <sup>1</sup> imposes three principal requirements when an agency promulgates legislative rules (rules made pursuant to Congressionally delegated authority): (1) publication with adequate notice of a proposed rule; (2) followed by a meaningful opportunity for the public to comment on the rule’s content; and (3) publication of the final rule not less than 30 days before its effective date. The APA provides that notice and comment procedures do not apply if the agency for good cause finds them to be “unnecessary, impracticable, or contrary to the public interest.” <sup>2</sup> Section 553(d) of the APA also provides that publication at least 30 days prior to a rule’s effective date is not required for (1) a substantive rule which grants or recognizes an exemption or relieves a restriction; (2) interpretive rules and

statements of policy; or (3) a rule for which the agency finds good cause for shortened notice and publishes its reasoning with the rule.<sup>3</sup> The APA further provides that the notice, public comment, and delayed effective date requirements of 5 U.S.C. 553 do not apply “to the extent that there is involved . . . a matter relating to agency management or personnel or to public property, loans, grants, benefits, or contracts.”<sup>4</sup>

Regulation A establishes the interest rates that the twelve Reserve Banks charge for extensions of primary credit and secondary credit. The Board has determined that the notice, public comment, and delayed effective date requirements of the APA do not apply to these final amendments to Regulation A. The amendments involve a matter relating to loans and are therefore exempt under the terms of the APA. Furthermore, because delay would undermine the Board’s action in responding to economic data and conditions, the Board has determined that “good cause” exists within the meaning of the APA to dispense with the notice, public comment, and delayed effective date procedures of the APA with respect to the final amendments to Regulation A.

#### Regulatory Flexibility Analysis

The Regulatory Flexibility Act (“RFA”) does not apply to a rulemaking where a general notice of proposed rulemaking is not required.<sup>5</sup> As noted previously, a general notice of proposed rulemaking is not required if the final rule involves a matter relating to loans. Furthermore, the Board has determined that it is unnecessary and contrary to the public interest to publish a general notice of proposed rulemaking for this final rule. Accordingly, the RFA’s requirements relating to an initial and final regulatory flexibility analysis do not apply.

#### Paperwork Reduction Act

In accordance with the Paperwork Reduction Act (“PRA”) of 1995,<sup>6</sup> the Board reviewed the final rule under the authority delegated to the Board by the Office of Management and Budget. The

<sup>3</sup> 5 U.S.C. 553(d).

<sup>4</sup> 5 U.S.C. 553(a)(2).

<sup>5</sup> 5 U.S.C. 603, 604.

<sup>6</sup> 44 U.S.C. 3506; see 5 CFR part 1320, appendix A.1.

<sup>1</sup> 5 U.S.C. 551 *et seq.*

<sup>2</sup> 5 U.S.C. 553(b)(3)(A).

final rule contains no requirements subject to the PRA.

#### List of Subjects in 12 CFR Part 201

Banks, Banking, Federal Reserve System, Reporting and recordkeeping.

#### Authority and Issuance

For the reasons set forth in the preamble, the Board is amending 12 CFR chapter II as follows:

### PART 201—EXTENSIONS OF CREDIT BY FEDERAL RESERVE BANKS (REGULATION A)

■ 1. The authority citation for part 201 continues to read as follows:

**Authority:** 12 U.S.C. 248(i)–(j), 343 *et seq.*, 347a, 347b, 347c, 348 *et seq.*, 357, 374, 374a, and 461.

■ 2. In § 201.51, paragraphs (a) and (b) are revised to read as follows:

#### § 201.51 Interest rates applicable to credit extended by a Federal Reserve Bank.<sup>3</sup>

(a) *Primary credit.* The interest rate at each Federal Reserve Bank for primary credit provided to depository institutions under § 201.4(a) is 4.00 percent.

(b) *Secondary credit.* The interest rate at each Federal Reserve Bank for secondary credit provided to depository institutions under § 201.4(b) is 4.50 percent.

\* \* \* \* \*

<sup>3</sup> The primary, secondary, and seasonal credit rates described in this section apply to both advances and discounts made under the primary, secondary, and seasonal credit programs, respectively.

By order of the Board of Governors of the Federal Reserve System.

**Benjamin W. McDonough,**

*Deputy Secretary of the Board.*

[FR Doc. 2025–19888 Filed 11–13–25; 8:45 am]

**BILLING CODE 6210–01–P**

## FEDERAL RESERVE SYSTEM

### 12 CFR Part 204

[Docket No. R–1875]

RIN 7100–AH07

#### Regulation D: Reserve Requirements of Depository Institutions

**AGENCY:** Board of Governors of the Federal Reserve System.

**ACTION:** Final rule.

**SUMMARY:** The Board of Governors of the Federal Reserve System (“Board”) has adopted final amendments to its Regulation D to revise the rate of interest paid on balances (“IORB”) maintained at Federal Reserve Banks by

or on behalf of eligible institutions. The final amendments specify that IORB is 3.90 percent, a 0.25 percentage point decrease from its prior level. The amendment is intended to enhance the role of IORB in maintaining the federal funds rate in the target range established by the Federal Open Market Committee (“FOMC” or “Committee”).

#### DATES:

*Effective date:* This rule (amendments to part 204 (Regulation D)) is effective November 14, 2025.

*Applicability date:* The IORB rate change was applicable on October 30, 2025.

**FOR FURTHER INFORMATION CONTACT:** M. Benjamin Snodgrass, Special Counsel (202–263–4877), Legal Division, or Francis Martinez, Financial Institution & Policy Analyst (202–243–8717); for users of telephone systems via text telephone (TTY) or any TTY-based Telecommunications Relay Services, please call 711 from any telephone, anywhere in the United States; Board of Governors of the Federal Reserve System, 20th and C Streets NW, Washington, DC 20551.

#### SUPPLEMENTARY INFORMATION:

##### I. Statutory and Regulatory Background

For monetary policy purposes, section 19 of the Federal Reserve Act (“Act”) imposes reserve requirements on certain types of deposits and other liabilities of depository institutions.<sup>1</sup> Regulation D, which implements section 19 of the Act, requires that a depository institution meet reserve requirements by holding cash in its vault, or if vault cash is insufficient, by maintaining a balance in an account at a Federal Reserve Bank (“Reserve Bank”).<sup>2</sup> Section 19 also provides that balances maintained by or on behalf of certain institutions in an account at a Reserve Bank may receive earnings to be paid by the Reserve Bank at least once each quarter, at a rate or rates not to exceed the general level of short-term interest rates.<sup>3</sup> Institutions that are eligible to receive earnings on their balances held at Reserve Banks (“eligible institutions”) include depository institutions and certain other institutions.<sup>4</sup> Section 19 also provides that the Board may prescribe regulations concerning the payment of earnings on balances at a Reserve Bank.<sup>5</sup> Prior to

<sup>1</sup> 12 U.S.C. 461(b). In March 2020, the Board set all reserve requirement ratios to zero percent. See Interim Final Rule, 85 FR 16525 (Mar. 24, 2020); Final Rule, 86 FR 8853 (Feb. 10, 2021).

<sup>2</sup> 12 CFR 204.5(a)(1).

<sup>3</sup> 12 U.S.C. 461(b)(1)(A) and (b)(12)(A).

<sup>4</sup> See 12 U.S.C. 461(b)(1)(A) & (b)(12)(C); *see also* 12 CFR 204.2(y).

<sup>5</sup> See 12 U.S.C. 461(b)(12)(B).

these amendments, Regulation D established IORB at 4.15 percent.<sup>6</sup>

##### II. Amendment to IORB

The Board is amending § 204.10(b)(1) of Regulation D to establish IORB at 3.90 percent. The amendment represents a 0.25 percentage point decrease in IORB. This decision was announced on October 29, 2025, with an effective date of October 30, 2025, in the Federal Reserve Implementation Note that accompanied the FOMC’s statement on October 29, 2025. The FOMC statement stated that the Committee decided to lower the target range for the federal funds rate to 3¾ to 4 percent.

The Federal Reserve Implementation Note stated:

The Board of Governors of the Federal Reserve System voted unanimously to lower the interest rate paid on reserve balances to 3.90 percent, effective October 30, 2025.

As a result, the Board is amending § 204.10(b)(1) of Regulation D to establish IORB at 3.90 percent.

##### III. Administrative Procedure Act

In general, the Administrative Procedure Act (“APA”)<sup>7</sup> imposes three principal requirements when an agency promulgates legislative rules (rules made pursuant to Congressionally-delegated authority): (1) publication with adequate notice of a proposed rule; (2) followed by a meaningful opportunity for the public to comment on the rule’s content; and (3) publication of the final rule not less than 30 days before its effective date. The APA provides that notice and comment procedures do not apply if the agency for good cause finds them to be “unnecessary, impracticable, or contrary to the public interest.”<sup>8</sup> Section 553(d) of the APA also provides that publication at least 30 days prior to a rule’s effective date is not required for (1) a substantive rule which grants or recognizes an exemption or relieves a restriction; (2) interpretive rules and statements of policy; or (3) a rule for which the agency finds good cause for shortened notice and publishes its reasoning with the rule.<sup>9</sup>

The Board has determined that good cause exists for finding that the notice, public comment, and delayed effective date provisions of the APA are unnecessary, impracticable, or contrary to the public interest with respect to these final amendments to Regulation D. The rate change for IORB that is reflected in the final amendment to

<sup>6</sup> See 12 CFR 204.10(b)(1).

<sup>7</sup> 5 U.S.C. 551 *et seq.*

<sup>8</sup> 5 U.S.C. 553(b)(3)(A).

<sup>9</sup> 5 U.S.C. 553(d).

Regulation D was made with a view towards accommodating commerce and business and with regard to their bearing upon the general credit situation of the country. Notice and public comment would prevent the Board's action from being effective as promptly as necessary in the public interest and would not otherwise serve any useful purpose. Notice, public comment, and a delayed effective date would create uncertainty about the finality and effectiveness of the Board's action and undermine the effectiveness of that action. Accordingly, the Board has determined that good cause exists to dispense with the notice, public comment, and delayed effective date procedures of the APA with respect to this final amendment to Regulation D.

#### IV. Regulatory Flexibility Analysis

The Regulatory Flexibility Act ("RFA") does not apply to a rulemaking where a general notice of proposed rulemaking is not required.<sup>10</sup> As noted previously, the Board has determined that it is unnecessary and contrary to the public interest to publish a general notice of proposed rulemaking for this final rule. Accordingly, the RFA's requirements relating to an initial and final regulatory flexibility analysis do not apply.

#### V. Paperwork Reduction Act

In accordance with the Paperwork Reduction Act ("PRA") of 1995,<sup>11</sup> the Board reviewed the final rule under the authority delegated to the Board by the Office of Management and Budget. The final rule contains no requirements subject to the PRA.

#### List of Subjects in 12 CFR Part 204

Banks, Banking, Reporting and recordkeeping requirements.

#### Authority and Issuance

For the reasons set forth in the preamble, the Board amends 12 CFR part 204 as follows:

#### PART 204—RESERVE REQUIREMENTS OF DEPOSITORY INSTITUTIONS (REGULATION D)

■ 1. The authority citation for part 204 continues to read as follows:

**Authority:** 12 U.S.C. 248(a), 248(c), 461, 601, 611, and 3105.

■ 2. Section 204.10 is amended by revising paragraph (b)(1) to read as follows:

#### § 204.10 Payment of interest on balances.

\* \* \* \* \*

(b) \* \* \*

(1) For balances maintained in an eligible institution's master account, interest is the amount equal to the interest on reserve balances rate ("IORB rate") on a day multiplied by the total balances maintained on that day. The IORB rate is 3.90 percent.

\* \* \* \* \*

By order of the Board of Governors of the Federal Reserve System.

**Benjamin W. McDonough,**

*Deputy Secretary of the Board.*

[FR Doc. 2025-19889 Filed 11-13-25; 8:45 am]

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2025-4002; Project Identifier AD-2025-01671-T; Amendment 39-23193; AD 2025-23-51]

RIN 2120-AA64

#### Airworthiness Directives; The Boeing Company Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model MD-11 and MD-11F airplanes. This AD was prompted by an accident where the left-hand engine and pylon detached from the airplane during takeoff. This AD prohibits further flight until the airplane is inspected and all applicable corrective actions are performed using a method approved by the FAA. The FAA previously sent an emergency AD to all known U.S. owners and operators of these airplanes. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective on December 1, 2025. Emergency AD 2025-23-51, issued on November 8, 2025, which contains the requirements of this amendment, was effective with actual notice.

The FAA must receive comments on this AD by December 29, 2025.

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- *Federal eRulemaking Portal:* Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- *Fax:* 202-493-2251.

- *Mail:* U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2025-4002; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for Docket Operations is listed above.

#### FOR FURTHER INFORMATION CONTACT:

Brian Knaup, Manager, AIR-520, Continued Operational Safety Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 817-222-5390; email: [OperationalSafety@faa.gov](mailto:OperationalSafety@faa.gov).

#### SUPPLEMENTARY INFORMATION:

#### Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this AD. Send your comments using a method listed under the **ADDRESSES** section. Include "Docket No. FAA-2025-4002; Project Identifier AD-2025-01671-T" at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to [regulations.gov](https://www.regulations.gov), including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

#### Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD,

<sup>10</sup> 5 U.S.C. 603, 604.

<sup>11</sup> 44 U.S.C. 3506; see 5 CFR part 1320 Appendix A.1.

it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Brian Knaup, Manager, AIR-520, Continued Operational Safety Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 817-222-5390; email: [OperationalSafety@faa.gov](mailto:OperationalSafety@faa.gov). Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### Background

The FAA issued Emergency AD 2025-23-51, dated November 8, 2025 (Emergency AD 2025-23-51), to address an unsafe condition on all The Boeing Company Model MD-11 and MD-11F airplanes. The FAA sent the emergency AD to all known U.S. owners and operators of these airplanes. Emergency AD 2025-23-51 prohibits further flight until the airplane is inspected and all applicable corrective actions are performed using a method approved by the FAA.

Emergency AD 2025-23-51 was prompted by an accident where the left-hand engine and pylon detached from the airplane during takeoff. The cause of the detachment is currently under investigation. This condition could result in loss of continued safe flight and landing.

### FAA's Determination

The FAA is issuing this AD because the agency has determined the unsafe condition is likely to exist or develop in other products of the same type design.

### AD Requirements

This AD prohibits further flight until the airplane is inspected and all applicable corrective actions are performed using a method approved by the Manager, AIR-520, Continued Operational Safety Branch, FAA.

### Interim Action

The FAA considers this AD to be an interim action. If final action is later identified, the FAA might consider further rulemaking then.

### FAA's Justification and Determination of the Effective Date

Section 553(b) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to forgo notice and comment procedures for rules when the agency, for "good cause," finds that

those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that required the immediate adoption of Emergency AD 2025-23-51 issued on November 8, 2025, to all known U.S. owners and operators of these airplanes. The FAA found that the risk to the flying public and safety in air commerce justified forgoing notice and comment prior to adoption of this rule because the severity of the unsafe condition necessitates prohibiting further flight until the airplane is inspected and the applicable corrective actions are performed. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to 14 CFR 39.13 to make it effective to all persons. Given the significance of the risk presented by this unsafe condition, it must be immediately addressed. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forgo notice and comment.

### Regulatory Flexibility Act (RFA)

The requirements of the RFA do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

### Costs of Compliance

The FAA estimates that this AD affects 109 airplanes of U.S. registry. The FAA has no definitive data on which to base the cost estimates for the inspection and corrective actions specified in this AD.

### Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. 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.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have 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.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### PART 39—AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### § 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

#### 2025-23-51 The Boeing Company:

Amendment 39-23193; Docket No. FAA-2025-4002; Project Identifier AD-2025-01671-T.

#### (a) Effective Date

The FAA issued Emergency Airworthiness Directive (AD) 2025-23-51 on November 8, 2025, directly to affected owners and operators. As a result of such actual notice, that emergency AD was effective for those owners and operators on the date it was received. This AD contains the same requirements as that emergency AD and, for

those who did not receive actual notice, is effective on December 1, 2025.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all The Boeing Company Model MD-11 and MD-11F airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 54, Nacelles/pylons.

**(e) Unsafe Condition**

This AD was prompted by an accident where the left-hand engine and pylon detached from the airplane during takeoff. The cause of the detachment is currently under investigation. The unsafe condition could result in loss of continued safe flight and landing.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection and Other Action**

As of the effective date of this AD, further flight is prohibited until the airplane is inspected and all applicable corrective actions are performed using a method approved by the Manager, AIR-520, Continued Operational Safety Branch, FAA.

**(h) Special Flight Permit**

Special flight permits, as described in 14 CFR 21.197 and 21.199, are not allowed unless approved in accordance with the procedures specified in paragraph (i)(1) of this AD.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, AIR-520, Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: [AMOC@faa.gov](mailto:AMOC@faa.gov). Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, AIR-520, Continued Operational Safety Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(j) Additional Information**

For more information about this AD, contact Brian Knaup, Manager, AIR-520, Continued Operational Safety Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; phone: 817-222-5390; email: [OperationalSafety@faa.gov](mailto:OperationalSafety@faa.gov).

**(k) Material Incorporated by Reference**

None.

Issued on November 12, 2025.

**Peter A. White,**

*Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.*

[FR Doc. 2025-19891 Filed 11-13-25; 8:45 am]

**BILLING CODE 4910-13-P**

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 147**

**[EPA-HQ-OW-2025-0157; FRL 12672-02-OW]**

**Texas Underground Injection Control (UIC) Program; Class VI Primacy Application**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** The U.S. Environmental Protection Agency (EPA) is approving an application from the State of Texas (the State) that requests primary enforcement responsibility (primacy) for Class VI injection wells under the Safe Drinking Water Act (SDWA) section 1422. The EPA's approval of the State's UIC program revision application will allow the Texas Railroad Commission (RRC) to issue and enforce compliance with UIC Class VI permits for injection wells used for geologic carbon sequestration. The EPA will remain the permitting authority for Class VI wells on Indian lands within the State.

**DATES:** This final rule is effective on December 15, 2025. The incorporation by reference of certain material listed in this rule is approved by the Director of the Federal Register as of December 15, 2025. For judicial purposes, this final rule is promulgated as of December 15, 2025.

**ADDRESSES:** The EPA has established a docket for this action under Docket ID No. EPA-HQ-OW-2025-0157. All documents in the docket are listed on the <http://www.regulations.gov> website. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as

copyrighted material, is not placed on the internet and will be publicly available only in hard copy form. Publicly available docket materials are available electronically through <http://www.regulations.gov>.

**FOR FURTHER INFORMATION CONTACT:** Kyle Carey, Drinking Water Infrastructure Development Division, Office of Ground Water and Drinking Water (4606M), Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460; telephone number: (202) 564-2322; or Lisa Pham, UIC/Groundwater Section, Water Division, Region 6, U.S. Environmental Protection Agency, 1201 Elm Street, Suite 500, Dallas, Texas 75270; telephone number: (214) 665-8326; fax: (214) 665-6490. Both can be reached by emailing [UICprimacy@epa.gov](mailto:UICprimacy@epa.gov).

**SUPPLEMENTARY INFORMATION:**

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## I. Introduction

### A. Federal UIC Program and Primary Enforcement Authority (Primacy)

The Safe Drinking Water Act (SDWA), passed in 1974, protects public health by regulating the nation's public drinking water supply, including both surface and groundwater sources. Among other things, the SDWA requires the EPA to develop minimum requirements for effective State and Tribal UIC programs to prevent underground injection of fluids (such as water, wastewater, brines from oil and gas production, and carbon dioxide) from endangering underground sources of drinking water (USDWs). In general, USDWs are aquifers or parts of aquifers that supply a public water system or contain enough groundwater of sufficient quality to supply a public water system. See 40 CFR 144.3 (defining USDW).

The EPA's UIC program regulates various aspects of injection. These include technical aspects throughout the lifetime of the project from site characterization, construction, operation, and testing and monitoring through site closure, as well as permitting, site inspections, and reporting to ensure well owners and operators comply with UIC permits and regulations.

SDWA section 1421 directs the EPA to establish requirements that States, territories, and authorized Tribes must meet to be granted primary enforcement responsibility, or "primacy," for a UIC program. 42 U.S.C. 300h. SDWA section 1422 provides that an applicant seeking primacy for a UIC program must demonstrate to the EPA that the applicant's proposed UIC program meets the applicable requirements promulgated by the EPA pursuant to section 1421 for protecting USDWs. 42 U.S.C. 300h through 300h-1. An applicant must demonstrate, among other things, jurisdiction over underground injection and that the applicant possesses the administrative, civil, and criminal enforcement authorities required by the EPA's implementing regulations. See 40 CFR part 145, subpart B. After the EPA approves a State for UIC program primacy, the State's UIC program may be revised with EPA approval. See 40 CFR 145.32.

The EPA evaluates each primacy application in accordance with SDWA section 1422 and the EPA's implementing regulations to determine whether the applicant (in this instance, the State of Texas) has satisfactorily demonstrated that, after reasonable notice and public hearings, it has

adopted and will implement a UIC program that meets the requirements of the SDWA regulations at 40 CFR parts 144, 145, and 146. The EPA conducts a similar comprehensive evaluation for proposed State UIC program revisions, including a program revision to add Class VI primacy where an applicant already has primacy to implement other classes under the UIC program.

In this final rule, the EPA is approving Texas's program revision application to administer the UIC Class VI program in the State. EPA's approval is based on the Agency's determination that the application meets all applicable requirements for approval under SDWA section 1422 and the EPA's implementing regulations and that the State is capable of administering a UIC program in a manner consistent with the SDWA and applicable UIC regulations. The EPA will remain the permitting authority for all Class VI wells on Indian land within the State and will oversee Texas' administration of the State's UIC Class VI program pursuant to the SDWA.

### B. Class VI Wells Under the UIC Program

Class VI wells are used to inject carbon dioxide into deep rock formations for the purpose of long-term underground storage, also known as geologic sequestration. The geologic sequestration of carbon dioxide in UIC Class VI wells is used as part of carbon capture and storage for carbon dioxide emissions from industrial sources. Class VI injection wells are regulated under a SDWA permitting framework that protects USDWs.

The UIC Class VI program provides multiple safeguards that work together to protect USDWs. Permit applicants that want to inject carbon dioxide underground for the purpose of geologic sequestration must obtain a Class VI permit for each well by demonstrating to the UIC permitting authority that their proposed injection well and injection activities will meet all regulatory requirements, including the following technical, financial, and managerial requirements:

- Site characterization to ensure the geology in the project area will contain the carbon dioxide within the zone where it is authorized to be injected.
- Modeling to delineate the predicted area influenced by injection activities through the lifetime of the project.
- Evaluation of the delineated area to ensure all potential pathways for fluid movement have been identified and addressed through corrective action.

- Well construction requirements that ensure the Class VI injection well will not leak carbon dioxide.

- Testing and monitoring throughout the life of the project, including after carbon dioxide injection has ended. Requirements include, for example, testing to ensure physical integrity of the well, monitoring of injection pressure and flow, chemical analysis of the carbon dioxide stream that is being injected, monitoring the extent of the injected carbon dioxide plume and the surrounding area (e.g., ground water) to ensure the carbon dioxide is contained as predicted, and may also include monitoring for seismic activity near the injection site.

- Operating requirements (for example, injection pressure limitations) to ensure the injection activity will not endanger USDWs.

- Financial assurance mechanisms sufficient to cover the costs for all phases of the geologic sequestration project including the post-injection site care period and until site closure has been approved by the permitting authority.

- Emergency and remedial response plans to protect USDWs.

- Reporting of testing and monitoring results to the permitting authority to ensure the well is operating in compliance with all permit requirements.

The permitting authority ensures that these protective requirements are included in each Class VI permit. A draft of each Class VI permit is made available to the public for comment before the decision is made whether to issue a final permit.

## II. Legal Authorities

The statutory authority for this final rule is SDWA sections 1422 and 1450, 42 U.S.C. 300h-1 and 300j-9.

SDWA section 1421 requires the EPA to promulgate requirements for effective State UIC programs to prevent underground injection activities that endanger USDWs. 42 U.S.C. 300h. SDWA section 1422 requires that applicants seeking primacy approval demonstrate that they have adopted (after notice and public hearing) and will implement a UIC program which meets the requirements that the EPA promulgated under SDWA section 1421. 42 U.S.C. 300h-1.

The EPA has promulgated regulations setting forth the applicable procedures and substantive requirements for applicants seeking primacy approval for UIC programs under SDWA section 1422. The regulations in 40 CFR part 144 outline general program requirements that States must meet to

obtain primacy. The regulations in 40 CFR part 145 specify the procedures the EPA will follow in approving, revising, and withdrawing UIC programs and outlines the elements and provisions that an applicant must include in its application for primacy. 40 CFR part 145 also includes requirements for State UIC permitting programs (by reference to certain provisions of 40 CFR parts 124 and 144), compliance evaluation programs, enforcement authority, and the sharing of information between the EPA and the State. The regulations in 40 CFR part 146 contain the technical criteria and standards applicable to each well class, including Class VI wells.

### III. Texas' Application for UIC Class VI Primacy

#### A. Background

On February 20, 2025, Texas submitted to the EPA a program revision application to add Class VI wells to the State's existing SDWA section 1422 UIC program. Once approved by EPA, Texas' requirements for UIC wells would be codified and implemented in lieu of the Federal UIC requirements currently in effect in the State. See 40 CFR part 147, subpart SS. The UIC program revision application from Texas includes a description of the State's proposed UIC Class VI program, copies of all applicable rules and forms, a statement of legal authority, a summary of Texas' public participation activities, a letter from the Governor of Texas requesting program approval and an addendum to an existing UIC Memorandum of Agreement (MOA) between Texas and the EPA Region 6 Administrator. The EPA reviewed the application for completeness and performed a technical and legal evaluation of the application materials to assess and confirm that Texas' proposed UIC Class VI program meets Federal requirements.

#### B. Public Participation Activities Conducted by Texas

The RRC proposed regulations for the geologic storage of carbon dioxide (CO<sub>2</sub>) in a notice and request for comment published on its website on September 29, 2010, and in the Texas Register on October 15, 2010. On December 17, 2010, the RRC responded to comments and adopted final regulations (16 Tex. Admin. Code secs. 5.101–5.308). On March 20, 2012, the RRC proposed amendments to its CO<sub>2</sub> geologic storage regulations. The RRC provided notice of these proposed amendments through the Texas Register on April 6, 2012, and held a 31-day comment period closing on May 7, 2012. The RRC issued a response to comments and notice of the

adoption of the final amendments to the regulations in the Texas Register on June 29, 2012.

The RRC proposed additional amendments to its CO<sub>2</sub> geologic storage regulations in 2022 as part of its effort to develop and submit a program revision application to receive primacy for the Class VI UIC program. The RRC published notice of the proposed amendments and a 31-day opportunity for public comment in the Texas Register on May 20, 2022. The RRC held a public hearing on the proposed regulatory amendments via webcast on June 14, 2022. The RRC received 18 comments on the proposed amendments, five from industry associations (the Greater Houston Partnership, NARO-Texas, the Permian Basin Petroleum Association, the Texas Industry Project, and the Texas Oil and Gas Association), ten from companies or organizations, two from individuals, and one comment submitted on behalf of 37 Texas-based organizations and individuals. Comments on the regulations covered technical, administrative, and procedural requirements, some of which resulted in changes to the proposed amendments. Most commenters expressed support for Texas' planned program revision application requesting primacy for the Class VI program. However, one commenter requested Texas withdraw its anticipated application based on the commenter's criticisms of the RRC's oversight and enforcement of the programs it currently implements. The RRC issued a response to comments and notice of the adoption of the amendments in the Texas Register on September 16, 2022.

In response to feedback from the EPA, the RRC proposed additional amendments to its CO<sub>2</sub> geologic storage regulations in 2023. The RRC provided notice of the proposed amendments and an opportunity for public comment through July 31, 2023, on the RRC website on June 15, 2023, and in the Texas Register on June 30, 2023. The RRC received 30 comments on the proposed amendments, six from industry associations (Greater Houston Partnership, Reliable Energy Alliance, Texas Chapter of National Association of Royalty Owners, Texas Chemical Council, Texas Industry Project, and the Texas Oil and Gas Association), two from organizations (Environmental Defense Fund and Commission Shift), 21 from individuals and one on behalf of 31 Texas-based organizations and individuals. Some of the comments expressed support for Texas' program revision application requesting primacy for the Class VI program. Other

comments expressed concern about the process and potential environmental and public health impacts from the injection and geologic storage of CO<sub>2</sub>. Some commenters requested Texas withdraw its application for Class VI primacy. In addition, the RRC received comments on the proposed amendments to the State regulations regarding the technical, administrative, and procedural requirements, some of which resulted in changes to the proposed amendments. The RRC issued a response to comments and notice of the adoption of the amendments to the regulations in the Texas Register on September 8, 2023.

Documentation of Texas' public participation activities, including comments received and responses by the RRC, can be found in the EPA's Docket ID No. EPA-HQ-OW-2025-0157.

#### C. Summary of the EPA's Comprehensive Evaluation

The EPA evaluates applications from primacy authorities to revise their UIC programs in accordance with SDWA section 1422 and 40 CFR 145.32 to determine whether an applicant has satisfactorily demonstrated that its proposed program revision meets EPA regulatory requirements and the SDWA. The EPA conducted a comprehensive technical and legal evaluation of Texas' program revision application to determine whether the State's proposed UIC Class VI program—including statutes and regulations, program description, Attorney General's statement, and MOA addendum—meets the requirements of SDWA section 1422 and EPA regulations. Upon review, the EPA determined that Texas' program revision application demonstrates that the State has adopted and will implement a Class VI UIC program that meets the requirements of 40 CFR parts 144, 145, and 146.

The EPA evaluated Texas' UIC Class VI program description for consistency with 40 CFR 145.23, which specifies all the information that must be included as part of the program description. The EPA's evaluation of the UIC Class VI program description included reviewing the scope, coverage, processes, and organizational structure of the proposed Class VI program. The EPA evaluated Texas' permitting, administrative, and judicial review procedures relevant to Class VI permits, as well as the State's permit application, reporting, and manifest forms for Class VI permits. The EPA also reviewed the State's UIC compliance evaluation program and enforcement authorities and the State's demonstration that its UIC Class VI

program will have adequate in-house staff or access to contractor support for technical areas including site characterization, modeling, well construction and testing, financial responsibility, and regulatory and risk analysis.

The EPA evaluated Texas' Class VI related Attorney General's statement for consistency with 40 CFR 145.24. In an Attorney General's statement, the State's top legal officer affirms that applicable State law (*e.g.*, statutes, regulations, and judicial decisions) provides adequate authority to administer the Class VI UIC program as described in the program description and consistent with the EPA's regulatory requirements for UIC programs.

The EPA determined that the Class VI MOA addendum meets the Federal requirements at 40 CFR 145.25 for primacy MOAs. The MOA is the central agreement setting the provisions and arrangements between the State and the EPA concerning the administration and enforcement of the State UIC program. The EPA's evaluation of the Class VI MOA addendum included ensuring that the MOA addendum contained the appropriate provisions pertaining to coordination, permitting, compliance monitoring, enforcement, and EPA oversight.

Texas has demonstrated that it meets all UIC permitting requirements found in 40 CFR 145.11 for Class VI permits. Texas' UIC Class VI permitting provisions and technical criteria and standards meet the Federal requirements in 40 CFR parts 124 and 144 through 146. The State has incorporated necessary procedures, pursuant to 40 CFR 145.12, to support a robust UIC Class VI compliance evaluation program. Additionally, Texas has available the necessary civil and criminal enforcement authorities pursuant to 40 CFR 145.13. Texas' UIC Class VI regulations regarding permitting, inspection, operation, monitoring, reporting, and recordkeeping meet Federal requirements found in 40 CFR parts 145 and 146.

As a result of this comprehensive review, the EPA approves Texas' program revision application based on the Agency's determination that the application meets all applicable requirements for Class VI primacy under SDWA section 1422 and EPA's implementing regulations and because the State has demonstrated that it is prepared to implement UIC Class VI program in a manner consistent with the SDWA and all applicable UIC regulations.

#### *D. Public Participation Activities Conducted by the EPA*

On May 8, 2025, the EPA Region 6 Water Division Director sent a letter via email to leaders of three tribes in Texas (Alabama-Coushatta, Kickapoo Traditional, Ysleta del Sur Pueblo) and five in Oklahoma that border Texas to the North (Apache, Kiowa Indian, Comanche, Chickasaw Nation, Choctaw Nation) offering an opportunity for Government-to-Government consultation on Texas' program revision application seeking primacy for the UIC Class VI program. On May 20, 2025, the EPA Region 6 hosted a Tribal informational virtual meeting and listening session to provide an overview of the Texas application. Three tribes participated in this meeting, Alabama-Coushatta, Ysleta del Sur Pueblo, and Choctaw Nation. The EPA provided a description of the Federal UIC Class VI program and informed the tribes of its plan to soon publish a rule proposing to approve Texas' application. After the meeting, the EPA emailed attendees links to current Class VI well data in Texas for informational purposes. The EPA received no request for tribal consultation during the period beginning May 8, 2025, and ending with the close of public comment on August 1, 2025.

On June 17, 2025, the EPA published a proposed rulemaking in the **Federal Register** (90 FR 25547) proposing to approve Texas' application to revise its UIC program to implement the UIC Class VI program within the State. The proposal established a 45-day public comment period that closed on August 1, 2025. The EPA held a public hearing on July 24, 2025, that participants could attend virtually, as well as by phone. In addition to the **Federal Register**, the EPA published notice of the hearing on the EPA's website and in the Austin American-Statesman, the Dallas Morning News, and the Houston Chronicle newspapers.

#### **IV. Public Comments and the EPA's Response**

##### *A. Public Comments*

During the public comment period, the EPA received 7,534 written comments and 90 oral comments on the proposal from individual citizens, energy and industry groups, potential Class VI permittees, environmental and civil rights non-government organizations, local governments, members of the State Legislature, the Governor of Texas, academia, and others. The majority of the written comments the EPA received on the proposal were in the form of several

“mass mailing” letter campaigns, including comments from stakeholders supporting approval of Class VI primacy for the State of Texas and those opposing.

The EPA considered these comments in the development of this final rule. All comments are available as part of the public record and can be accessed through the EPA's docket (ID No. EPA-HQ-OW-2025-0157). Documentation of the EPA's public participation activities, including comments received and the EPA's comment response document, can also be found in the docket (ID. No. EPA-HQ-OW-2025-0157).

##### *B. The EPA's Response to Comments*

The EPA received comments both supporting and opposing the proposed approval of UIC Class VI program primacy for the State of Texas, as well as some comments outside the scope of the primacy approval action.

Commenters in support of Texas UIC Class VI program primacy approval asserted that the State's application meets all requirements at 40 CFR part 145 and SDWA section 1422 and that the RRC has demonstrated the ability and authority required for Class VI primacy approval. They stated that the RRC is experienced with UIC permitting, has a robust UIC permitting program, has effectively regulated deep injection wells since 1982, and is familiar with carbon dioxide injection via permitting of Class II enhanced oil recovery wells. They also asserted that the RRC has the financial resources and capacity to ensure thorough Class VI permit application reviews, and that the RRC has in-house staff trained in the technical disciplines needed to review Class VI permit applications and oversee Class VI well operators, as well as a familiarity with Texas' geology and local communities and their needs.

Commenters opposing Class VI primacy approval, including writers of mass mailing letters, expressed concerns related to the RRC's ability to oversee a Class VI program, alleging past inabilities to inspect wells and enforce Class II regulations which, they assert, could impact public health and the environment. They alleged the RRC has insufficiently investigated complaints or insufficiently enforced violations associated with Class II injection wells. Commenters further alleged that the RRC does not have a demonstrated history of robust public engagement or accessible hearings. Commenters expressed concern that the RRC has insufficient financial resources to oversee Class VI wells in the State and alleged that the RRC lacks

independence from political or oil and gas industry influences.

Comments received outside the scope of this primacy approval action included concerns about oil and gas production well plugging and abandonment, pipeline safety, environmental impacts on media other than USDWs, such as wetlands, surface water, and air, and tax revenues associated with the geologic sequestration of carbon dioxide. The EPA has noted and addressed all topics, including out-of-scope topics, in the Agency's response to comments document included in the docket (ID. No. EPA-HQ-OW-2025-0157).

## V. The EPA's Action

### A. Incorporation by Reference

The EPA is approving a revision to the State of Texas UIC program to give Texas primacy over Class VI injection wells in the State, except for those located on Indian lands. This action amends 40 CFR 147.2200 and incorporates by reference Texas' EPA-approved statutes and regulations that contain UIC Class VI standards, requirements, and procedures applicable to Class VI owners or operators within the State. Any provisions incorporated by reference, as well as all permit conditions issued pursuant to such provisions, are enforceable by the EPA pursuant to SDWA section 1423, 42 U.S.C. 300h-2, and 40 CFR 147.1(e). The EPA will continue to administer the UIC program for Class I, II, III, IV, V, and VI injection wells on Indian lands. 30 CFR 147.2205. No Tribe currently has UIC primacy for Indian lands within Texas.

The EPA has compiled the applicable Texas statutes and regulations to be incorporated by reference into 40 CFR 147.2200 in a document titled "EPA Approved Texas SDWA § 1422 Underground Injection Control Program Statutes and Regulations for Well Class VI," dated May 1, 2025. This compilation is available at <https://www.regulations.gov> in the docket for the proposed rulemaking. With this action, the EPA also codifies a table in 40 CFR 147.2200 listing the compiled EPA-approved Texas statutes and regulations that contain standards, requirements, and procedures applicable to owners or operators of Class VI wells that the EPA incorporates by reference. Any provision of these statutes and regulations that does not contain standards, requirements, or procedures applicable to owners or operators of Class VI wells are not incorporated by reference.

### B. The EPA's Oversight

The EPA will continue to oversee Texas' administration of its UIC program, including by requiring quarterly reports on instances of permittee non-compliance and annual UIC performance reports pursuant to 40 CFR 144.8. The MOA between the EPA Region 6 and the RRC also specifies that the EPA will oversee the State's administration of the UIC program on a continuing basis to assure that such administration is consistent with the program MOA, the SDWA and implementing regulations, UIC grant agreements, and other applicable requirements.

## VI. 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

This action is exempt from review under Executive Order 12866, because the Office of Management and Budget (OMB) has exempted, as a category, the approval of State UIC programs.

### B. Executive Order 14192: Unleashing Prosperity Through Deregulation

Executive Order 14192 does not apply because actions that approve State UIC Programs are exempted from review under Executive Order 12866. This exemption also applies to EPA approvals of revisions to existing State UIC programs.

### C. Paperwork Reduction Act (PRA)

This action will not impose an information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2040-0042. Reporting or recordkeeping requirements will be based on Texas' UIC Regulations, and the State of Texas is not subject to the PRA.

### D. 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 additional burdens on small entities as this action codifies a State program already in effect and transfers primary implementation authority from the EPA to a State program with substantially the same requirements.

### E. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate 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. The EPA's approval of Texas' UIC Class VI program will not constitute a Federal mandate because there is no requirement that a State establish a UIC regulatory program and the program is a State program, rather than a Federal program.

### F. 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.

### G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications as specified in Executive Order 13175. This action contains no Federal mandates for Tribal governments and does not impose any enforceable duties on Tribal governments. Thus, Executive Order 13175 does not apply to this action.

### H. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it approves a revision to a State program.

### I. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

### J. National Technology Transfer and Advancement Act (NTTAA)

This rule does not involve technical standards.

*K. Congressional Review Act (CRA)*

This final rule is subject to the CRA, and the EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

**VII. References**

- Attorney General’s Statement “State of Texas Office of the Attorney General Statement of Legal Authority to Administer the State Underground Injection Control Program for Class VI Wells”, signed by the Attorney General of Texas on November 11, 2022.
- Class VI Underground Injection Control Program Description “State of Texas Class VI Underground Injection Control 1422 Program Description”, Railroad Commission of Texas, February 20, 2025.
- Letter from the Governor of Texas to the Regional Administrator, EPA Region 6, signed on December 12, 2022.
- The Memorandum of Agreement Addendum 2 Between the Railroad Commission of Texas and The United States Environmental Protection Agency Region 6 for the Class VI UIC Program signed by the EPA Regional Administrator on April 29, 2025.
- State of Texas Railroad Commission of Texas Oil and Gas Division Class VI UIC Primacy Application, “Relevant State Statutes and Regulations”, February 20, 2025.
- State of Texas Railroad Commission of Texas Oil and Gas Division Class VI UIC Primacy Application, “Public Participation Documentation”, February 20, 2025.
- U.S. Environmental Protection Agency. Proposed “EPA Approved Texas SDWA § 1422 Underground Injection Control Program Statutes and Regulations for Well Class V”, May 1, 2025. Office of Water.

**List of Subjects in 40 CFR Part 147**

Environmental protection, Incorporation by reference, Indian—lands, Intergovernmental relations, Reporting and recordkeeping requirements, Water supply.

**Lee Zeldin,**  
*Administrator.*

For the reasons set forth in the preamble, the EPA hereby amends 40 CFR part 147 as follows:

**PART 147—STATE, TRIBAL, AND EPA-ADMINISTERED UNDERGROUND INJECTION CONTROL PROGRAMS**

■ 1. The authority citation for part 147 continues to read as follows:

**Authority:** 42 U.S.C. 300f *et seq.*; and 42 U.S.C. 6901 *et seq.*

■ 2. Amend § 147.2200 by:

- a. Revising the section heading, the introductory paragraph, and paragraph (a) introductory text; and
- b. Adding paragraphs (a)(3), (c)(3) and (4), (d)(3), and (e)(3).

The revisions and additions read as follows:

**§ 147.2200 State-administered program—Class I, III, IV, V, and VI wells.**

The UIC program for Class I, III, IV, and V wells in the State of Texas, except for those wells on Indian lands, and except for Class III brine mining wells and certain Class V wells, is the program administered by the Texas Commission on Environmental Quality approved by EPA pursuant to section 1422 of the Safe Drinking Water Act (SDWA). Notice of the original approval for Class I, III, IV, and V wells was published in the **Federal Register** on January 6, 1982, and became effective February 7, 1982. Class V geothermal wells and wells for the *in-situ* combustion of coal are regulated by the Railroad Commission of Texas under a separate UIC program approved by EPA pursuant to section 1422 of SDWA and published in the **Federal Register** and effective on April 23, 1982. A subsequent program revision application for Class I, III, IV, and V wells, not including Class III brine mining wells, was approved by the EPA pursuant to section 1422 of SDWA. Notice of this approval was published in the **Federal Register** on February 25, 2004, with an effective date of March 26, 2004. The UIC program for Class III brine mining wells in the State of Texas, except for those wells on Indian lands, is the program administered by the Railroad Commission of Texas. A program revision application for Class III brine mining wells was approved by EPA pursuant to section 1422 of SDWA. Notice of that approval was published in the **Federal Register** on February 26, 2004, effective March 29, 2004. The UIC Program for Class VI wells in the State of Texas, except those located on Indian lands, is the program administered by

the Railroad Commission of Texas, approved by the EPA pursuant to section 1422 of the SDWA. The effective date of this program is December 15, 2025. The UIC program for Class I, III, IV, V, and VI wells in the State of Texas, except those located on Indian lands, consists of the following elements, as submitted to EPA in the State’s program application and program revision applications.

(a) *Incorporation by reference.* The requirements set forth in the State statutes and regulations cited in this paragraph are hereby incorporated by reference and made part of the applicable UIC program under SDWA for the State of Texas. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. This incorporation by reference (IBR) material is available for inspection at the EPA and at the National Archives and Records Administration (NARA). If you wish to obtain materials from the EPA, please contact the Water Docket at U.S. Environmental Protection Agency, Water Docket, EPA Docket Center (EPA/DC), EPA WJC West, Room 3334, 1301 Constitution Ave. NW, Washington, DC 20004; phone: (202) 566–1744; email: [Docket-customerservice@epa.gov](mailto:Docket-customerservice@epa.gov); website: [www.epa.gov/dockets/epa-docket-center-reading-room](http://www.epa.gov/dockets/epa-docket-center-reading-room) or the Region VI, Library, U.S. Environmental Protection Agency, 1201 Elm Street, Suite 500, Dallas, Texas 75270; phone: (214) 665–6424; email: [Library\\_Region6@epa.gov](mailto:Library_Region6@epa.gov); website: <https://www.epa.gov/epalibraries/region-6-library-services>. You may also view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations). The IBR material may be obtained from the EPA offices listed in this paragraph (a).

\* \* \* \* \*

(3) EPA Approved Texas SDWA § 1422 Underground Injection Control Program Statutes and Regulations for Well Class VI, dated May 1, 2025. Table 1 to this paragraph (a)(3) lists the Texas statutes and regulations that the EPA has approved for inclusion in this compilation.

TABLE 1 TO PARAGRAPH (a)(3)

State citation	Title/subject	State effective date	EPA approval date
Texas Administrative Code, Title 16, Part 1, Chapter 5	Carbon Dioxide (CO <sub>2</sub> ) .....	September 11, 2023 .....	November 14, 2025.
Texas Water Code, Title 2, Subtitle D, Chapter 27 .....	Injection Wells .....	June 9, 2021 .....	November 14, 2025.

\* \* \* \* \*

(c) \* \* \*

(3) *Class VI Wells*. The Memorandum of Agreement Addendum 2 Between The Railroad Commission of Texas and The United States Environmental Protection Agency Region 6 for the Class VI UIC Program signed by the EPA Regional Administrator on April 29, 2025.

(4) *Request for program approval*.

Letter from the Governor of Texas to the Regional Administrator, EPA Region 6, signed on December 12, 2022.

(d) \* \* \*

(3) *Class VI Wells*. Attorney General's Statement, "State of Texas office of the Attorney General Statement of Legal Authority to Administer the State Underground Injection Control Program for Class VI Wells", signed by the Attorney General of Texas on November 11, 2022.

(e) \* \* \*

(3) *Class VI Wells*. The Program Description, "State of Texas Class VI Underground Injection Control 1422 Program Description Railroad Commission of Texas".

[FR Doc. 2025-19898 Filed 11-13-25; 8:45 am]

BILLING CODE 6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 751

[EPA-HQ-OPPT-2020-0642; FRL-8317.1-05-OCSP]P

RIN 2070-AK83

### Extension of Postponement of Effectiveness for Certain Provisions of Trichloroethylene (TCE); Regulation Under the Toxic Substances Control Act (TSCA)

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notification; extension of postponement of effectiveness.

**SUMMARY:** The Environmental Protection Agency (EPA or Agency) is extending the postponement of the effectiveness of certain regulatory provisions of the final rule entitled "Trichloroethylene (TCE); Regulation Under the Toxic Substances Control Act (TSCA)" for an additional 90 days. Specifically, this postponement applies to the conditions imposed on the uses with TSCA section 6(g) exemptions.

**DATES:** As of November 17, 2025, EPA further postpones until February 17, 2026, the conditions imposed on each of the TSCA section 6(g) exemptions, as described in this document, in the final

rule published on December 17, 2024, at 89 FR 102568.

**ADDRESSES:** The docket for this action, identified by docket identification (ID) number EPA-HQ-OPPT-2020-0642, is available online at <https://www.regulations.gov>. Additional information about dockets generally, along with instructions for visiting the docket in-person, is available at <https://www.epa.gov/dockets>.

#### FOR FURTHER INFORMATION CONTACT:

*For technical information contact:* Gabriela Rossner, Existing Chemicals Risk Management Division, Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460-0001; telephone number: (202) 565-2426; email address: [TCE.TSCA@epa.gov](mailto:TCE.TSCA@epa.gov).

*For general information contact:* The TSCA Assistance Information Service Hotline, Goodwill Vision Enterprises, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (800) 471-7127 or (202) 554-1404; email address: [TSCA-Hotline@epa.gov](mailto:TSCA-Hotline@epa.gov).

#### SUPPLEMENTARY INFORMATION:

### I. Background

On December 17, 2024, EPA issued a final risk-management rule under TSCA section 6(a) prohibiting all uses of trichloroethylene (TCE), most of which would be prohibited within one year, including TCE manufacture and processing for most commercial and all consumer products. (89 FR 102568, December 17, 2024) (FRL-8317-02-OCSP). The final rule included extended phaseouts or TSCA section 6(g) exemptions to permit several uses to continue under workplace restrictions for longer periods.

The final rule was originally scheduled to become effective on January 16, 2025. EPA received petitions for an administrative stay of the effective date on behalf of Microporous, LLC (Microporous), which also separately sought partial reconsideration of the final rule, and the Alliance for a Strong U.S. Battery Sector (Alliance) on January 10, 2025. EPA denied these requests on January 15, 2025. Microporous and Alliance submitted renewed petitions to the Agency to stay the effective date of the rule, or, in the alternative, for an administrative stay of the final rule's workplace conditions for battery separator manufacturers, on January 20, 2025. PPG Industries, Inc. (PPG) also submitted a request for an administrative stay on January 21, 2025.

EPA also received thirteen petitions for review of the final rule in various

circuits of the U.S. Courts of Appeals. On January 13, 2025, petitioners Microporous and Alliance filed emergency motions for stay in the U.S. Court of Appeals for the Fifth and Sixth Circuits of the final rule's effective date and workplace conditions for battery-separator manufacturers, as well as a temporary administrative stay of the final rule pending consideration of the emergency stay motion. The same day, the Fifth Circuit granted the motion for a temporary administrative stay of the final rule's effective date while the court considered the emergency stay motion.

Shortly thereafter, the petitions for review were consolidated in the U.S. Court of Appeals for the Third Circuit as *USW v. U.S. EPA*, Case No. 25-1055. On January 16, 2025, the Third Circuit issued an order leaving the temporary administrative stay of the effective date of the final rule in place pending briefing on whether the temporary stay should be lifted or converted to a permanent stay. On January 21, 2025, petitioner PPG filed a new stay motion with the court, and Alliance and Microporous refiled their existing motions to stay the effective date. On January 24, 2025, EPA filed a motion requesting that the court extend all deadlines in the case for sixty days, including with respect to further stay briefing, which the court granted.

EPA temporarily delayed the effective date of the final rule until March 21, 2025. (90 FR 8254, January 28, 2025) (FRL-12583-01-OA). Although the final rule had yet to go into effect, it was incorporated into the Code of Federal Regulations (CFR) on January 16, 2025. See 40 CFR part 751, subpart D.

On March 21, 2025, EPA signed a notice pursuant to section 705 of the Administrative Procedure Act (APA), 5 U.S.C. 705, further postponing the effective date of the provisions applicable to the conditions of use subject to TSCA section 6(g) exemptions until June 20, 2025. Postponement of Effectiveness for Certain Provisions of Trichloroethylene (TCE); Regulation under the Toxic Substances Control Act (TSCA), 90 FR 14415, April 2, 2025 (FRL-8317.1-01-OCSP) ("Initial Notice"). In that notice, EPA explained that Petitioners Alliance, Microporous, and PPG ("Industry Petitioners") raised serious questions regarding the Workplace Chemical Protection Program that warranted a delay of the effective date of those provisions.

On March 28, 2025, the U.S. Court of Appeals for the Third Circuit lifted the administrative stay except as to the provisions that are subject to EPA's Initial Notice. The court also ordered EPA to file any response to the pending

stay motions by May 27, 2025. On May 27, 2025, the Agency filed a response to Industry Petitioners' motions for stay stating it did not oppose a judicial stay of the provisions subject to EPA's Initial Notice for the same reasons EPA requested an abeyance. Industry Petitioners later replied in support of their stay motions. Also on May 27, 2025, EPA moved to hold the case in abeyance because it intends to reconsider the final rule, including provisions subject to EPA's Initial Notice, through notice-and-comment rulemaking. Industry Petitioners later responded that they would prefer the court decide the stay motions before deciding EPA's abeyance motion; otherwise, they would oppose the abeyance. International Union, United Automobile, Aerospace and Agricultural Implement Workers of America; United Steel, Paper, and Forestry, Rubber Manufacturing, Energy, Allied Industrial Workers International Union; Center for Environmental Health; and Environmental Defense Fund ("Environmental and Labor Petitioners") later opposed EPA's motion for abeyance. On June 18, 2025, EPA replied in support of its abeyance motion that the majority of petitioners did not oppose EPA's request.

One day earlier, on June 17, 2025, EPA signed a notice pursuant to section 705 of the APA, 5 U.S.C. 705, further postponing the effective date of the provisions applicable to the conditions of use subject to TSCA section 6(g) exemptions until August 19, 2025. Extension of Postponement of Effectiveness for Certain Provisions of Trichloroethylene (TCE); Regulation

Under the Toxic Substances Control Act (TSCA), 90 FR 26453, June 23, 2025 (FRL-8317.1-03-OCSP) ("Second Notice").

On June 25, 2025, Environmental and Labor Petitioners filed a letter advising the U.S. Court of Appeals for the Third Circuit of the Second Notice. In its same-day response, EPA provided the court with a published copy of the Second Notice. Industry Petitioners responded to Environmental and Labor Petitioners' letter a few days later, reiterating their position that the court should decide the pending stay motions before deciding EPA's abeyance motion. The judicial proceedings are ongoing.

On August 19, 2025, EPA signed a notice pursuant to section 705 of the APA, 5 U.S.C. 705, further postponing the effective date of the provisions applicable to the conditions of use subject to TSCA section 6(g) exemptions until November 17, 2025. Extension of Postponement of Effectiveness for Certain Provisions of Trichloroethylene (TCE); Regulation Under the Toxic Substances Control Act (TSCA), 90 FR 40534, August 20, 2025 (FRL-8317.1-04-OCSP) ("Third Notice").

## II. Statutory Authority

As discussed in the Initial Notice, section 705 of the APA authorizes an agency to postpone the effective date of an agency action pending judicial review when the agency finds "that justice so requires." 5 U.S.C. 705. Notice and comment is not required when an agency delays the effective date of a rule under APA section 705 because such a stay pending judicial review is not substantive rulemaking subject to APA

section 553; it merely maintains the status quo to allow for judicial review. See *Bauer v. DeVos*, 325 F. Supp. 3d 74, 106-07 (D.D.C. 2018); *Sierra Club v. Jackson*, 833 F. Supp. 2d 11, 28 (D.D.C. 2012).

## III. Postponement of Effective Date

In light of the fact that the pending litigation is still ongoing and for the same reasons as set forth in the Initial Notice, EPA has determined that justice requires a 90-day extension of the postponement of the effective date (*i.e.*, until February 17, 2026) of the conditions for each of the TSCA section 6(g) exemptions. See 40 CFR 751.325(a)(2). The extension of the postponement applies, for example, to the conditions imposed under the TSCA section 6(g) exemption for the use of TCE as a processing aid for specialty polymeric microporous sheet material manufacturing. 40 CFR 751.325(b)(6)(i) through (iv).

The postponement will temporarily preserve the status quo while the Third Circuit litigation is pending. Nothing has materially changed since the Initial Notice, nor the Second or Third Notice, that would affect EPA's analysis of whether justice requires a stay of these provisions. Therefore, per the reasons discussed in the Initial Notice, EPA believes extending the postponement for 90 days is necessary.

**Authority:** 5 U.S.C. 705 and 15 U.S.C. 2605(a).

**Lee Zeldin,**  
*Administrator.*

[FR Doc. 2025-19887 Filed 11-13-25; 8:45 am]

**BILLING CODE 6560-50-P**

# Proposed Rules

Federal Register

Vol. 90, No. 218

Friday, November 14, 2025

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.

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[EPA–R09–OAR–2025–2466; FRL–13043–01–R9]

### Approval of Clean Air Plans; San Joaquin Valley, California; Contingency Measures for 1997 Ozone Standards

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve under the Clean Air Act (CAA or “Act”) a state implementation plan (SIP) submission from the State of California as meeting the attainment-related contingency measure requirements for the 1997 ozone national ambient air quality standards (NAAQS or “standards”) in the San Joaquin Valley, California, ozone nonattainment area. The SIP revision is titled “California Smog Check Contingency Measure State Implementation Plan Revision” (Released: September 15, 2023) (“Smog Check Contingency Measure SIP”). The EPA’s proposed approval relies on the previously-approved contingency measure for the 1997 ozone NAAQS for the San Joaquin Valley and the justifications for not adopting additional contingency measures that provide for the recommended amount of emissions reductions for such measures. Based on the proposed approval, the EPA is also proposing to determine that the State of California has fulfilled the commitment made by the State in connection with a previous approval action to develop, adopt, and submit attainment contingency measures for the San Joaquin Valley for the 1997 ozone NAAQS meeting the requirements of the CAA.

**DATES:** Written comments must arrive on or before December 15, 2025.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA–R09–

OAR–2025–2466 at <https://www.regulations.gov>. For comments submitted at [Regulations.gov](https://www.regulations.gov), follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). The EPA may publish any comment 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. The 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, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For 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>. If you need assistance in a language other than English or if you are a person with a disability who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

**FOR FURTHER INFORMATION CONTACT:** Laura Lawrence, EPA Region IX, (415) 972–3407, [lawrence.laura@epa.gov](mailto:lawrence.laura@epa.gov).

**SUPPLEMENTARY INFORMATION:** Throughout this document, “we,” “us,” and “our” refer to the EPA.

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### I. Background

#### A. Ozone Air Pollution and Regulatory Framework

Ground-level ozone pollution is formed from the reaction of volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) in the presence of sunlight.<sup>1</sup> These two pollutants, referred to as ozone precursors, are emitted by many types of sources, including on- and off-road motor vehicles and engines, power plants and industrial facilities, and smaller area sources such as lawn and garden equipment and paints. Scientific evidence indicates that adverse health effects occur following exposure to elevated levels of ozone, particularly in children and adults with lung disease. Breathing air containing ozone can reduce lung function and inflame airways, which can increase respiratory symptoms and aggravate asthma or other lung diseases.<sup>2</sup>

Under section 109 of the Clean Air Act (CAA or “Act”), the EPA promulgates national ambient air quality standards (NAAQS or “standards”) for pervasive air pollutants, such as ozone. The NAAQS are concentration levels whose attainment and maintenance the EPA has determined to be requisite to protect public health and welfare. In 1979, under section 109 of the CAA, the EPA established primary and secondary standards for ozone at 0.12 parts per million (ppm) averaged over a 1-hour period.<sup>3</sup>

In July 1997, the EPA revised the primary and secondary NAAQS for ozone to set the acceptable level of ozone in the ambient air at 0.08 ppm, averaged over an 8-hour period.<sup>4</sup> The

<sup>1</sup> The State of California refers to reactive organic gases (ROG) rather than VOC in some of its ozone-related SIP submissions. As a practical matter, ROG and VOC refer to the same set of chemical constituents, and for the sake of simplicity, we refer to this set of gases as VOC in this proposed rulemaking.

<sup>2</sup> For more information on ozone health effects, see “Fact Sheet—2008 Final Revisions to the National Ambient Air Quality Standards for Ozone,” dated March 2008.

<sup>3</sup> 44 FR 8202 (February 8, 1979).

<sup>4</sup> 62 FR 38856 (July 18, 1997). Primary standards provide public health protection, including protecting the health of “sensitive” populations such as people with asthma, children, and the

Continued

EPA set the 1997 8-hour ozone NAAQS based on scientific evidence demonstrating that ozone causes adverse health effects at lower concentrations and over longer periods of time than was understood when the pre-existing 1-hour ozone standards were set. The EPA determined that the 8-hour standard would be more protective of human health, especially for children and for adults who are active outdoors, and for individuals with a preexisting respiratory disease, such as asthma.

In March 2008, the EPA completed another review of the primary and secondary ozone standards and lowered the level for both to 0.075 ppm;<sup>5</sup> and in October 2015, the EPA further lowered the level of the standards to 0.070 ppm,<sup>6</sup> but this action pertains only to the SIP requirements for the 1997 ozone standard.

Following promulgation of a new or revised NAAQS, the EPA is required under CAA section 107(d) to designate areas throughout the country as attaining or not attaining the NAAQS. The EPA classifies ozone nonattainment areas under CAA section 181 according to the severity of the ozone pollution problem, with classifications ranging from “Marginal” to “Extreme.” State planning and emissions control requirements for ozone are determined, in part, by the nonattainment area’s classification. In April 2004, the EPA designated the San Joaquin Valley as nonattainment for the 1997 ozone standard and classified the area as “Serious,” but, in May 2010, the EPA granted the State’s voluntary reclassification of the area from “Serious” to “Extreme,” with an attainment date of no later than June 15, 2024.<sup>7</sup>

Under the CAA, states with ozone nonattainment areas classified as “Serious” or above, such as the San Joaquin Valley area for the 1997 ozone NAAQS, must revise their SIPs to meet various requirements. Among the various SIP revision requirements, states must provide contingency measures to meet the requirements set forth in CAA sections 172(c)(9) and 182(c)(9). Contingency measures are additional controls or measures to be implemented

in the event the area fails to make reasonable further progress (RFP), meet any applicable milestone, or attain the NAAQS by the attainment date. Additional information about the requirements for contingency measures can be found in section II of this document.

The EPA revoked the 1997 ozone NAAQS effective April 6, 2015;<sup>8</sup> however, to comply with anti-backsliding requirements of the Act, areas designated nonattainment for the 1997 ozone NAAQS at the time that the 1997 ozone NAAQS was revoked, such as San Joaquin Valley, remain subject to certain requirements based on their classification at the time of revocation, including requirements related to nonattainment contingency measures under CAA sections 172(c)(9) and 182(c)(9).<sup>9</sup>

The EPA’s determination that an area failed to meet an RFP milestone or to attain by its applicable attainment date triggers the anti-backsliding requirements related to contingency measures. In September 2025, EPA made a final determination that the San Joaquin Valley failed to attain the 1997 ozone NAAQS by the June 15, 2024 attainment date.<sup>10</sup> This determination triggered the Smog Check Contingency Measure, described in section I.C. of this document, in the San Joaquin Valley.

#### *B. The San Joaquin Valley Ozone Nonattainment Area*

The San Joaquin Valley nonattainment area for the 1997 ozone standard consists of San Joaquin, Stanislaus, Merced, Madera, Fresno, Tulare, and Kings counties and the western portion of Kern County. The San Joaquin Valley nonattainment area stretches over 250 miles from north to south, averages a width of 80 miles, and encompasses over 23,000 square miles. It is partially enclosed by the Coast Mountain range to the west, the Tehachapi Mountains to the south, and the Sierra Nevada range to the east.<sup>11</sup> The population of the San Joaquin Valley in 2020 was estimated to be more than 4.4 million people and is projected to increase to nearly 5 million people by 2035.<sup>12</sup>

#### *C. Previous EPA Actions Related to Contingency Measures for the 1997 Ozone NAAQS in San Joaquin Valley*

In California, the California Air Resources Board (CARB or “State”) is the state agency responsible for the adoption and submission to the EPA of California SIP revisions, and it has authority under the Clean Air Act to establish emissions standards with certain limitations and other requirements for mobile sources. Local and regional air pollution control districts in California are responsible for the regulation of stationary sources and are generally responsible for the development of regional air quality plans. In the San Joaquin Valley, the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD or “District”) is responsible for stationary source regulation, and it also develops and adopts air quality management plans to address CAA planning requirements applicable to that region. Such plans are then submitted to CARB for adoption and submission to the EPA as revisions to the California SIP.

Under CAA section 110(k), the EPA is charged with evaluation of each SIP revision submitted by states for compliance with applicable CAA requirements and with acting on each submission. The EPA evaluates SIP submissions and takes action to approve or disapprove them through notice-and-comment rulemaking published in the **Federal Register**. Where appropriate, the EPA may act on separate portions of a SIP submission in separate rulemaking actions.

To address the SIP requirements for the 1997 ozone NAAQS for San Joaquin Valley, CARB submitted multiple plans and plan supplements as a revision to the California SIP. The submissions made during 2007–2011 are detailed in our proposed rulemaking published on September 16, 2011.<sup>13</sup> In our March 1, 2012 final rule on the submissions for the 1997 ozone NAAQS for the San Joaquin Valley, the EPA approved the submissions as meeting various SIP requirements, including the requirement for contingency measures for failure to meet an RFP milestone (“RFP contingency measures”) under CAA sections 172(c)(9) and 182(c)(9).<sup>14</sup> However, with respect to the requirement in CAA section 172(c)(9) for a state to provide contingency measures for failure to attain (“attainment contingency measures”), the EPA approved the submissions

elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. Since the primary and secondary standards established in 1997 are set at the same level, we refer to them herein using the singular “1997 ozone NAAQS” or “1997 ozone standard.”

<sup>5</sup> 73 FR 16436 (March 27, 2008).

<sup>6</sup> 80 FR 65292 (October 26, 2015).

<sup>7</sup> 69 FR 23858 (April 30, 2004); 75 FR 24409 (May 5, 2010).

<sup>8</sup> 80 FR 12264 (March 6, 2015).

<sup>9</sup> 40 CFR 51.1100(o).

<sup>10</sup> 90 FR 46065 (September 25, 2025).

<sup>11</sup> For a precise definition of the boundaries of the San Joaquin Valley 1997 ozone nonattainment area, see 40 CFR 81.305.

<sup>12</sup> The population estimates and projections include all of Kern County, not just the portion of Kern County within the San Joaquin Valley Air Basin. See Chapter 2 and table 2–1 of the District’s “2022 Ozone Plan for the 2015 8-Hour Ozone Standard.”

<sup>13</sup> 76 FR 57846 (September 16, 2011).

<sup>14</sup> 77 FR 12652 (March 1, 2012).

based on a commitment by CARB to develop, adopt and submit by 2020 attainment contingency measures meeting the requirements of CAA section 172(c)(9).<sup>15</sup> We indicated that, following the State's submission of these additional contingency measures, the EPA would approve or disapprove the provisions in accordance with CAA section 110.<sup>16</sup>

On November 13, 2023, CARB submitted the Smog Check Contingency Measure SIP as a revision to the California SIP. CARB adopted the Smog Check Contingency Measure SIP to fulfill the commitment made by CARB in connection with the EPA's approval of the San Joaquin Valley plan for the 1997 ozone NAAQS with respect to the attainment-related contingency measure SIP requirement and also to provide for a contingency measure that could be triggered in multiple California nonattainment areas for different ozone and fine particulate matter (PM<sub>2.5</sub>) NAAQS.

The Smog Check Contingency Measure SIP submission includes a contingency measure that would narrow the exemption for new vehicles from emissions testing under the Smog Check program from eight model years old to seven model years old in a given nonattainment area if triggered by an EPA finding of failure to meet a reasonable further progress (RFP) milestone or an EPA finding of failure to attain the NAAQS by the applicable attainment date for such area. The SIP submission also includes estimates of emissions reductions from implementation of the Smog Check Contingency Measure in the relevant years and nonattainment areas to which the measure applies, CARB's evaluation of various mobile and area source categories to identify other feasible contingency measures, and justification for not adopting additional contingency measures (*i.e.*, other than the Smog Check Contingency Measure).

In July 2024, EPA approved the Smog Check Contingency Measure as a stand-alone contingency measure.<sup>17</sup> In our final rule, we indicated that we were not making any determination as to whether this individual contingency measure is sufficient by itself for CARB and the relevant air district to fully comply with the contingency measure requirements in any specific nonattainment area or specific NAAQS.<sup>18</sup> With respect to San Joaquin Valley for the 1997 ozone

NAAQS, we indicated that we would be taking a separate action on the Smog Check Contingency Measure SIP to evaluate whether the Smog Check Contingency Measure SIP fulfills the attainment-related contingency measure requirements under CAA section 172(c)(9) for the San Joaquin Valley for the 1997 ozone NAAQS.<sup>19</sup> Our proposed rulemaking herein is the separate action to which we referred in our July 2024 final rule.

## II. Contingency Measure Requirements and EPA Guidance

The EPA first provided its views on the CAA's requirements for ozone plans under part D, title I of the Act in the following guidance documents: (1) "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990" ("General Preamble");<sup>20</sup> and (2) "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Supplemental."<sup>21</sup> In the "Final Rule To Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2," the EPA provided further interpretive guidance on the statutory SIP requirements that apply to areas designated nonattainment for the 1997 ozone NAAQS.<sup>22</sup>

### A. Statutory and Regulatory Requirements

Under CAA section 172(c)(9), states required to make an attainment plan SIP submission must include contingency measures to be implemented if the area fails to meet RFP ("RFP contingency measures") or to attain the NAAQS by the applicable attainment date ("attainment contingency measures"). For ozone nonattainment areas classified Serious or above, CAA section 182(c)(9) further specifies that states must include contingency measures to be implemented if the area fails to meet any applicable milestone. An EPA determination that the state failed to meet an RFP milestone or to attain the NAAQS by the applicable attainment date is referred to as a "triggering event" because it triggers the requirement to implement the contingency measures.

Contingency measures must be fully adopted rules or control measures that are ready to be implemented upon a triggering event. In general, the EPA expects all actions needed to effect full

implementation of the measures to occur within 60 days after the EPA notifies the state of a failure to meet RFP or to attain. Moreover, we generally expect the additional emissions reductions from the contingency measures to be achieved within a year of the triggering event.

The purpose of contingency measures is to continue progress in reducing emissions while a state revises its SIP to meet the missed RFP milestone or to develop a new plan demonstrating attainment of the NAAQS. Neither the CAA nor the EPA's implementing regulations establish a specific level of emissions reductions that implementation of contingency measures must achieve, but the EPA traditionally recommended that contingency measures should provide for emissions reductions equivalent to approximately one year of reductions needed for RFP in the nonattainment area. In the event that a state is unable to identify and adopt contingency measures that will provide for approximately one year's worth of emissions reductions, the state should provide a reasoned justification why the smaller amount of emissions reductions is appropriate.<sup>23</sup>

### B. Revised Contingency Measure Guidance

In December 2024, the EPA released the "Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (December 3, 2024)" ("Revised Contingency Measure Guidance").<sup>24</sup> The principal differences between the revised guidance and previous guidance on contingency measures relate to the EPA's recommendations concerning the specific amount of emissions reductions that implementation of contingency measures should achieve and the timing

<sup>23</sup> 81 FR 58010, at 58067 (August 24, 2016).

<sup>24</sup> The EPA announced the availability of the guidance document at 89 FR 101602 (December 16, 2024). A copy of the guidance document itself is available in the docket for this action. The EPA had previously released a draft of this document, "Draft: Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (DRAFT—3/17/23—Public Review Version)" ("Draft Revised Contingency Measure Guidance"). The EPA published a notice of availability for the Draft Revised Contingency Measure Guidance at 88 FR 17571 (March 23, 2023). The Revised Contingency Measure Guidance that the EPA finalized in December 2024 is consistent with the guidance set forth in the Draft Revised Contingency Measure Guidance that the EPA released in March 2023.

<sup>15</sup> *Id.*, p. 12670. Also, see 40 CFR 52.220(c)(396)(i)(A)(2)(j).

<sup>16</sup> 76 FR 57846, at 57864 (September 16, 2011).

<sup>17</sup> 89 FR 56222 (July 9, 2024).

<sup>18</sup> *Id.*, p. 56230.

<sup>19</sup> *Id.*, p. 56227.

<sup>20</sup> 57 FR 13498 (April 16, 1992), referred to as the "General Preamble".

<sup>21</sup> 57 FR 18070 (April 28, 1992).

<sup>22</sup> 70 FR 71612 (November 29, 2005).

for when the emissions reductions from the contingency measures should occur.

The previous EPA recommendation for the amount of emissions reductions to achieve from implementation of contingency measures was one year's worth of RFP, which, for ozone, is 3 percent of baseline emissions of VOC, and the previous recommendation for time over which the reductions from contingency measures may occur was one year. The Revised Contingency Measure Guidance introduces "one year's worth of progress" ("OYW of progress"), a metric intended to be more closely tied to the emissions reductions required for attainment of the NAAQS, for determining the amount of emissions reductions that contingency measures should achieve.

One year's worth of "progress" is calculated by determining the average annual reductions between the base year emissions inventory and the projected attainment year emissions inventory, determining what percentage of the base year emissions inventory this amount represents, and then applying that percentage to the projected attainment year emissions inventory to determine the amount of reductions needed to ensure ongoing progress if contingency measures are triggered.<sup>25</sup>

The Revised Contingency Measure Guidance also provides recommended procedures for developing a demonstration, if applicable, that the area lacks sufficient feasible contingency measures to achieve the recommended amount of reductions, which builds on existing guidance that the state provide a reasoned justification for why the smaller amount of emissions reductions from contingency measures is appropriate.<sup>26</sup>

More specifically, if, after adequately evaluating additional control measures, the state is unable to identify contingency measures that would provide approximately one year's worth of emissions reductions, the Revised Contingency Measure Guidance recommends that the state should provide a reasoned justification (also referred to herein as an "infeasibility demonstration"). This reasoned justification should explain and document the state's evaluation of all existing and potential control measures relevant to the appropriate source categories and pollutants in the nonattainment area and the state's conclusions regarding whether such measures are feasible.

<sup>25</sup> See chapter 3 of the Revised Contingency Measure Guidance.

<sup>26</sup> See chapter 4 of the Revised Contingency Measure Guidance.

As explained in the Revised Contingency Measure Guidance, CAA sections 172(c)(9) and 182(c)(9) do not explicitly provide for consideration of whether specific measures are feasible.<sup>27</sup> However, the Agency does not read these statutory provisions to require states to adopt contingency measures that are not feasible. The statutory provisions applicable to other nonattainment area plan control measure requirements, including reasonably available control measures (RACM)/reasonably available control technology (RACT) (for ozone and PM), best available control measure (BACM)/best available control technology (BACT) (for PM), and most stringent measures (MSM) (for PM), allow air agencies to exclude certain control measures that are deemed unreasonable or infeasible (depending on the requirement). For example, the MSM provision in CAA section 188(e) requires plans to include "the most stringent measures that are included in the implementation plan of any state or are achieved in practice in any state, and can feasibly be implemented in the area." While the contingency measures provisions do not include such caveats, the EPA does not conclude that the contingency measures provisions should be read to require plans to include infeasible measures. Thus, the EPA anticipates that a demonstrated lack of feasible measures would be a reasoned justification for adopting contingency measures that achieve less than the recommended amount of emissions reductions.

With respect to the time period within which to achieve reductions, the Revised Contingency Measure Guidance specifies that it may be appropriate to allow reductions to occur over two years, if sufficient reductions cannot be put in place in the first year after the triggering event. (In either case, contingency measures must take effect within 60 days of the triggering event.)<sup>28</sup>

### III. Evaluation

#### A. Procedural Requirements for Adoption and Submission of SIP Revisions

CAA section 110(a) and 110(l) require a state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submission of a SIP or SIP revision. To meet this requirement, every SIP submission should include evidence

<sup>27</sup> Revised Contingency Measure Guidance, pp. 33–34.

<sup>28</sup> See chapter 5 of the Revised Contingency Measure Guidance.

that adequate public notice was given and an opportunity for a public hearing was provided consistent with the EPA's implementing regulations in 40 CFR 51.102. The EPA previously determined that CARB has fulfilled the applicable requirements for public notice and public hearing for the Smog Check Contingency Measure SIP submission.<sup>29</sup>

#### B. Evaluation for Compliance With Clean Air Act Contingency Measure Requirements

##### 1. Smog Check Contingency Measure SIP

The Smog Check Contingency Measure SIP includes one contingency measure (the Smog Check Contingency Measure) for the San Joaquin Valley for the 1997 ozone NAAQS. As noted previously, the EPA has already approved the Smog Check Contingency Measure as meeting the applicable requirements for a valid contingency measure under the CAA and the EPA's implementation regulations and providing for additional emissions reductions of NO<sub>x</sub> and VOC in the nonattainment areas to which it applies upon the occurrence of certain triggering events, such as a determination by the EPA that an area has failed to attain the applicable NAAQS by the applicable attainment date.<sup>30</sup>

In the case of San Joaquin Valley for the 1997 ozone NAAQS, the EPA recently made a determination that the area failed to attain the NAAQS by the applicable attainment date,<sup>31</sup> and CARB is in the process of implementing the Smog Check Contingency Measure in the area. In the Smog Check Contingency Measure SIP, CARB estimates that implementation of the Smog Check Contingency Measure in the San Joaquin Valley, in the wake of a determination of failure to attain the 1997 ozone NAAQS by the applicable attainment date, would achieve emissions reductions of approximately 0.112 tons per day (tpd) and 0.056 tpd of NO<sub>x</sub> and VOC, respectively.<sup>32</sup>

The Smog Check Contingency Measure SIP also includes estimates of one year's worth (OYW) of progress for the nonattainment areas and NAAQS to which the Smog Check Contingency

<sup>29</sup> 89 FR 56222, at 56229 (July 9, 2024).

<sup>30</sup> *Id.*, at 56229–56230.

<sup>31</sup> 90 FR 46065 (September 25, 2025). The EPA's determination of failure to attain the 1997 ozone NAAQS in the San Joaquin Valley also triggered the District's alternative fee rule (District Rule 3171) that was adopted to comply with the SIP requirements under CAA sections 182(d)(3) and 185.

<sup>32</sup> Smog Check Contingency Measure SIP, p. 34. These estimates reflect summertime conditions.

Measure applies. The estimates of OYW of progress can be compared to the emissions reductions estimated for the contingency measures adopted for a given nonattainment area. The EPA's revised contingency measure guidance recommends OYW of progress as the amount of emissions reductions that contingency measures for a given area should achieve to meet CAA contingency measure SIP requirements.

For the San Joaquin Valley for the 1997 ozone NAAQS, CARB estimates OYW of progress as 7.57 tpd and 2.40 tpd of NO<sub>x</sub> and VOC, respectively.<sup>33</sup> The EPA has independently estimated OYW of progress for the San Joaquin Valley for the 1997 ozone NAAQS based both on the emissions inventory information in the approved plan for the 1997 ozone NAAQS for the San Joaquin Valley and, alternatively, based on more recent emissions inventory information. Based on the approved plan for the 1997 ozone NAAQS for the San Joaquin Valley, the EPA estimates OYW of progress as 5.0 tpd and 4.1 tpd of NO<sub>x</sub> and VOC, respectively.<sup>34</sup> Using more recent emissions inventory information, the EPA estimates OYW of progress as 5.3 tpd and 5.4 tpd of NO<sub>x</sub> and VOC, respectively.<sup>35</sup> Regardless of the calculation method used to estimate OYW of progress for the San Joaquin Valley for the 1997 ozone NAAQS, the Smog Check Contingency Measure provides a small fraction of the recommended amount of emissions reductions to meet the CAA contingency measure SIP requirement.<sup>36</sup>

Previously in this document, we described the recommendation in our Revised Contingency Measure Guidance that if, after adequately evaluating the availability of additional control measures, the state is unable to identify contingency measures that would provide approximately one year's worth of emissions reductions, we recommend that the state should provide a reasoned justification (also referred to herein as an "infeasibility demonstration"). This reasoned justification should explain and document the state's evaluation of

all existing and potential control measures relevant to the appropriate source categories and pollutants in the nonattainment area and the state's conclusions regarding whether such measures are feasible to adopt as contingency measures.

In the Smog Check Contingency Measure SIP, CARB provides an infeasibility demonstration for mobile and area sources subject to CARB jurisdiction to justify why the State has not adopted additional contingency measures (*i.e.*, in addition to the Smog Check Contingency Measure) sufficient to achieve one year's worth of progress for, in this case, the San Joaquin Valley for the 1997 ozone NAAQS.<sup>37</sup>

## 2. 2024 SJV Ozone Contingency Measure Plan

The Smog Check Contingency Measure SIP does not include an infeasibility demonstration for stationary sources. However, since submission of the Smog Check Contingency Measure SIP, CARB has submitted the "Ozone Contingency Measure State Implementation Plan Revision for the 2008 and 2015 8-hour Ozone Standards (April 25, 2024)" ("2024 SJV Ozone Contingency Measure Plan"), which addresses the contingency measure SIP requirements for the San Joaquin Valley for the 2008 and 2015 ozone NAAQS.<sup>38</sup>

The 2024 SJV Ozone Contingency Measure Plan includes the District's infeasibility demonstration for stationary and area sources under District jurisdiction,<sup>39</sup> CARB's expanded infeasibility demonstration for certain area sources under State jurisdiction,<sup>40</sup> and the District's infeasibility demonstration for transportation control measures.<sup>41</sup> The 2024 SJV Ozone Contingency Measure Plan refers to CARB's infeasibility demonstration for mobile sources from the Smog Check Contingency Measure SIP.<sup>42</sup> We have taken into account the infeasibility demonstrations included in the 2024 SJV Ozone Contingency Measure Plan in our evaluation of the

Smog Check Contingency Measure SIP with respect to contingency measure SIP requirements for the San Joaquin Valley for the 1997 ozone NAAQS. Our reliance on the infeasibility demonstrations included in the 2024 SJV Ozone Contingency Measure Plan is appropriate even though it was not developed or submitted to address the contingency measure requirements for the 1997 ozone NAAQS because control strategies for all three ozone NAAQS (the 1997 ozone NAAQS, the 2008 ozone NAAQS, and the 2015 ozone NAAQS) relate to the same averaging period (8-hour average), the same precursor emissions (NO<sub>x</sub> and VOC) and the same emissions sources, the same planning emissions inventories (summertime average day), and the same types of control measures. In addition, CARB and the District recommend that the EPA take into consideration the District's and CARB's 2024 SJV Ozone Contingency Measure Plan and the accompanying feasibility analyses in determining whether the Smog Check Contingency Measure SIP fully satisfies the attainment-related contingency measure requirements for the San Joaquin Valley with respect to the 1997 ozone NAAQS.<sup>43</sup>

As relevant to our evaluation of the State's SIP submissions for compliance with the contingency measure SIP requirements for the 1997 ozone NAAQS, the 2024 SJV Ozone Contingency Measure Plan includes an analysis of top source categories in the emissions inventory, a list of existing contingency measures and commitments to adopt and submit additional contingency measures for the 2008 and 2015 ozone NAAQS, and a contingency measure feasibility analysis. In this section, we describe each of these components of the plan.

### a. Emissions Inventory Analysis and Contingency Measures

The District reviewed the 2017, 2031, and 2037 baseline summer average emissions inventories for NO<sub>x</sub> and VOC to identify the principal source categories that contribute to regional emissions totals and thereby to identify the source categories for which meaningful emissions reductions from contingency measures might be achievable.<sup>44</sup> Their analysis also

<sup>33</sup> *Id.* at 33.

<sup>34</sup> OYW of progress is based on base year (2002) and attainment target level emissions estimates as shown in the EPA's proposed approval published at 76 FR 57846, at 57858 (September 16, 2011) of the San Joaquin Valley 2007 Ozone Plan for the 1997 ozone NAAQS. The EPA finalized approval of the plan at 77 FR 12652 (March 1, 2012).

<sup>35</sup> OYW of progress is based emissions estimated using CARB's CEPAM2019v.1.04 model for the base year (2002) and year 2023 emissions from appendix B of the San Joaquin Valley 2022 Ozone Plan for the 2015 Ozone NAAQS, pp. B-8 (NO<sub>x</sub>) and B-13 (VOC).

<sup>36</sup> In the range of one to two percent of OYW of progress for both NO<sub>x</sub> and VOC.

<sup>37</sup> CARB, Smog Check Contingency Measure SIP, appendix A ("Infeasibility Analysis").

<sup>38</sup> CARB submitted the 2024 SJV Ozone Contingency Measure Plan to the EPA on April 29, 2024. The EPA proposed conditional approval of the 2024 SJV Ozone Contingency Measure Plan with respect to the 2008 ozone NAAQS at 89 FR 85119 (October 25, 2024).

<sup>39</sup> 2024 SJV Ozone Contingency Measure Plan, sections 5.1–5.7 and 5.12.

<sup>40</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.10.

<sup>41</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.11.

<sup>42</sup> 2024 SJV Ozone Contingency Measure Plan, sections 5.8 and 5.9.

<sup>43</sup> See letter from Ariel Fideldy, Chief, CARB Air Quality Planning Branch to Michelle Angelich, Acting Director, EPA Region IX Air and Radiation Division, dated October 16, 2025, and letter from Sheraz Gill, Deputy Air Pollution Control Officer, SJVUPACD to Edie Chang, Deputy Executive Officer, CARB, dated October 10, 2025.

<sup>44</sup> 2024 SJV Ozone Contingency Measure Plan, section 5, 13–18.

included an evaluation of select source categories that comprise less than one percent of the total VOC emissions inventory.<sup>45</sup> Year 2017 represents the base year of the most recent emissions inventory for San Joaquin Valley, 2031 represents the attainment year for the

2008 ozone NAAQS, and 2037 represents the attainment year for 2015 ozone NAAQS.

Table 1 of this document shows that emissions from the top ten source categories for NO<sub>x</sub> and VOC constituted approximately 82 percent and 74

percent of the total inventory of NO<sub>x</sub> and VOC, respectively, in the San Joaquin Valley in 2017.<sup>46</sup> Appendix A to the 2024 SJV Ozone Contingency Measure Plan contains additional tables showing these emissions categories and their magnitudes.

TABLE 1—TOP TEN SOURCE CATEGORIES OF NO<sub>x</sub> AND VOC EMISSIONS, SAN JOAQUIN VALLEY, 2017  
[Summer average]

Ozone precursor	Source category	Emissions (tpd)	Emissions as a percentage of a total inventory
NO <sub>x</sub> .....	Heavy Heavy Duty Trucks (HHDT) <sup>a</sup> .....	56.65	24.63
	Farm Equipment .....	50.45	21.93
	Off Road Equipment .....	24.01	10.44
	Trains .....	13.12	5.70
	Medium Heavy Duty Trucks (MHDT) <sup>b</sup> .....	9.22	4.01
	Light Heavy Duty Trucks (LHDT1) <sup>c</sup> .....	7.94	3.45
	Food and Agricultural Processing .....	7.12	3.09
	Medium Duty Trucks (MDT) <sup>d</sup> .....	6.86	2.98
	Light Duty Passenger (LDA) .....	6.47	2.81
	Off Road Equipment (PERP) <sup>e</sup> .....	5.87	2.55
	Total of Top Ten Source Subcategories—NO <sub>x</sub> .....	187.71	81.59
VOC .....	Farming Operations <sup>f</sup> .....	93.76	27.93
	Consumer Products .....	25.78	7.68
	Other (Waste Disposal) <sup>g</sup> .....	21.54	6.42
	Pesticides/Fertilizers <sup>h</sup> .....	20.81	6.20
	Recreational Boats .....	20.37	6.07
	Managed Burning and Disposal .....	16.38	4.88
	Off-Road Equipment .....	14.95	4.45
	Food and Agriculture .....	12.76	3.80
	Oil and Gas Production .....	11.46	3.41
	Light Duty Passenger (LDA) .....	10.82	3.22
	Total of Top Ten Source Subcategories—VOC .....	248.63	74.06

<sup>a</sup> HHDT have a gross vehicle weight rating (GVWR) greater than 33,000 pounds.

<sup>b</sup> MHDT have a GVWR of 14,001 to 33,000 pounds.

<sup>c</sup> LHDT1 have a GVWR of 8,501 to 10,000 pounds.

<sup>d</sup> MDT have a GVWR of 5,751 to 8,500 pounds.

<sup>e</sup> Off Road Equipment (PERP) refers to off-road equipment registered under CARB's Portable Equipment Registration Program. Owners or operators of portable engines and other types of equipment can register their units under the CARB Statewide Portable Equipment Registration Program (PERP) in order to operate their equipment throughout California without having to obtain individual permits from local air districts.

<sup>f</sup> Most of the VOC emissions within this source category is associated with livestock husbandry, particularly silage and dairy cattle waste.

<sup>g</sup> Most of the VOC emissions within this source category is associated with composting.

<sup>h</sup> Most of the VOC emissions within this source category is association with agricultural pesticide use.

Source: 2024 SJV Ozone Contingency Measure Plan, table 6.

Based on the emissions inventory information, SJVUAPCD identified existing and planned future controls for each sector in the nonattainment area. In this context, existing controls refer to the limits and requirements for different source categories set forth in the District, CARB, and EPA rules and regulations. Planned future controls refer to the commitments to develop and propose control measures found in District plans<sup>47</sup> and in CARB's Valley State SIP Strategy and the 2022 State

SIP Strategy.<sup>48</sup> Next, the District conducted a search for potential additional controls by source category that could achieve additional emissions reductions that are not already adopted or implemented.<sup>49</sup> In accordance with the Draft Revised Contingency Measures Guidance, the District evaluated the technological and economic feasibility of the potential measures, whether the potential measure could be implemented within 60 days of being triggered, and whether they could

achieve the necessary reductions within two years of being triggered.<sup>50</sup> Based on the feasibility of the potential contingency measures, the District conducted a further evaluation of specific source categories and contingency measure opportunities.<sup>51</sup>

Concurrently, CARB identified existing and planned future controls for mobile and area sources that could achieve additional emissions reductions that are not already adopted or

<sup>45</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.12, p. 74.

<sup>46</sup> 2024 SJV Ozone Contingency Measure Plan, table 6.

<sup>47</sup> See 2024 SJV Ozone Contingency Measure Plan, table 3, and section 5.

<sup>48</sup> CARB, "San Joaquin Valley Supplement to the 2016 State Strategy for the State Implementation Plan" ("Valley State SIP Strategy"), table 7, approved at 85 FR 44192 (July 22, 2020); and CARB, "2022 State Strategy for the State Implementation Plan (adopted September 22, 2022)" ("2022 State SIP Strategy"), submitted on February 23, 2023, table 3.

<sup>49</sup> 2024 SJV Ozone Contingency Measure Plan, sections 5.1–5.7, and 5.11 (pp. 19–54 and 72–74, respectively).

<sup>50</sup> Id.

<sup>51</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.12 (pp. 74–89).

implemented.<sup>52</sup> CARB then evaluated the technological and economic feasibility of the potential measures, whether the potential measure could be implemented within 60 days of being triggered, and whether they could achieve the necessary reductions within two years of being triggered.<sup>53</sup>

The 2024 SJV Ozone Contingency Measure Plan identifies two already-adopted contingency measures (*i.e.*, rules that contain contingency provisions to be triggered in the event of a failure to attain or to meet an RFP milestone) and five additional contingency measures that the District has committed to adopt and CARB has committed to submit to the EPA as a revision to the California SIP. The two existing contingency measures include the District's Architectural Coatings Contingency Measure<sup>54</sup> and CARB's Smog Check Contingency Measure. The five contingency measures to which the District has committed to adopt and CARB has committed to submit to the EPA involve amendments to the District's Rule 4601 (Architectural Coatings) ("Architectural Coatings Rule"), Rule 4603 (Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts) ("Surface Coating of Metal Parts and Products Rule"), Rule 4604 (Can and Coil Coating Operations) ("Can and Coil Coating Rule"), Rule 4653 (Adhesives and Sealants) ("Adhesives and Sealants Rule"), and Rule 4663 (Organic Solvent Cleaning, Storage and Disposal) ("Organic Solvent Cleaning Rule"). The Smog Check Contingency Measure applies to the 1997, 2008, and 2015 ozone NAAQS in the San Joaquin Valley, but the other contingency measures described in the 2024 SJV Ozone Contingency Measure Plan relate solely to the 2008 and 2015 ozone NAAQS.

#### b. Contingency Measure Feasibility Analysis

The 2024 SJV Ozone Contingency Measure Plan includes infeasibility justifications for providing contingency measures that achieve less than one year's worth of progress, generally

following the approach that the EPA describes for such analyses in the EPA's Revised Contingency Measure Guidance. The feasibility analysis for source categories under District jurisdiction is found in sections 5.1–5.7 of the 2024 SJV Ozone Contingency Measure Plan, and further evaluation of select source categories under SJV District jurisdiction is found in section 5.12. The feasibility analysis for source categories under State jurisdiction is found in sections 5.8–5.10 and appendix B. For certain source categories, such as commercial charbroiling and such as boilers, steam generators, and process heaters with total rated heat input greater than five million British thermal units per hour (MMBtu/hr), the District relies on and refers to a previous analysis that the District included in the PM<sub>2.5</sub> Contingency Measure SIP Revision.<sup>55</sup> Lastly, in section 5.11 of the 2024 SJV Ozone Contingency Measure Plan, the District addresses opportunities for transportation control measures (TCMs) to be adopted as contingency measures.

With respect to source categories under District jurisdiction, the District analyzed the wide range of stationary and area sources for contingency measure opportunities, which included identifying potential control measures, analyzing the technological and economic feasibility of such measures, and assessing whether the measures could be implemented within 60 days and achieve emissions reductions within one to two years. The District analyzed potential control measures in the fuel combustion, waste disposal, cleaning and surface coating, petroleum production and marketing, industrial processes, solvent evaporation, and miscellaneous processes emissions inventory source categories. Based on this analysis, the District further analyzed certain specific categories for contingency measure opportunities. More specifically, the District analyzed Rule 4565 (Biosolids, Animal Manure, and Poultry Litter Operations), Rule 4570 (Confined Animal Facilities), Architectural Coatings Rule, Surface Coating of Metal Parts and Products Rule, Can and Coil Coatings Rule, Rule 4605 (Aerospace Assembly and Component Coating Operations), Adhesives and Sealants Rule, Organic Solvent Cleaning Rule, Rule 4684 (Polyester Resin Operations), and Rule

4694 (Wine Fermentation and Storage Tanks).

Through this process, the District identified additional possible contingency measures, through amendments to the Architectural Coatings Rule, the Surface Coating of Metal Parts and Products Rule, the Can and Coil Coatings Rule, the Adhesives and Sealants Rule and the Organic Solvent Cleaning Rule. The committed-to revisions to the District's Architectural Coatings Rule, Surface Coating of Metal Parts and Products Rule, Can and Coil Coatings Rule, Adhesives and Sealants Rule, and Organic Solvent Cleaning Rule are described in section 5.12 of the 2024 SJV Ozone Contingency Measure Plan. The 2024 SJV Ozone Contingency Measure Plan included commitments to adopt the amendments to these rules. Additionally, the District and CARB have committed to adopt and submit the amended rules to the EPA as revisions to the California SIP within one year of the EPA's final conditional approval of the 2024 SJV Ozone Contingency Measure Plan.<sup>56</sup>

With respect to the other source categories under District jurisdiction, the District's analysis found that it was infeasible to adopt additional contingency measures for these categories. A detailed accounting of reasons for which new contingency measures in each source category were determined to be infeasible is contained in sections 5.1 through 5.7, and 5.12 of the 2024 SJV Ozone Contingency Measure Plan. These reasons include conclusions that further controls are not technologically or economically feasible, that rules have recently been amended and owners or operators in affected source categories are still working to comply with recently adopted rule changes, that the source category does not lend itself to a rule that has a trigger mechanism, and that the District is already implementing the most stringent controls feasible. Additional reasons include that the rule meets or exceeds Federal RACT requirements and that the rulemaking process, including public process, to

<sup>52</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.8, 5.9 and 5.10, and appendix B.

<sup>53</sup> 2024 SJV Ozone Contingency Measure Plan, table 9.

<sup>54</sup> SJVUAPCD Rule 4601 (Architectural Coatings), section 4.3. The EPA approved the District's Architectural Coatings Contingency Measure as a revision to the California SIP at 87 FR 78544 (December 22, 2022). Upon a triggering event, this contingency measure would remove the exemption for certain categories of architectural coatings sold in containers with a volume of one liter or less (referred to as the small container exemption (SCE)).

<sup>55</sup> SJVUAPCD, PM<sub>2.5</sub> Contingency Measure State Implementation Plan Revision, May 18, 2023 ("PM<sub>2.5</sub> Contingency Measure SIP Revision"). The EPA took final action to approve the PM<sub>2.5</sub> Contingency Measure SIP Revision at 89 FR 80749 (October 4, 2024).

<sup>56</sup> The timing for the adoption and submission of the amended rules to the EPA for inclusion in the SIP was clarified by letter, after submission of the 2024 SJV Ozone Contingency Measure Plan. See letter from Samir Sheikh, Executive Director/Air Pollution Control Officer, SJVUAPCD, to Dr. Steven S. Cliff, Executive Officer, CARB and Martha Guzman, Regional Administrator, EPA Region IX, dated June 18, 2024, and letter from Michael Benjamin, D. Env., Division Chief, Air Quality Planning & Science Division, CARB, to Martha Guzman, Regional Administrator, EPA Region IX, dated June 24, 2024.

develop such a rule would take longer than two years.

With respect to source categories under State jurisdiction, CARB stated that opportunities for contingency measures that would achieve the recommended amount of emissions reductions are limited, due to the stringency of their existing mobile source control program, and the fact that the portion of emissions due to federally-regulated sources is expected to increase in the coming years.<sup>57</sup> CARB further noted that a relatively limited portion of NO<sub>x</sub> emissions are regulated by local air districts in California and that additional control measures to achieve the one year's worth of emissions reductions are scarce or nonexistent.

CARB stated that if such measures were identified, they would be adopted to improve air quality and help attain the NAAQS, rather than held in reserve as contingency measures, and that control measures to achieve large emissions reductions often take longer than two years to implement—beyond the one- to two-year timeframe for achieving emissions reductions for contingency purposes.<sup>58</sup> For example, CARB stated that the three largest NO<sub>x</sub> reduction measures committed to in the 2022 State SIP Strategy rely on accelerated turnover of engines and trucks and shifting to zero-emission equipment, which is limited by infrastructure and equipment options.<sup>59</sup> CARB further stated that a central difficulty in considering contingency measures is that CARB has already committed to zero emissions standards where feasible and as expeditiously as possible to fulfill goals established in California Executive Order N–79–20 for mobile sources ranging from light-duty cars by 2035 to heavy-duty trucks by 2045.<sup>60</sup>

More specifically, CARB analyzed all mobile sources under its authority to identify potential contingency measures using three criteria: CAA requirements, court decisions, and the EPA's Draft Revised Contingency Measure Guidance.<sup>61</sup> First, CARB assessed whether the measure could be implemented within 60 days of a triggering event and achieve the

recommended amount of emissions reductions within one to two years. Second, CARB assessed the technological and economic feasibility of implementing the measure, particularly within the one- to two-year timeframe. Third, CARB evaluated whether it could adopt the measure and secure EPA approval by the September 30, 2024 consent decree deadline for the EPA to promulgate a PM<sub>2.5</sub> contingency measures Federal Implementation Plan (FIP) or, alternatively, approve PM<sub>2.5</sub> contingency measure SIP submissions meeting the contingency measure requirements.<sup>62</sup>

Regarding mobile source contingency measures, CARB described several challenges that limit the control measure options that would meet contingency measure requirements. For new engine standards, CARB stated that engine manufacturers need lead time to “design, plan, certify, manufacture, and deploy cleaner engines.”<sup>63</sup> On the consumer side, CARB stated that additional time would be required for “procurement implementation and there may be additional infrastructure needed to meet new requirements.”<sup>64</sup> Based on the time required for implementing such measures, CARB concluded that measures that require fleet turnover or new engine standards are not appropriate for contingency measures.

In addition to mobile source control measures, CARB noted that vehicular emissions can be reduced through implementation of TCMs.<sup>65</sup> CARB stated that county planning and transportation districts, and local jurisdictions are responsible for identifying, adopting, and implementing TCMs. Because of timing concerns associated with the transportation planning process, CARB concluded that TCMs are not feasible contingency measures.

Furthermore, CARB stated that its regulations are technology-forcing, which requires time for industry to plan, develop, and implement new technologies, and that it is driving mobile sources to zero-emissions where feasible to achieve criteria, air toxic, and

climate pollutant goals. Similarly, CARB argued that the technology-forcing and zero-emission-based nature of its mobile source regulations reduce or eliminate opportunities for contingency measure emissions reductions. Lastly, CARB stated that its full rulemaking process for most mobile source measures takes about five years to develop and adopt, which would not be possible prior to the September 30, 2024 consent decree deadline for the EPA to promulgate a PM<sub>2.5</sub> contingency measure FIP or approve PM<sub>2.5</sub> contingency measure SIP submissions meeting the contingency measure requirements.<sup>66</sup>

Through its review of potential contingency measures, CARB identified certain revisions to the California Smog Check program as feasible for adoption as a contingency measure, culminating in the adoption and submission to the EPA of the Smog Check Contingency Measure. As noted previously, the EPA has approved the Smog Check Contingency Measure as a revision to the California SIP. The Smog Check Contingency Measure complements the District contingency measure for architectural coatings for the 2008 and 2015 ozone NAAQS and the commitments to submit additional contingency measures to the EPA for the 2008 and 2015 ozone NAAQS. A detailed accounting of the reasons CARB cites in determining that additional mobile source contingency measures are infeasible is contained in appendix B of the 2024 SJV Ozone Contingency Measure Plan.<sup>67</sup>

CARB also evaluated VOC area source emissions categories and controls for potential contingency measures.<sup>68</sup> The specific source categories evaluated by CARB include consumer products, crude oil and natural gas facilities, petroleum marketing (vehicle refueling and cargo tanks), portable fuel containers (gas cans), and pesticides. CARB concluded that there are no feasible contingency measures for these source categories and summarized the Agency's assessment and rationale in table 9 of the 2024 SJV Ozone Contingency Measure Plan.<sup>69</sup>

In sum, based on the adoption of the Smog Check Contingency Measure and the infeasibility demonstrations included in the Smog Check Contingency Measure SIP and the 2024 SJV Ozone Contingency Measure Plan,

<sup>57</sup> 2024 SJV Ozone Contingency Measure Plan, appendix B, pp. 7–8.

<sup>58</sup> 2024 SJV Ozone Contingency Measure Plan, appendix B, p. 7.

<sup>59</sup> CARB, “2022 State Strategy for the State Implementation Plan,” adopted September 22, 2022, Chapter 5 (“State SIP Measures”).

<sup>60</sup> Executive Department, State of California, Executive Order N–79–20, September 23, 2020.

<sup>61</sup> 2024 SJV Ozone Contingency Measure Plan, appendix B, p. 45.

<sup>62</sup> The consent decree to which CARB is referring is the consent decree in the *Comité Progreso de Lamont, et al. v. United States Environmental Protection Agency, et al.*, No. 3:21-cv-08733-WHA (N.D. Cal.). See 87 FR 71631 (November 23, 2022). With respect to mobile sources, CARB is relying on the same infeasibility demonstration in connection with the contingency measure elements for San Joaquin Valley for both the PM<sub>2.5</sub> NAAQS and the ozone NAAQS.

<sup>63</sup> Id.

<sup>64</sup> 2024 SJV Ozone Contingency Measure Plan, appendix B, pp. 45–46.

<sup>65</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.11, pp. 72–74.

<sup>66</sup> 2024 SJV Ozone Contingency Measure Plan, appendix B, p. 46.

<sup>67</sup> 2024 SJV Ozone Contingency Measure Plan, appendix B, table 51, pp. 46–58.

<sup>68</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.10.

<sup>69</sup> 2024 SJV Ozone Contingency Measure Plan, table 9, pp. 69–71.

CARB and the District conclude that the Smog Check Contingency Measure SIP fulfills the contingency measure requirements for the 1997 ozone NAAQS for San Joaquin Valley.

### c. EPA Evaluation

The EPA has reviewed the State's infeasibility demonstrations for not adopting contingency measures beyond the Smog Check Contingency Measure for the 1997 ozone NAAQS, the Architectural Coatings Contingency Measure adopted for the 2008 ozone NAAQS, and the five new or amended contingency measures that the District has committed to adopt for the 2008 and 2015 ozone NAAQS, including both the processes used by the District and CARB and their assessments specific to a wide range of stationary, area, and mobile source categories. Notably, in connection with the EPA's proposed contingency measure FIP for the San Joaquin Valley, in 2023 the EPA prepared a detailed evaluation of source categories and measures that we considered as potential additional contingency measures but determined to be infeasible or otherwise unsuitable for contingency measures. Although the EPA proposed the FIP to address the fine particulate matter (PM<sub>2.5</sub>) contingency measure requirement, some of the analysis is relevant for ozone, as NO<sub>x</sub> was evaluated in the FIP as a PM<sub>2.5</sub> precursor, and it is also a precursor for ozone. See "EPA Source Category and Control Measure Assessment and Reasoned Justification Technical Support Document, Proposed Contingency Measures Federal Implementation Plan for the Fine Particulate Matter Standards for San Joaquin Valley, California," July 2023 ("EPA's Reasoned Justification TSD"). We have relied on that TSD given its breadth and depth, as well as the expertise of EPA Region IX staff, to review the District's and CARB's infeasibility demonstrations with respect to NO<sub>x</sub> measures, understand where the State's and the EPA's analyses draw largely similar conclusions, and identify those source categories where the control measure analyses differ.<sup>70</sup> As described in the following paragraphs, the EPA proposes to find that the District's and CARB's infeasibility demonstrations adequately justify the collection of contingency

<sup>70</sup> While the EPA Reasoned Justification TSD was prepared in connection with a PM<sub>2.5</sub> contingency measure FIP, the analysis contained therein is relevant for our review of the 2024 SJV Ozone Contingency Measure Plan to the extent it addresses NO<sub>x</sub> emissions sources and controls given that NO<sub>x</sub> is a precursor for both ozone and PM<sub>2.5</sub> in the San Joaquin Valley.

measures selected by the State to meet the contingency measure requirement under CAA section 172(c)(9) for the San Joaquin Valley for the 1997 ozone NAAQS.

In terms of process, the District and CARB identified and evaluated existing and potential control measures using components of the process recommended in the EPA's Revised Contingency Measures Guidance.<sup>71</sup> As described previously in this proposed rulemaking, for the wide range of stationary and area sources under its jurisdiction, the District described its ongoing stationary source regulatory efforts, identified potential control measures as candidate contingency measures, and analyzed the technological and/or economic feasibility of each candidate measure, including the feasibility of implementing such measures within 60 days and achieving the resulting emission reductions within one to two years.<sup>72</sup> The District also provided more in-depth analysis of potential control measures for ten source categories, ultimately adopting commitments for new or amended contingency measures for the 2008 and 2015 ozone NAAQS for five source categories and providing a reasoned justification for not adopting such measures for the other five source categories.<sup>73</sup> We are proposing to find that the District employed a reasonable process to identify and assess the feasibility and suitability of potential control measures as contingency measures for stationary and area sources in the San Joaquin Valley.

Similarly, CARB identified potential mobile source and area source control measures, assessed whether each candidate measure could be implemented within 60 days of a triggering event and emissions reductions achieved within one to two years, and then analyzed their technological and/or economic feasibility.<sup>74</sup> Regarding timing of emissions reductions from mobile sources, CARB concluded that new engine standards are not appropriate for contingency measures given the time needed for manufacturers to design, develop, and deploy cleaner engines or

<sup>71</sup> EPA's Contingency Measure Guidance, section 4 ("Contingency Measures and Reasoned Justification for Less Than [One Year's Worth] of Progress").

<sup>72</sup> 2024 SJV Ozone Contingency Measure Plan, sections 5.1 through 5.7, and 5.11.

<sup>73</sup> 2024 SJV Ozone Contingency Measure Plan, section 5.12, and the PM<sub>2.5</sub> Contingency Measure SIP Revision (for the boilers, steam generators, and process heaters >5 MMBtu/hour source category).

<sup>74</sup> 2024 SJV Ozone Contingency Measure, section 5.10, and appendix B, pp. 44–58.

equipment at scale, especially for zero-emission equipment.

As described in the EPA's Reasoned Justification TSD,<sup>75</sup> as a general matter, new mobile source engine or vehicle emission standards require significant lead time (more than two years) to allow manufacturers time to retool factories to produce compliant engines or vehicles. Retrofit or replacement requirements also require significant lead time to allow owners and operators to manage the process of retrofitting or replacing old engines or vehicles. Therefore, we agree with CARB that such mobile source control measures (that require significant lead time to implement) would not achieve emissions reductions within one to two years of a contingency measure triggering event. In sum, we are proposing to find that CARB employed a reasonable process to identify and assess the feasibility and suitability of potential control measures as contingency measures for mobile sources in the San Joaquin Valley.

With respect to the District's and CARB's justifications that it is infeasible to adopt additional contingency measures, the EPA notes that technological and economic feasibility are generally acceptable considerations for evaluating the feasibility of additional contingency measure controls for relevant source categories. Accordingly, we are proposing to find the infeasibility demonstrations are adequately justified for the following reasons (as described in the 2024 SJV Contingency Measure Plan): further controls for specific source categories are not technologically or economically feasible; the source category does not lend itself to a rule that has a trigger mechanism; or the District is already implementing the most stringent controls possible.

However, the EPA notes that the fact that a particular rule meets or exceeds Federal RACT requirements is not a sufficient justification for concluding that additional controls for that category are infeasible. Contingency measures are intended to be measures that achieve reductions beyond the reductions associated with other applicable CAA requirements for the nonattainment area. Therefore, additional controls that exceed what is required to implement RACT could very well be viable candidates for contingency measures. Additionally, the length of the rulemaking process is not a valid consideration for finding a control measure infeasible that would otherwise be feasible to adopt. We expect states

<sup>75</sup> EPA's Reasoned Justification TSD, pp. 141–144.

with nonattainment area contingency measure requirements to proactively identify relevant candidate measures such that the rulemaking process does not impede timely development of contingency measures. We are therefore proposing to find that the District's and CARB's stated reasons of already meeting or exceeding RACT for the relevant source category or expecting a lengthy rulemaking process are not relevant justifications for not adopting additional contingency measures. In this instance, however, neither CARB nor the District found potential contingency measures infeasible solely because additional controls would exceed the RACT requirement or because the rulemaking process would take too long.

For each of the stationary and area source categories examined that relate primarily to NO<sub>x</sub> emissions, the EPA is proposing to find that additional control measures cannot feasibly reduce emissions within one to two years. In the following paragraphs, we describe those source categories where we agree with the bases presented by the District. We then discuss those source categories where the basis of the EPA's conclusion differs from that of the District, even while the conclusion itself is the same—that the additional control measure evaluated cannot feasibly reduce emissions within one to two years.

The District's analyses are substantially the same as those of the EPA for the following source categories: flares (Rule 4311), solid fuel fired boilers, steam generators, and process heaters (Rule 4352), glass melting furnaces (Rule 4354), internal combustion engines (Rule 4702), stationary gas turbines (Rule 4703), and natural gas-fired, fan type residential central furnaces (Rule 4905).

We note that the candidate NO<sub>x</sub> control measures evaluated for internal combustion engines, stationary gas turbines, boilers, steam generators, and process heaters would require installation of costly and engineering-intensive devices (e.g., oxyfuel fired furnaces and natural gas furnaces equipped with selective catalytic reduction (SCR) for glass melting). As described in the EPA's Reasoned Justification TSD, while these technologies may be available and feasible in some contexts, we concluded there that it would be technologically infeasible for these measures to be implemented and achieve meaningful emissions reductions within one to two years.<sup>76</sup> We are therefore proposing to

agree with the District's determinations that such measures are technologically infeasible as contingency measures at this time.

We note that the EPA's Reasoned Justification TSD does not evaluate potential contingency measures specifically related to District Rules 4309 and 4352 and, thus, we provide our review and evaluation in this document.

With respect to sources covered by Rule 4309, the District considered controls for dryers, dehydrators, and ovens, citing their analysis of this source category for the 2022 Ozone Plan.<sup>77</sup> The District found that additional controls such as low NO<sub>x</sub> burners could not feasibly be implemented within the relevant timeframes for contingency measures for this source category. The District noted that the time associated with design, planning, and installation of controls would not be feasible to implement within 60 days of triggering and would exceed the one- to two-year timeline for a contingency measure to achieve emissions reductions as recommended in EPA's Draft Revised Contingency Measure Guidance. Further, the District states that, in certain applications (e.g., dehydrators for onions), the controls may have an adverse effect on food product quality, which diminishes the technical feasibility of using such controls until the technology is further improved.<sup>78</sup> We have reviewed the District's infeasibility demonstration and are proposing to agree that additional emissions reductions for this source category could not feasibly be achieved within one to two years or are not technically feasible in the case of dehydrators for certain products, and therefore measures for this source category are not feasible as contingency measures. The EPA recommends that the District continue to evaluate dryers, dehydrators, and ovens for opportunities to further reduce NO<sub>x</sub> emissions in developing subsequent plans.

With respect to Rule 4352, which covers solid fuel fired boilers, steam generators, and process heaters, the State's submission notes that the District adopted amendments to Rule 4352 in December 2021. The District's analysis associated with the 2021 amendments to Rule 4352 found that all control alternatives that would further reduce emissions require technology that had

prohibitively high capital costs and therefore were not cost effective.<sup>79</sup> Given the economic infeasibility of additional controls for the sources covered by Rule 4352, we are proposing to agree with the District's conclusion with respect to Rule 4352.

For several other source categories, the EPA finds that the NO<sub>x</sub> contingency measure analyses by the District and the EPA differ in certain respects that warrant further discussion. Notwithstanding these differences, both the District's analyses and the EPA's analyses supporting our recent contingency measure FIP proposal support our proposed conclusion that the measures evaluated are technologically infeasible because they cannot feasibly reduce emissions within one to two years. We discuss each of these source categories in the paragraphs that follow.

With respect to residential water heaters (Rule 4902) and residential furnaces (Rule 4905), the District evaluated a candidate contingency measure to adopt electrification requirements (i.e., requiring newly purchased furnaces and water heaters to be zero-emission units) on a more expedited timeline than CARB's committed-to statewide building electrification measure that would achieve emissions reductions starting in 2030.<sup>80</sup> The District deemed this contingency measure option technologically infeasible, citing the lead time necessary for manufacturers to design and produce electric units, the need for collaboration with energy and building code regulators, the desire for consistency with State and local efforts, the potential for housing cost and affordability impacts, and the impact on equity considerations for low-income and environmental justice communities.<sup>81</sup> While we note that some of these factors do not necessarily align with the feasibility criteria outlined in the EPA's Revised Contingency Measures Guidance,<sup>82</sup> the EPA is proposing to find that the building electrification contingency measure option is not feasible because we expect that the measure would not

<sup>79</sup> SJVUAPCD, "Appendix C, Cost Effectiveness Analysis for Proposed Amendments to Rule 4352 (Solid Fuel Fired Boilers, Steam Generators, and Process Heaters)," December 16, 2021.

<sup>80</sup> 2024 Ozone Contingency Measure Plan, pp. 52–54.

<sup>81</sup> For further discussion of these factors, see CARB, "2022 State Strategy for the State Implementation Plan," adopted September 22, 2022, pp. 101–103 ("Proposed Measures: Residential and Commercial Buildings").

<sup>82</sup> EPA's Revised Contingency Measures Guidance, pp. 37–45.

<sup>76</sup> See, e.g., EPA's Reasoned Justification TSD, pp. 9–22 (the EPA's evaluation of contingency measures for boilers, steam generators, and process heaters).

<sup>77</sup> SJVUAPCD, 2022 Plan for the 2015 8-Hour Ozone Standard, December 15, 2022 ("2022 Ozone Plan"), submitted as a SIP revision on February 23, 2023.

<sup>78</sup> 2024 SJV Ozone Contingency Measure Plan, p. 44.

result in emissions reductions within two years after a triggering event.<sup>83</sup>

With respect to District Rules 4306 and 4320, which cover oil and gas production combustion equipment requirements, the District evaluated numerous control options including electrification of oilfield steam generators and solar powered oilfield steam generators, citing its analysis for this source category for the PM<sub>2.5</sub> Contingency Measure SIP Revision.<sup>84</sup> For each of these options, the District provided technological and/or economic infeasibility justifications. The District also evaluated imposing lower emissions limits for boilers and steam generators.<sup>85</sup> In this evaluation, the District explained that the EPA has determined that Rule 4306 meets MSM requirements and that Rule 4320 goes beyond MSM by establishing even lower emissions limits. The District noted that equipment operators are already in the process of investing in and installing technology to meet the recently amended Rule 4320 limits and suggested that the time needed to plan, prepare for installation, and install control equipment to meet lower limits would exceed the one- to two-year timeline for a contingency measure to achieve emissions reductions.

The EPA's evaluation focused on lowering emissions limits for boilers and steam generators, including identification of lower emissions limits adopted by the South Coast AQMD for oilfield steam generators than those adopted in Rule 4306. While the EPA's evaluation does not indicate that control requirements to meet the lower limits would be technologically infeasible altogether (in light of the lower limits adopted by South Coast AQMD), we are proposing to determine that it would be technologically infeasible to meet the lower limits within the two-year timeframe for contingency measures due to the likely requirement that affected units would need to install SCR to meet the lower limits. The District noted that the time associated with design, planning, and installation of SCR would exceed the one- to two-year timeline for a contingency measure to achieve emissions reductions.

The District also included evaluations for boilers, steam generators, and process heaters that are covered by District Rules 4307 and 4308.<sup>86</sup> The District's assessments for these rules

focuses on economic and technological feasibility, citing dollar-per-ton cost-effectiveness values for numerous control options and adding technological feasibility concerns for SCONO<sub>x</sub>/EM<sub>x</sub> units. The EPA's evaluation for boilers does not provide cost-effectiveness values to suggest that lower emissions limits for boilers, steam generators, and process heaters are economically infeasible. However, as described in the EPA's evaluation, we are proposing to find that units required to meet lower limits than those already adopted in Rules 4307 and 4308 would require installation of SCR and that this cannot be feasibly achieved within the two-year timeframe for contingency measures.<sup>87</sup>

As noted previously, the EPA's Reasoned Justification TSD for the EPA's proposed San Joaquin Valley PM<sub>2.5</sub> contingency measure FIP focused solely on controls of direct PM<sub>2.5</sub> and NO<sub>x</sub>. Thus, unlike source categories that are entirely or substantially associated with NO<sub>x</sub> emissions, the EPA could not rely on its previous evaluation in EPA's Reasoned Justification TSD for that FIP action to inform our review of the District's analysis of VOC emissions sources and controls in the 2024 SJV Ozone Contingency Measure Plan.

For this proposed rulemaking, the EPA reviewed the District's evaluation in the 2024 SJV Ozone Contingency Measure Plan of the seven stationary or area source categories under District jurisdiction and the numerous existing District rules that apply to sources in those categories for potential VOC contingency measures. For most of the rules that were evaluated, the District concluded that further controls would not be economically or technologically feasible but identified ten rules in five source categories for further analysis. With respect to the sources and rules that the District did not identify for further analysis, we propose to find that the District has adequately supported its evaluation and rationale for its conclusion that there are no feasible contingency measures available due to the small contribution from these source categories to the overall emissions inventory.

Of the ten rules that the District identified for further analysis,<sup>88</sup> the District has committed to adopt contingency measures for the 2008 and 2015 ozone NAAQS for five of them. For the other five rules, the District

concluded that there are no feasible contingency measures to adopt. We evaluate the District's rationale in the following paragraphs.

With respect to Rule 4565, which covers biosolids, animal manure, and poultry litter operations, the District's analysis concluded that no technologies were currently available to further achieve emissions reductions from organic material composting. The District further concluded that requiring additional controls for small-to-medium-sized facilities was not cost-effective.<sup>89</sup> We are proposing to agree that there are no technologically feasible contingency measures for organic material composting and that there are no economically feasible contingency measures for small-to-medium-sized facilities, although we recommend that the District further evaluate Rule 4565 for additional opportunities to further reduce VOC emissions in developing subsequent plans.

With respect to Rule 4605, which covers aerospace assembly and component coating operations, and Rule 4684, which covers polyester resin operations, the District's analysis concluded that additional emissions reductions from these two source categories would be insignificant, given that the sources under these two rules emit 0.18 tpd of VOC emissions, representing only 0.054 percent of the entire VOC emissions inventory.<sup>90</sup> Therefore, the District did not identify contingency measure opportunities for either of these source categories. We are proposing to agree with the District's conclusions with respect to Rules 4605 and 4684 given that the emissions reductions from these two source categories would be insignificant, representing an insignificant percentage of the VOC emissions inventory.

With respect to Rule 4694, which covers wine fermentation and storage tanks, the District's analysis concluded that the most stringent controls are already in place, and additional control technologies have not been proven at the scale of the wineries found in the San Joaquin Valley or in the climatic conditions that prevail in the San Joaquin Valley. Specifically, the District analyzed a published BACT guideline, which established a 67 percent

<sup>89</sup> The District presents its cost-effectiveness estimates for various Class 1 and Class 2 mitigation measures for medium- and small-sized facilities on pages 78 and 79 of the 2024 SJV Ozone Contingency Measure Plan.

<sup>90</sup> Aerospace assembly and component coating operations represent 0.004 percent of the San Joaquin Valley's VOC emissions inventory, and polyester resin operations represent 0.05 percent of the inventory. See the 2024 SJV Ozone Contingency Measure Plan, pp. 82, 84.

<sup>83</sup> EPA's Reasoned Justification TSD, pp. 43–51.

<sup>84</sup> PM<sub>2.5</sub> Contingency Measure SIP Revision, pp. 44–47.

<sup>85</sup> PM<sub>2.5</sub> Contingency Measure SIP Revision, pp. 47–49.

<sup>86</sup> 2024 SJV Ozone Contingency Measure Plan, pp. 20–22.

<sup>87</sup> EPA's Reasoned Justification TSD, pp. 9–22.

<sup>88</sup> The District's evaluation for the ten rules for which the District concluded further analysis is warranted is found in section 5.12 of the 2024 SJV Ozone Contingency Measure Plan.

combined capture-and-control efficiency requirement, averaged over the fermentation season for closed-top wine fermentation tanks with capacities equal to or less than 30,000 gallons.<sup>91</sup> This analysis found that the majority of wine fermentation tanks in the San Joaquin Valley are significantly greater than 30,000 gallons in capacity and that winemaking practices are significantly different in the San Joaquin Valley compared with practices elsewhere nationwide.<sup>92</sup> As such, the District concluded that a contingency measure would be incompatible with the technologies involved in reducing emissions in this source category due to the time needed for necessary construction activities such as engineering, redesigning facilities, procuring materials, equipment, utilities, scheduling contractors, and installing and testing the fermentation controls.<sup>93</sup> We propose to find that the District's evaluation and rationale for its conclusion of no feasible contingency measures for this source category is adequately supported such that the most stringent controls are already in place, and additional control technologies have not been proven at the scale of the wineries found in the San Joaquin Valley or in the climatic conditions that prevail in the Valley.

With respect to Rule 4570, which covers confined animal facilities, the District's analysis concluded that that the District is implementing the most stringent measures feasible and determined that further controls of this source category would be technologically infeasible. The District based this conclusion on the absence of more stringent requirements anywhere in the country that had been achieved in practice.<sup>94</sup> We are proposing to agree with the District's conclusions with respect to Rule 4570.

<sup>91</sup> Santa Barbara Air Pollution Control District BACT Guideline 4.1, available at <https://www.ourair.org/wp-content/uploads/BACT-Guideline-4.1.pdf>.

<sup>92</sup> 2024 SJV Ozone Contingency Measure Plan, pp. 84–89.

<sup>93</sup> 2024 SJV Ozone Contingency Measure Plan, pp. 84–89.

<sup>94</sup> 2024 SJV Contingency Measure Plan, pp. 79–80. The District identified an analogous rule adopted by another air district (Imperial County APCD) that has a lower applicability threshold for the “other cattle” category when compared to SJVUAPCD Rule 4570. However, Imperial County APCD indicated that Imperial County APCD does not have any large “other cattle” confined animal facilities (CAFs) operating in their region and therefore do not have any facilities that would have to comply with this lower threshold. See ICAPCD Rule 217 (Large Confined Animal Facilities (LCAF) Permits Required) (Revised February 9, 2016). Retrieved from: <https://apcd.imperialcounty.org/wp-content/uploads/2020/01/1RULE217.pdf>.

Similar to our evaluation of the District's feasibility analysis for potential NO<sub>x</sub> contingency measures for sources it regulates, we have evaluated CARB's feasibility analysis for the sources it regulates, in part by comparing the bases and conclusions of the State's analysis against those presented in the EPA's Reasoned Justification TSD.<sup>95</sup> Both CARB and the EPA note the importance of mobile source emissions in the San Joaquin Valley, particularly given that the large majority of NO<sub>x</sub> emissions are from mobile sources, and describe the breadth of control measures considered by CARB to reduce NO<sub>x</sub> emissions for broader CAA purposes in the San Joaquin Valley. These include new vehicle and engine emissions standards, for both on-road and non-road applications, which generally apply to manufacturers and achieve emissions reductions through vehicle turnover; retrofit or replacement requirements for existing vehicles and fleets; and inspection and maintenance (I/M) program requirements, such as the requirements implemented under California's Smog Check program for light-duty passenger cars and trucks and the requirements that are starting to be implemented under California's Heavy-Duty I/M program. We agree that the adopted measures and on-going development of mobile source measures by CARB, including zero-emissions standards, further constrain the available opportunities for additional emissions reductions via contingency measures.<sup>96</sup>

With respect to contingency measure requirements, CARB examined potential controls across the wide range of mobile source categories, including on-road light-duty passenger cars, trucks, and motorcycles; medium- and heavy-duty trucks and buses and transportation refrigeration units; commercial harbor craft, recreational boats, and ocean going vessels; off-road industrial, construction, and mining equipment; airport ground equipment, port and rail operations, and locomotives; lawn and garden equipment; and space and water heaters. As potential controls, CARB considered and evaluated pulling forward compliance dates and/or phase-in requirements; setting more stringent standards (often atop recently-tightened standards) through mechanisms such as emissions standards, emissions caps, thresholds for compliance, testing

<sup>95</sup> EPA's Reasoned Justification TSD, section H (“Mobile Sources”).

<sup>96</sup> EPA's Reasoned Justification TSD, pp. 139–142. See also, 2024 SJV Ozone Contingency Measure Plan, appendix B, pp. 8–10.

frequency, making optional standards required, or percentage of sales requirements; and removing exemptions and/or compliance options. In virtually all cases, CARB found that control measures beyond those already adopted or in development to fulfill commitments (*e.g.*, under the 2022 State SIP Strategy) were not technologically feasible overall.<sup>97</sup> In all cases (except the adopted Smog Check Contingency Measure), CARB found that the measures were not technologically feasible specifically as contingency measures due to lead time to develop, certify, adopt, and/or implement the measures and because the potential measures could not be implemented within 60 days of a triggering event and achieve emission reductions within one or two years of the triggering event.

We have reviewed CARB's specific control measure analyses and are proposing to agree that such potential control measures are not feasible within the timeframe necessary for contingency measures and, in many cases, are not technologically feasible to the extent that they build upon on-the-books and on-the-way measures that are already technology- or market-forcing. The EPA has not identified any engine or vehicle emissions standards for consideration as contingency measures, which remains consistent with the evaluation presented in the EPA's Reasoned Justification TSD.<sup>98</sup> Beyond the wide range of source types and control approaches examined by CARB, the EPA also examined a handful of potential additional controls in the EPA's Reasoned Justification TSD, and our conclusion that they too were not suitable as contingency measures remains unchanged. Specifically, we have determined that the following are not suitable as contingency measures: expansion of

<sup>97</sup> There were three measures that CARB indicated as technologically feasible. One is the Smog Check Contingency Measure that CARB has adopted and submitted, and that the EPA has approved. A second was a different Smog Check measure that would require testing on an annual basis (rather than the current biennial basis) or require testing on an annual basis only for high mileage vehicles; however, CARB found that the compliance burden would disproportionately fall on low-income populations and disadvantaged communities. 2024 SJV Ozone Contingency Measure Plan, appendix B, p. 47. The third was to increase the testing frequency under the Heavy-Duty I/M program; however, CARB found that the compliance burden would disproportionately fall on small businesses and low-income populations. 2024 SJV Ozone Contingency Measure Plan, appendix B, p. 49. In the latter two cases, CARB also found that, even if the measure were technologically feasible, the measures could not be effectuated within the timeframe necessary for contingency measures.

<sup>98</sup> EPA's Reasoned Justification TSD, pp. 138–144.

Enhanced I/M requirements to areas currently subject to Basic I/M or Partial Enhanced I/M requirements in the San Joaquin Valley,<sup>99</sup> provisions to expand the applicability of and add requirements to District Rule 9510 (“Indirect Source Review”),<sup>100</sup> and additional transportation control measures.<sup>101</sup> Therefore, we propose to find that CARB’s infeasibility demonstration adequately justifies the contingency measures selected by CARB for the San Joaquin Valley for the 1997 ozone NAAQS.

CARB supplemented the NO<sub>x</sub> mobile source control measure evaluation that CARB provides in the Smog Check Contingency Measure SIP, which is included as appendix B of the 2024 SJV Ozone Contingency Measure Plan, with an evaluation of VOC area source categories that fall under State jurisdiction.<sup>102</sup> The area source categories include Pesticides, Oil and Gas, Consumer Products, Portable Fuel Containers (Gas Cans), Cargo Tanks and Petroleum Marketing. Based on that evaluation, CARB explained why it would be infeasible to achieve additional emissions reductions from these source categories within one or two years of triggering. We have reviewed CARB’s evaluation and propose to find that contingency measures for these area source categories would be technologically infeasible because they will not achieve emissions reductions within one or two years of the triggering event.

#### d. Conclusion

Based on the feasibility analyses prepared for the Smog Check Contingency Measure SIP and the 2024 SJV Ozone Contingency Measure SIP, the District and CARB have committed to adopt and submit five additional contingency measures to meet the contingency measure requirements for the 2008 and 2015 ozone NAAQS to supplement the two contingency

measures that are already submitted and approved for those NAAQS (the Smog Check Contingency Measure and the Architectural Coatings Contingency Measure<sup>103</sup>). For the reasons given above, we preliminarily find that the infeasibility demonstrations provided in the Smog Check Contingency Measure SIP and the 2024 SJV Ozone Contingency Measure SIP support the conclusion that the contingency measures already adopted and approved plus the contingency measures to which the District and CARB have committed currently constitute the entire set of feasible contingency measures for ozone precursor emissions in the San Joaquin Valley. While the District and CARB have chosen to adopt them already, or committed to adopt them in the future, to address the contingency measure requirements for the 2008 and 2015 ozone NAAQS purposes, they are not obligated to adopt them also to address the contingency measure requirements for the 1997 ozone NAAQS.

Furthermore, because the identified feasible contingency measures have been selected to address only the 2008 and 2015 ozone NAAQS, they are not available for the 1997 ozone NAAQS, which means that the only feasible contingency measure for the purposes of the 1997 ozone NAAQS is the Smog Check Contingency Measure. Therefore, based on achieving a portion of one year’s worth of progress for NO<sub>x</sub> and VOC reductions from a contingency measure (the Smog Check Contingency Measure) that meets the requirements of CAA section 172(c)(9) and the reasoned justifications contained in the feasibility analyses, the EPA proposes to find that the Smog Check Contingency Measure SIP fulfills the attainment-related contingency measure SIP requirements for the 1997 ozone NAAQS for the San Joaquin Valley.

#### IV. Proposed Action

For the reasons given in this document, we are proposing to approve the Smog Check Contingency Measure SIP with respect to the CAA’s attainment-related contingency measure requirement under CAA section 172(c)(9) for the San Joaquin Valley area for the 1997 ozone NAAQS. Our proposed approval relies on the previously-approved contingency

measure for the 1997 ozone NAAQS for the San Joaquin Valley (*i.e.*, the Smog Check Contingency Measure) and the justifications from CARB and the District for not adopting additional contingency measures so as to provide for the recommended amount of emissions reductions for such measures. Based on this proposed approval, the EPA is also proposing to determine that the State of California has fulfilled the commitment made by the State in connection with a previous approval action to develop, adopt and submit attainment contingency measures for the San Joaquin Valley for the 1997 ozone NAAQS meeting the requirements of CAA section 172(c)(9).

#### V. Request for Public Comment

The EPA is soliciting public comments on the issues discussed in this document. We will accept comments from the public on this proposal for the next 30 days and will consider comments before taking final action.

#### VI. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA’s role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this rulemaking merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed rulemaking:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Is not subject to Executive Order 14192 (90 FR 9065, February 6, 2025) because SIP actions are exempt from review under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Does not have federalism implications as specified in Executive

<sup>99</sup> EPA’s Reasoned Justification TSD, section IV.E. In addition, CARB noted in its comment letter on the EPA’s proposed PM<sub>2.5</sub> contingency measure FIP that, under the I/M measure evaluated by the EPA, 50% of the vehicles that would be newly subject to Enhanced I/M would be in disadvantaged communities whereas only 35% of San Joaquin Valley’s residents live in such disadvantaged communities. Letter dated September 22, 2023, from Steven S. Cliff, Ph.D., Executive Officer, CARB to Martha Guzman, Regional Administrator, EPA Region IX. In other words, the compliance burden would disproportionately fall on low-income populations and disadvantaged communities.

<sup>100</sup> EPA’s Reasoned Justification TSD, section IV.B.

<sup>101</sup> EPA’s Reasoned Justification TSD, pp. 144–146.

<sup>102</sup> CARB’s evaluation of VOC area sources is found in section 5.10 of the 2024 SJV Ozone Contingency Measure Plan.

<sup>103</sup> At the present time, the contingency measure provision in the District’s Architectural Coatings Rule applies only to the 2008 ozone NAAQS but the District has committed to amend the rule to incorporate the removal of the small container exemption for rust preventative coatings with respect to the 2008 and 2015 ozone NAAQS. amend the rule to apply also to the 2015 ozone NAAQS. See the 2024 SJV Ozone Contingency Measure Plan, p. 80.

Order 13132 (64 FR 43255, August 10, 1999);

- Is not subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it proposes to approve a state program;
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001); and
- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA.

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian Tribe has demonstrated that a Tribe has jurisdiction. In those areas of Indian country, the proposed rulemaking does not have Tribal implications and will not impose substantial direct costs on Tribal governments or preempt Tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

#### List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen oxides, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

**Authority:** 42 U.S.C. 7401 *et seq.*

Dated: November 3, 2025.

**Cheree Peterson,**

*Acting Regional Administrator, Region IX.*

[FR Doc. 2025-19884 Filed 11-13-25; 8:45 am]

**BILLING CODE 6560-50-P**

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 84

[EPA-HQ-OAR-2025-0005; FRL-12166-03-OAR]

#### Phasedown of Hydrofluorocarbons: Reconsideration of Certain Regulatory Requirements Promulgated Under the Technology Transitions Provisions of the American Innovation and Manufacturing Act of 2020; Extension of Comment Period

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice; extension of public comment period.

**SUMMARY:** On October 3, 2025, the Environmental Protection Agency (EPA) published a proposed rule titled “Phasedown of Hydrofluorocarbons: Reconsideration of Certain Regulatory Requirements Promulgated Under the Technology Transitions Provisions of the American Innovation and Manufacturing Act of 2020.” The EPA is extending the comment period for this proposed rule.

**DATES:** The comment period for the proposed rule published on October 3, 2025, at 90 FR 47999, is extended. Comments must be received on or before November 21, 2025.

**ADDRESSES:** You may send your comments, identified by Docket ID No. EPA-HQ-OAR-2025-0005, 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](mailto:a-and-r-Docket@epa.gov). Include Docket ID No. EPA-HQ-OAR-2025-0005 in the subject line of the message.
- **Mail:** U.S. Environmental Protection Agency, EPA Docket Center, Air and Radiation Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- **Hand Delivery or Courier:** 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. to 4:30 p.m., Monday–Friday (except Federal Holidays).

**Instructions.** Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2025-0005, 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. The EPA may publish any comment received to its public docket. Do not submit to the EPA’s docket at <https://www.regulations.gov> any information you consider to be Confidential Business Information (CBI), Proprietary Business Information (PBI), or other information whose disclosure is restricted by statute. If you choose to submit CBI or PBI as a comment to the EPA’s docket, please send those

materials to the person listed in the **FOR FURTHER INFORMATION CONTACT** section. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered an official comment and should include discussion of all points you wish to make. The 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). Please visit <https://www.epa.gov/dockets/commenting-epa-dockets> for additional submission methods; the full EPA public comment policy; information about CBI, PBI, or multimedia submissions; and general guidance on making effective comments.

#### FOR FURTHER INFORMATION CONTACT:

Allison Cain, Stratospheric Protection Division, Office of Atmospheric Protection (Mail Code 6205A), Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460; telephone number: (202) 564-1566; email address: [cain.allison@epa.gov](mailto:cain.allison@epa.gov). You may also visit the EPA’s website at <https://www.epa.gov/climate-hfcs-reduction> for further information.

#### SUPPLEMENTARY INFORMATION:

On October 3, 2025, the EPA published a proposed rule titled “Phasedown of Hydrofluorocarbons: Reconsideration of Certain Regulatory Requirements Promulgated Under the Technology Transitions Provisions of the American Innovation and Manufacturing Act of 2020” (90 FR 47999). The public comment for this proposed rule was scheduled to end on November 17, 2025. On October 14, 2025, the EPA received a request from a stakeholder for a thirty-day extension of the comment period. This request has been placed in the public docket. EPA is granting an extension and providing four additional days for public comment. The Agency seeks to provide sufficient time for public comment on this proposal while also being mindful of time sensitivity of many aspects of the proposed rule. The comment period for this proposed rule will close on November 21, 2025.

**Cynthia Newberg,**

*Director, Stratospheric Protection Division, Office of Atmospheric Protection.*

[FR Doc. 2025-19895 Filed 11-13-25; 8:45 am]

**BILLING CODE 6560-50-P**

# Notices

Federal Register

Vol. 90, No. 218

Friday, November 14, 2025

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 has submitted the following information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1995, Public Law 104–13. Comments are requested regarding: 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; the accuracy of the agency's estimate of burden including the validity of the methodology and assumptions used; 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 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 this information collection received by December 15, 2025 will be considered. 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](http://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.

### Risk Management Agency

*Title:* General Administrative Regulations; Interpretations of Statutory and Regulatory Provisions.

*OMB Control Number:* 0563–0055.

*Summary of Collection:* Section 533 of the Agricultural Research, Extension, and Education Reform Act of 1998 (1998 Research Act) requires the Federal Crop Insurance Corporation (FCIC) to publish regulation on how FCIC will provide a final agency determination in response to certain inquiries. Consistent with section 506(r) of the Act and 7 CFR part 400, subpart X in accordance with the Federal Crop Insurance Act, as amended, FCIC revised section 20 of the Common Crop Insurance Policy Basic Provisions, published at 7 CFR 457.8, to require the FCIC to provide interpretations of policy provisions and procedures (handbooks, manuals, memoranda, and bulletins) when any dispute in mediation, arbitration, or litigation requires interpretation of a policy provision or procedure.

*Need and Use of the Information:* The information collection requirements for this renewal package are necessary for FCIC to respond to requests for interpretations of provisions of the Federal Crop Insurance Act, policy provisions codified in the Code of Federal Regulations, policy provisions not codified in the Code of Federal Regulations, and procedures used in the administration of the Federal crop insurance program. This data is used to administer the provisions of 7 CFR part 400, subpart X in accordance with the Federal Crop Insurance Act, as amended.

*Description of Respondents:* Business or other for-profit; Farms.

*Number of Respondents:* 23.

*Frequency of Responses:* Reporting: On occasion.

*Total Burden Hours:* 184.

**Rachelle Ragland-Greene,**

*Departmental Clearance Officer.*

[FR Doc. 2025–19896 Filed 11–13–25; 8:45 am]

**BILLING CODE 3410–08–P**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

[RTID 0648–XF065]

### Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to U.S. Navy Ice Exercise Activities 2026 in the Arctic Ocean

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; proposed incidental harassment authorization; request for comments on proposed authorization and possible renewal.

**SUMMARY:** NMFS has received a request from the U.S. Department of the Navy (hereafter Navy) for authorization to take marine mammals incidental to U.S. Navy Ice Exercise Activities 2026 (ICEX26) in the Arctic Ocean. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-time, 1-year renewal that could be issued under certain circumstances and if all requirements are met, as described in Request for Public Comments at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization and agency responses will be summarized in the final notice of our decision. The Navy's activities are considered military readiness activities pursuant to the MMPA, as amended by the National Defense Authorization Act for Fiscal Year 2004 (2004 NDAA).

**DATES:** Comments and information must be received no later than December 15, 2025.

**ADDRESSES:** Comments should be addressed to Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service and should be submitted via email to [itp.clevenstine@noaa.gov](mailto:itp.clevenstine@noaa.gov). Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: <https://>

[www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities](http://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities). In case of problems accessing these documents, please call the contact listed below.

**Instructions:** NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments, including all attachments, must not exceed a 25-megabyte file size. All comments received are a part of the public record and will generally be posted online at <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act> without change. All personal identifying information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

**FOR FURTHER INFORMATION CONTACT:** Alyssa Clevestine, Office of Protected Resources, NMFS, (301) 427-8401.

**SUPPLEMENTARY INFORMATION:**

**Background**

The MMPA prohibits the “take” of marine mammals, with certain exceptions. Section 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) directs the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other “means of effecting the least practicable adverse impact” on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (collectively referred to as “mitigation”); and requirements pertaining to the monitoring and reporting of the takings. The definitions of all applicable MMPA

statutory terms used above are included in the relevant sections below and can be found in section 3 of the MMPA (16 U.S.C. 1362) and NMFS regulations at 50 CFR 216.103.

The 2004 NDAA (Pub. L. 108–136) removed the “small numbers” and “specified geographical region” limitations indicated above and amended the definition of “harassment” as applied to a “military readiness activity.” The activity for which incidental take of marine mammals is being requested qualifies as a military readiness activity.

**National Environmental Policy Act**

To comply with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.*, the issuance of an IHA) with respect to potential impacts on the human environment. This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NAO 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review.

We will review all comments submitted in response to this notice prior to concluding our NEPA process or making a final decision on the IHA request.

**Summary of Request**

On May 19, 2025, NMFS received a request from the Navy for an IHA to take marine mammals incidental to submarine training and testing activities in the Arctic Ocean. The application was deemed adequate and complete on July 10, 2025. The Navy’s request is for take of ringed seal (*Pusa hispida*) by Level B harassment only. Neither the Navy nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued IHAs to the Navy for similar activities (83 FR 6522, February 14, 2018; 85 FR 6518, February 5, 2020; 87 FR 7803, February 10, 2022; 89 FR 8172, February 1, 2024). The Navy complied with all the requirements (e.g., mitigation, monitoring, and reporting) of the previous IHAs, and information

regarding their monitoring results may be found in the Potential Effects of the Specified Activity on Marine Mammals and their Habitat section.

**Description of Proposed Activity**

*Overview*

The Navy proposes to conduct submarine training and testing activities, including establishment of a tracking range and temporary ice camp, and to conduct research activities in the Arctic Ocean for approximately 6 weeks beginning in February 2026. Active acoustic transmissions may result in take by Level B harassment, including temporary hearing impairment (temporary threshold shift (TTS)) and behavioral harassment, of ringed seals.

*Dates and Duration*

The specified activities would occur over approximately a 6-week period between February and April 2026, including deployment and demobilization of the ice camp. The submarine training and testing activities would occur over approximately 4 weeks during the 6-week period. The proposed IHA would be effective from February 18, 2026 through April 30, 2026.

*Geographic Region*

The ice camp would be established approximately 185 to 370 kilometers (km) north of Prudhoe Bay, Alaska, in the same study area defined in the 2025 Draft Environmental Assessment/Overseas Environmental Assessment (EA/OEA) for Ice Exercise 2026 (hereafter 2025 Draft EA/OEA for ICEX26) (available at <https://www.nepa.navy.mil/icex/>); the exact location cannot be identified in advance, as many of the required conditions (e.g., ice cover) cannot be forecasted until shortly before the exercises are expected to commence. Prior to establishment of the ice camp, reconnaissance flights would be conducted to locate suitable ice conditions required for the location of the ice camp. The reconnaissance flights would occur over an area of approximately 70,374 square km (km<sup>2</sup>), while the actual ice camp would be no more than 1.6 km in diameter, (approximately 2 km<sup>2</sup> in area). The vast majority of submarine training and testing would occur near the ice camp; however, some submarine training and testing may occur throughout the deep Arctic Ocean basin near the North Pole, within the larger Navy Activity Study Area. Figure 1 shows the locations of the Navy Activity Study Area and the

Ice Camp Study Area, collectively referred to as the ICEX Study Area.

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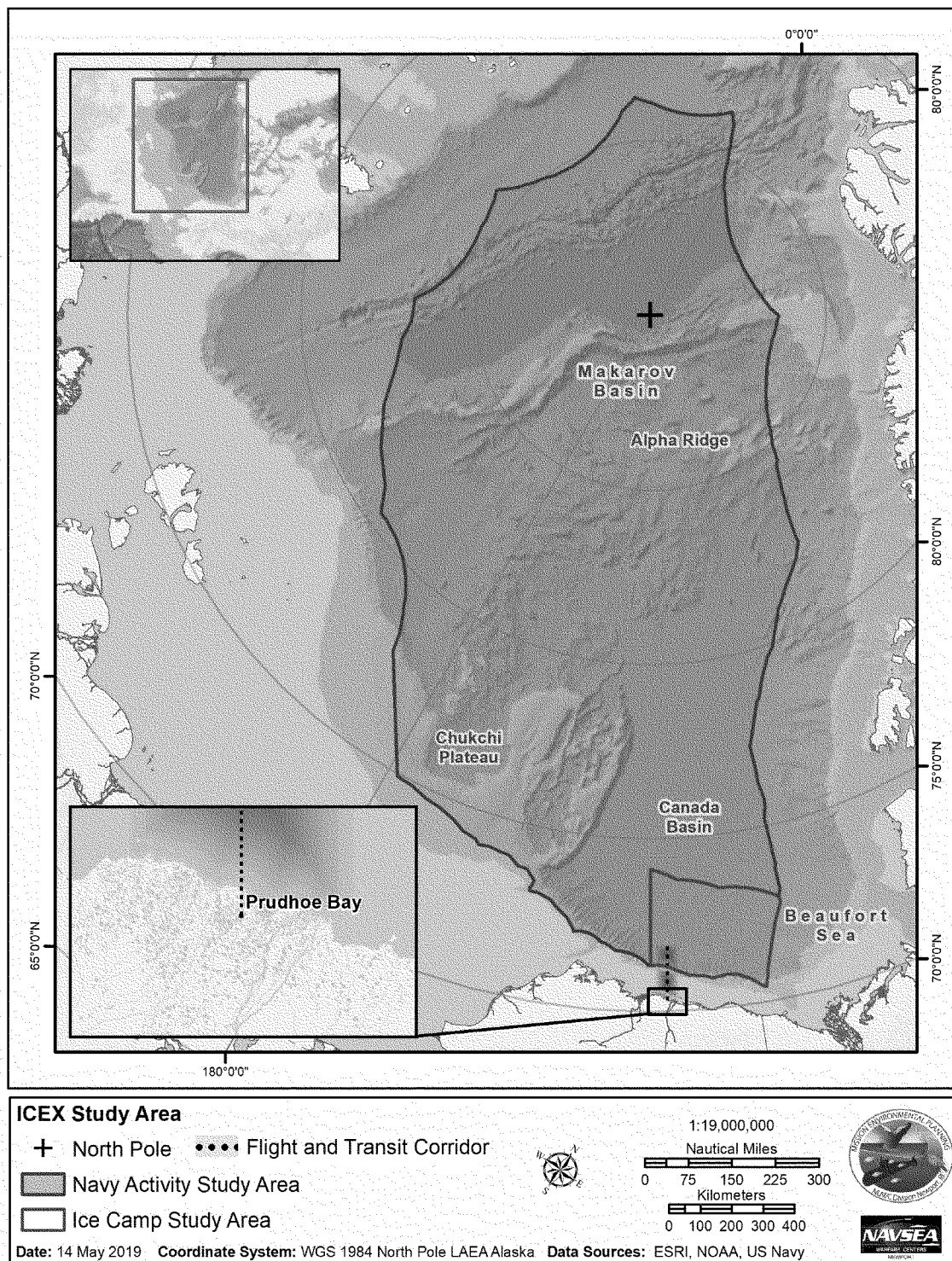


Figure 1 -- ICEX Study Area in the Arctic Ocean

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### Detailed Description of the Specified Activity

The Navy proposes to conduct submarine training and testing activities (*i.e.*, establishment of a portable tracking range and temporary ice camp, research activities, unmanned underwater vehicle (UUV) testing, unmanned aerial system (UAS) testing, submarine-launched non-explosive torpedo exercises) involving underwater active acoustic transmissions (active sonar), in a large area of the Arctic Ocean north of Prudhoe Bay, Alaska during a period of approximately 6 weeks beginning in February 2026. The activity proposed for 2026 and that is being evaluated for this proposed IHA—ICEX26—is part of a regular cycle of recurring training and testing activities that the Navy proposes to conduct in the Arctic, under which submarine and tracking range activities would be conducted biennially. Some of the submarine training and testing may occur throughout the deep Arctic Ocean basin near the North Pole, within the Navy Activity Study Area (figure 1).

Additional information about the Navy's proposed training and testing activities in the Arctic is available in the 2025 Draft EA/OEA for ICEX26 (<https://www.nepa.navy.mil/icex/>). Only activities which may occur during ICEX26 are discussed in this section.

### Ice Camp

ICEX26 includes deployment of a temporary camp situated on an ice floe. Prior to the set-up of the ice camp, reconnaissance flights will be conducted to locate suitable ice conditions required for the location of the ice camp. The ice camp would consist of a command hut, dining tent, sleeping quarters, an outhouse, a powerhouse, two runways (a primary and a back-up runway only for use in case of emergency), and a helipad. The number of structures and tents would range from 15 to 20, and structures typically would be 2–6 meters (m) by 6–10 m in size. Some tents may be octagon shaped and approximately 6 m in diameter. Berthing tents would contain collapsible bunk beds, a heating unit, and a circulation fan. The completed ice camp, including runway, would be approximately 1.6 km diameter. Support equipment for the ice camp includes snowmobiles, snow blowers, gas powered augers and saws (for boring holes through the ice), two reverse osmosis units, and diesel generators. Aircraft would be used to transport personnel and equipment to and from Prudhoe Bay, Alaska, and the ice camp. All ice camp materials, fuel, and food would be transported from Prudhoe

Bay, Alaska, and would either be air-dropped from military transport aircraft (*e.g.*, C-17 and C-130) or delivered via small twin-engine aircraft and military and commercial helicopters to the ice camp runway. At the completion of ICEX26, the ice camp would be demobilized and removed, and all personnel would depart.

A portable tracking range for submarine training and testing would be installed in the vicinity of the ice camp during ICEX26. Hydrophones would be deployed on the ice by drilling or melting holes in the ice and lowering the cable down into the water column, and extend to approximately 30 m below the ice. Hydrophones would be approximately 11.8 centimeters (cm) in length and have 610 m in associated cables. The hydrophones would be linked remotely to the command hut via cables. Additionally, tracking pingers would be configured aboard each submarine to continuously monitor the location of the submarines. Acoustic communications with the submarines would be used to coordinate the training and research schedule with the submarines, and an underwater telephone would be used as a backup to the acoustic communications. The Navy plans to recover the hydrophones; however, if emergency demobilization is required or the hydrophones are frozen in place and are unrecoverable, they would be left in place.

Additional information about the ICEX26 ice camp is located in the 2025 Draft EA/OEA for ICEX26. We have carefully reviewed this information and determined that activities associated with the ICEX26 ice camp, including de minimis acoustic communications, would not result in incidental take of marine mammals.

### Submarine Training and Testing

Submarine activities associated with ICEX26 would generally entail safety maneuvers, active sonar use, and exercise torpedo use similar to submarine activities conducted in other undersea environments. The safety maneuvers and sonar use are similar to submarine activities conducted in other undersea environments and are being conducted in the Arctic to test their performance in a cold environment. The Navy anticipates the use of no more than 10 exercise torpedoes during ICEX26. The exercise torpedoes are inert (*i.e.*, non-explosive), and will be recovered by divers, who enter the water through melted holes, approximately 1 m wide. Submarine training and testing involves active acoustic transmissions, which have the potential to harass marine mammals.

The Navy categorizes acoustic sources into “bins” based on frequency, source level, and mode of usage (U.S. Department of the Navy, 2025b). The acoustic source classification bins do not include the broadband noise produced incidental to vessel and aircraft transits and weapons firing. Noise produced from vessel, aircraft, and weapons firing activities are not carried forward because those activities were found to have de minimis or no acoustic impacts. The acoustic transmissions associated with submarine training fall within mid-frequency (MF; generally 1–10 kilohertz (kHz), source level greater than 190 decibels (dB)) and high-frequency (HF; generally 10–100 kHz, source level less than 200 dB) bins as defined in the Navy's Phase IV at-sea environmental documentation (see the 2025 AFTT Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement, available at <https://www.nepa.navy.mil/aftteis/>). The specifics of ICEX26 submarine acoustic sources are classified, including the parameters associated with the designated bins. Details of source use for submarine training are also classified. Any ICEX-specific acoustic sources not captured under one of the at-sea bins were modeled using source-specific parameters.

All non-acoustic components of submarine training and testing activities are fully analyzed within the 2025 Draft EA/OEA for ICEX26 (found online at <https://www.nepa.navy.mil/icex/>) and remain unchanged. We have carefully reviewed and discussed with the Navy these other aspects, such as vessel use, and determined that aspects of submarine training and testing other than active acoustic transmissions would not result in take of marine mammals. These non-acoustic components will not be discussed further, with the exception of vessel strike or exercise torpedo strike, which are discussed in the Potential Effects of Specified Activities on Marine Mammals and their Habitat section.

### Research Activities and Scientific Active Acoustic Devices

Personnel and equipment proficiency testing and multiple research and development activities would be conducted as part of ICEX26. One UUV would be deployed under the ice to test the communication and range of the vehicle and to conduct under-ice and in-water column sampling. Several other acoustic sources (*i.e.*, echosounder, transducers) would be deployed under the ice or in the water column to determine systems signal

recognition capabilities. Testing involving the UUV and various acoustic/communication sources involve active acoustic transmissions, which have the potential to harass marine mammals underwater. There are no on-ice or in-air active acoustic devices proposed for use as part of ICEX26. Most acoustic transmissions that would be used in ICEX26 for research activities are considered de minimis. The Navy has defined de minimis sources as having the following parameters: low source levels, narrow

beams, downward directed transmission, short pulse lengths, frequencies above (outside) known marine mammal hearing ranges, or some combination of these factors (U.S. Department of the Navy, 2025b). Additionally, sources with operating frequencies of 200 kHz or above or source levels of 160 dB or below are considered de minimis (see the 2025 Draft EA/OEA for ICEX26 at <https://www.nepa.navy.mil/icex/>). NMFS reviewed the Navy’s analysis and conclusions on de minimis sources and

finds them complete and supportable. Parameters for scientific devices with active acoustics, including de minimis sources, are included in table 1. Additional information about ICEX26 research activities is located in table 1–1 of the Navy’s application and table 2–1 of the 2025 Draft EA/OEA for ICEX26, and elsewhere in that document. The possibility of vessel strikes caused by use of UUVs during ICEX26 is discussed in the *Potential Effects of Vessel Strike* section.

TABLE 1—PARAMETERS FOR SCIENTIFIC DEVICES WITH ACTIVE ACOUSTICS

Research institution	Source name	Frequency range (kHz)	Source level (dB)	Pulse length	Source type
University of Washington Applied Physics Laboratory.	Seaglider .....	10	185	1 second .....	UUV.
Naval Postgraduate School .....	Echosounder .....	38–200	221	0.5 milliseconds .....	Sonar.
Massachusetts Institute of Technology Lincoln Lab.	Echosounder .....	0.05–9	180	Variable .....	Sonar.
Massachusetts Institute of Technology Lincoln Lab.	SimRad Combi .....	38/200	219/227	Variable .....	Transducer.

Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see Proposed Mitigation and Proposed Monitoring and Reporting).

**Description of Marine Mammals in the Area of Specified Activities**

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS’ Stock Assessment Reports (SARs); <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>) and more general information about

these species (e.g., physical and behavioral descriptions) may be found on NMFS’ website (<https://www.fisheries.noaa.gov/find-species>).

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS’ SARs). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality (M/SI) from anthropogenic sources are

included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS’ stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS’ U.S. Alaska SARs (Young *et al.*, 2024). All values presented in table 2 are the most recent available at the time of publication and are available online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>.

TABLE 2—SPECIES<sup>1</sup> WITH ESTIMATED TAKE FROM THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) <sup>2</sup>	Stock abundance (CV, N <sub>min</sub> , most recent abundance survey) <sup>3</sup>	PBR	Annual M/SI <sup>4</sup>
Ringed seal .....	<i>Pusa hispida</i> .....	Arctic .....	T, D, Y	UND <sup>5,6</sup> (UND, UND, 2013) ....	UND	6,459

<sup>1</sup> Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy’s Committee on Taxonomy (<https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/>; Committee on Taxonomy (2022)).

<sup>2</sup> Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

<sup>3</sup> NMFS marine mammal stock assessment reports online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region>. CV is coefficient of variation; N<sub>min</sub> is the minimum estimate of stock abundance.

<sup>4</sup> These values, found in NMFS’s SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (e.g., commercial fisheries, vessel strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

<sup>5</sup> A reliable population estimate for the entire stock is not available. Using a sub-sample of data collected from the U.S. portion of the Bering Sea, an abundance estimate of 171,418 ringed seals has been calculated, but this estimate does not account for availability bias due to seals in the water or in the shorefast ice zone at the time of the survey. The actual number of ringed seals in the U.S. portion of the Bering Sea is likely much higher. Using the  $N_{\min}$  based upon this negatively biased population estimate, the PBR is calculated to be 4,755 seals, although this is also a negatively biased estimate.

<sup>6</sup> Boveng *et al.* (2025) estimated the abundance of ringed seals in the Chukchi Sea as 592,577 animals, which accounted for availability bias and used aerial survey and telemetry data.

As indicated in table 2, ringed seals (with one managed stock) temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. While beluga whales (*Delphinapterus leucas*), gray whales (*Eschrichtius robustus*), bowhead whales (*Balaena mysticetus*), bearded seals (*Erignathus barbatus*), and spotted seals (*Phoca largha*) may occur in the ICEX Study Area, the temporal and/or spatial occurrence of these species is such that take is not expected to occur, and they are not discussed further beyond the explanation provided here. Bowhead whales are unlikely to occur in the ICEX Study Area between February and April, as they spend winter (December to April) in the northern Bering Sea and southern Chukchi Sea, and migrate north through the Chukchi Sea and Beaufort Sea (both encompassed within the Arctic Ocean) during April and May (Young *et al.*, 2024). On their spring migration, the earliest that bowhead whales reach Point Hope in the Chukchi Sea, well south of Point Barrow, is late March to mid-April (Brahm *et al.*, 1980). Although the ice camp location is not known with certainty, the distance between Point Barrow and the closest edge of the Ice Camp Study Area is over 200 km. The distance between Point Barrow and the closest edge of the Navy Activity Study Area is over 50 km, and the distance between Point Barrow and Point Hope is an additional 525 km (straight line distance); accordingly, bowhead whales are unlikely to occur in the ICEX Study Area before ICEX26 activities conclude. Beluga whales follow a migration pattern similar to bowhead whales. They typically overwinter in the Bering Sea and migrate north during the spring to the eastern Beaufort Sea where they spend the summer and early fall months (Young *et al.*, 2023). Though the beluga whale migratory path crosses through the ICEX Study Area, they are unlikely to occur in the ICEX Study Area between February and April. Of note, the ICEX Study Area does overlap the northernmost portion of the North Bering Strait, East Chukchi, West Beaufort Sea beluga whale migratory biologically important area (BIA) (April and May) (Clarke *et al.*, 2023), though the data support for this BIA is low, the boundary certainty is low, and the importance score is moderate. Given the

spring migratory direction, the northernmost portion of the BIA is likely more important later in the April and May period, and overlap with this BIA does not imply that belugas are likely to be in the ICEX Study Area during the Navy's activities.

Gray whales feed primarily in the Beaufort Sea, Chukchi Sea, and northwestern Bering Sea during the summer and fall, but migrate south to winter in Baja California lagoons (Carretta *et al.*, 2021). Typically, northward migrating gray whales do not reach the Bering Sea before May or June (Frost and Karpovich, 2008), after the ICEX26 activities would occur, and several hundred kilometers south of the ICEX Study Area. Further, gray whales are primarily bottom feeders (Swartz *et al.*, 2006) in water less than 60 m deep (Pike, 1962). Therefore, on the rare occasion that a gray whale does overwinter in the Beaufort Sea (Stafford *et al.*, 2007), we would expect an overwintering individual to remain in shallow water over the continental shelf where it could feed. Therefore, gray whales are not expected to occur in the ICEX Study Area during the ICEX26 activity period.

Bearded seals may occur in the ICEX Study Area during the project timeframe but NMFS does not expect they would occur in the areas near the ice camp or where submarine activities involving active acoustics would occur. The Navy anticipates the ice camp would be established 185–370 km north of Prudhoe Bay in water depths of 800 m or more, and submarine training and testing activities would occur in water depths of 800 m or more. Although acoustic data indicate some bearded seals remain in the Beaufort Sea year-round (MacIntyre *et al.*, 2013; Jones *et al.*, 2014; MacIntyre *et al.*, 2015), satellite tagging data (Boveng and Cameron, 2013; Alaska Department of Fish and Game, 2021) show that large numbers of bearded seals move south in fall/winter with the advancing ice edge to spend the winter in the Bering Sea, confirming previous visual observations (Burns and Frost, 1979; Cameron and Boveng, 2009; Frost and Karpovich, 2008). The southward movement of bearded seals in the fall means that very few individuals are expected to occur along the Beaufort Sea continental shelf in February through April, the timeframe for ICEX26 activities. The

northward spring migration through the Bering Strait, begins in mid-April (Burns and Frost, 1979).

In the event some bearded seals were to remain in the Beaufort Sea during the season when ICEX26 activities would occur, the most probable area in which bearded seals might occur during winter months is along the continental shelf. Bearded seals feed extensively on benthic invertebrates (*e.g.*, clams, gastropods, crabs, shrimp, bottom-dwelling fish) (Cameron *et al.*, 2010; Quakenbush *et al.*, 2011) and are typically found in water depths of 200 m or less (Burns, 1970). The Bureau of Ocean Energy Management conducted an aerial survey from July through October that covered the shallow Beaufort and Chukchi Sea shelf waters and observed bearded seals from Icy Cape to the border of Canada (Clarke *et al.*, 2017). The farthest from shore that bearded seals were observed was the waters of the continental slope (though this study was conducted outside of the ICEX26 time frame). As mentioned previously, the Navy anticipates the ice camp would be established 185–370 km north of Prudhoe Bay in water depths of 800 m or more. The continental shelf near Prudhoe Bay is approximately 100 km wide; therefore, even if the ice camp were established at the closest estimated distance (185 km from Prudhoe Bay), it would still be approximately 83 km from habitat potentially occupied by bearded seals. Empirical evidence has not shown responses to sonar that would constitute take beyond a few kilometers from an acoustic source, and therefore, NMFS and the Navy set a distance cutoff of 5 km. Regardless of the source level at that distance, take is not estimated to occur beyond 5 km from the source. Although bearded seals occur 37–185 km offshore during spring (Bengtson *et al.*, 2005; Simpkins *et al.*, 2003), they feed heavily on benthic organisms (Fedoseev, 1965; Hamilton *et al.*, 2018; Hjelset *et al.*, 1999), and during winter bearded seals are expected to select habitats where food is abundant and easily accessible to minimize the energy required to forage and maximize energy reserves in preparation for whelping, lactation, mating, and molting. Bearded seals are not known to dive as deep as 800 m to forage, with adults typically diving no more than 100 m deep, though first year pups may dive to depths greater than

450 m (Boveng and Cameron, 2013; Cameron *et al.*, 2010; Cameron and Boveng, 2009; Gjertz *et al.*, 2000; Kovacs, 2009), and it is highly unlikely they would occur near the ice camp or where the submarine activities would be conducted. This conclusion is supported by the fact that the Navy did not visually observe or acoustically detect bearded seals during the 2020, 2022, or 2024 ice exercises.

Spotted seals may also occur in the ICEX26 Study Area during summer and fall, but they are not expected to occur in the ICEX26 Study Area during the ICEX26 timeframe (Young *et al.*, 2024).

In addition, the polar bear (*Ursus maritimus*) may be found in ICEX26 Study Area. However, polar bears are managed by the U.S. Fish and Wildlife Service and are not considered further in this document.

### Ringed Seal

Ringed seals are the most common pinniped in the ICEX26 Study Area and have wide distribution in seasonally and permanently ice-covered waters of the Northern Hemisphere (North Atlantic Marine Mammal Commission, 2004), though the status of the Arctic stock of ringed seals is unknown (Young *et al.*, 2024). Throughout their range, ringed seals have an affinity for ice-covered waters and are well adapted to occupying both shore-fast and pack ice (Kelly, 1988b). Ringed seals can be found further offshore than other pinnipeds since they can maintain breathing holes in ice thickness greater than 2 m (Smith and Stirling, 1975). Breathing holes are maintained by ringed seals' sharp teeth and claws on their fore flippers. They remain in contact with ice most of the year and use it as a platform for molting in late spring to early summer, for pupping and nursing in late winter to early spring, and for resting at other times of the year (Young *et al.*, 2024).

Ringed seals have at least two distinct types of subnivean lairs: haul-out lairs and birthing lairs (Smith and Stirling, 1975). Haul-out lairs are typically single-chambered and offer protection from predators and cold weather. Birthing lairs are larger, multi-chambered areas that are used for pupping in addition to protection from predators. Ringed seals pup on both land-fast ice as well as stable pack ice. Lentfer (1972) found that ringed seals north of Barrow, Alaska (which would be west of the ice camp), build their subnivean lairs on the pack ice near pressure ridges. They are also assumed to occur within the sea ice in the proposed ice camp area. Ringed seals excavate subnivean lairs in drifts over

their breathing holes in the ice, in which they rest, give birth, and nurse their pups for 5–9 weeks during late winter and spring (Chapskii, 1940; McLaren, 1958; Smith and Stirling, 1975). Lindsay *et al.* (2021) found ringed seal counts increased after mid-May and pup counts increased after the end of April. Snow depths of at least 50–65 cm are required for functional birth lairs (Kelly, 1988a; Lydersen, 1998; Lydersen and Gjertz, 1986; Smith and Stirling, 1975), and such depths typically occur only where 20–30 cm or more of snow has accumulated on flat ice and then drifted along pressure ridges or ice hummocks (Hammill, 2008; Lydersen *et al.*, 1990; Lydersen and Ryg, 1991; Smith and Lydersen, 1991). Ringed seal birthing season typically begins in March, but the majority of births occur in early April. About a month after parturition, mating begins in late April and early May.

In Alaskan waters, during winter and early spring when sea ice is at its maximal extent, ringed seals are abundant in the northern Bering Sea, Norton and Kotzebue Sounds, and throughout the Chukchi and Beaufort Seas (Boveng *et al.*, 2025; Frost, 1985; Kelly, 1988b), including in the ICEX26 Study Area. Passive acoustic monitoring (PAM) of ringed seals from a high-frequency recording package deployed at a depth of 240 m in the Chukchi Sea, 120 km north-northwest of Barrow, Alaska, detected ringed seals in the area between mid-December and late May over a 4-year study (Jones *et al.*, 2014). With the onset of the fall freeze, ringed seal movements become increasingly restricted and seals will either move west and south with the advancing ice pack, with many seals dispersing throughout the Chukchi and Bering Seas, or remain in the Beaufort Sea (Crawford *et al.*, 2012; Frost and Lowry, 1984; Harwood *et al.*, 2012). Kelly *et al.* (2010a) tracked home ranges for ringed seals in the subnivean period (using shorefast ice); the size of the home ranges varied from less than 1 km<sup>2</sup> up to 27.9 km<sup>2</sup> (median of 0.62 km<sup>2</sup> for adult males and 0.65 km<sup>2</sup> for adult females). Most (94 percent) of the home ranges were less than 3 km<sup>2</sup> during the subnivean period (Kelly *et al.*, 2010a). Near large polynyas, ringed seals maintain ranges up to 7,000 km<sup>2</sup> during winter and 2,100 km<sup>2</sup> during spring (Born *et al.*, 2004). Some adult ringed seals return to the same small home ranges they occupied during the previous winter (Kelly *et al.*, 2010a). The size of winter home ranges can vary by up to a factor of 10 depending on the amount of fast ice; seal movements were

more restricted during winters with extensive fast ice and were much less restricted where fast ice did not form at high levels (Harwood *et al.*, 2015). Ringed seals may occur within the ICEX26 Study Area throughout the year and during the proposed specified activities.

Critical habitat for the ringed seal was designated in May 2022 and includes marine waters within one specific area in the Bering, Chukchi, and Beaufort Seas (87 FR 19232, April 1, 2022). Essential features established by NMFS for conservation of the ringed seal are (1) snow-covered sea ice habitat suitable for the formation and maintenance of subnivean birth lairs used for sheltering pups during whelping and nursing, which is defined as waters 3 m or more in depth (relative to Mean Lower Low Water (MLLW)) containing areas of seasonal landfast (shorefast) ice or dense, stable pack ice, which have undergone deformation and contain snowdrifts of sufficient depth to form and maintain birth lairs (typically at least 54 cm deep); (2) sea ice habitat suitable as a platform for basking and molting, which is defined as areas containing sea ice of 15 percent or more concentration in waters 3 m or more in depth (relative to MLLW); and (3) primary prey resources to support Arctic ringed seals, which are defined to be small, often schooling, fishes, in particular, Arctic cod (*Boreogadus saida*), saffron cod (*Eleginus gracilis*), and rainbow smelt (*Osmerus dentex*), and small crustaceans, in particular, shrimps and amphipods.

The proposed ice camp study area was excluded from the ringed seal critical habitat because the benefits of exclusion due to national security impacts outweighed the benefits of inclusion of this area (87 FR 19232, April 1, 2022). However, as stated in NMFS' final rule for the Designation of Critical Habitat for the Arctic Subspecies of the Ringed Seal (87 FR 19232, April 1, 2022), the area proposed for exclusion contains one or more of the essential features of the Arctic ringed seal's critical habitat, although data are limited to inform NMFS' assessment of the relative value of this area to the conservation of the species. As noted above, a portion of the ringed seal critical habitat overlaps the larger proposed ICEX26 Study Area. Notwithstanding an earlier court decision vacating NMFS' critical habitat designation for ringed seals, the underlying information regarding the importance of the area and associated features to ringed seals and their habitat remains relevant to the discussion here. However, as described later and in more

detail in the Potential Effects of Specified Activities on Marine Mammals and their Habitat section, we do not anticipate physical impacts to any marine mammal habitat as a result of the Navy’s ICEX activities, including impacts to ringed seal sea ice habitat suitable as a platform for basking and molting and impacts on prey availability. Further, this proposed IHA includes mitigation measures, as described in the Proposed Mitigation section, which would minimize or prevent impacts to sea ice habitat suitable for the formation and maintenance of subnivean birth lairs.

*Marine Mammal Hearing*

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (e.g., Au and Hastings, 2008; Richardson *et al.*, 1995; Wartzok and Ketten, 1999). To reflect this, Southall *et al.* (2007) and Southall *et al.* (2019) recommended that marine mammals be divided into

hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Generalized hearing ranges were chosen based on the ~65 dB threshold from composite audiograms, previous analyses in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). We note that the names of two hearing groups and the generalized hearing ranges of all marine mammal hearing groups have been recently updated (NMFS, 2024) as reflected below in table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS [NMFS, 2024]

Hearing group	Generalized hearing range*
Low-frequency (LF) cetaceans (baleen whales) .....	7 Hz to 36 kHz.
High-frequency (HF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales) .....	150 Hz to 160 kHz.
Very High-frequency (VHF) cetaceans (true porpoises, <i>Kogia</i> , river dolphins, Cephalorhynchid, <i>Lagenorhynchus cruciger</i> & <i>L. australis</i> ).	200 Hz to 165 kHz.
Phocid pinnipeds (PW) (underwater) (true seals) .....	40 Hz to 90 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals) .....	60 Hz to 68 kHz.

\* Represents the generalized hearing range for the entire group as a composite (*i.e.*, all species within the group), where individual species’ hearing ranges may not be as broad. Generalized hearing range chosen based on approximately 65 dB threshold from composite audiogram, previous analysis in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). Additionally, animals are able to detect very loud sounds above and below that “generalized” hearing range.

For more detail concerning these groups and associated frequency ranges, please see NMFS (2024) for a review of available information.

**Potential Effects of Specified Activities on Marine Mammals and Their Habitat**

This section provides a discussion of the ways in which components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The Negligible Impact Analysis and Determination section considers the content of this section, the Estimated Take of Marine Mammals section, and the Proposed Mitigation section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and whether those impacts are reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The Navy has requested authorization for the take of marine mammals that may occur incidental to ICEX26

activities in the ICEX Study Area. The Navy analyzed potential impacts to marine mammals from acoustic sources in the application. Acoustic effects on marine mammals during the proposed activities can occur from active sonar use. The effects of underwater noise from the Navy’s proposed activities have the potential to result in take by Level B harassment of ringed seals in the ICEX Study Area.

*Potential Effects of Underwater Sound on Marine Mammals*

The marine soundscape is composed of both ambient and anthropogenic sounds. Ambient sound is defined as the all-encompassing sound in a given place and is usually a composite of sound from many sources both near and far (American National Standards Institute (ANSI), 1995). The sound level of an area is defined by the total acoustical energy being generated by known and unknown sources, which may include physical (e.g., waves, wind, precipitation, earthquakes, ice, atmospheric sound), biological (e.g., sounds produced by marine mammals, fish, and invertebrates), and

anthropogenic sound (e.g., vessels, dredging, aircraft, construction).

The sum of the various natural and anthropogenic sound sources at any given location and time—which comprise “ambient” or “background” sound—depends not only on the source levels (as determined by current weather conditions and levels of biological and shipping activity) but also on the ability of sound to propagate through the environment. In turn, sound propagation is dependent on the spatially and temporally varying properties of the water column and sea floor and is frequency-dependent. As a result of the dependence on a large number of varying factors, ambient sound levels can be expected to vary widely over both coarse and fine spatial and temporal scales. Sound levels at a given frequency and location can vary by 10–20 dB from day to day (Richardson *et al.*, 1995). The result is that, depending on the source type and its intensity, sound from the specified activities may be a negligible addition to the local environment or could form a distinctive signal that may affect marine mammals.

Anthropogenic sounds cover a broad range of frequencies and sound levels and can have a range of highly variable impacts on marine life, from none or minor to potentially severe responses, depending on received levels, duration of exposure, behavioral context, and various other factors. The potential effects of underwater sound from active acoustic sources can possibly result in one or more of the following: temporary or permanent hearing impairment, other auditory injury, non-auditory physical or physiological effects, behavioral disturbance, stress, and masking (Richardson *et al.*, 1995; Gordon *et al.*, 2003; Götz *et al.*, 2009; Nowacek *et al.*, 2007; Southall *et al.*, 2007; Southall *et al.*, 2019). The degree of effect is intrinsically related to the signal characteristics, received level, distance from the source, and duration of the sound exposure. In general, sudden, high-level sounds can cause auditory injury, as can longer exposures to lower level sounds. Temporary or permanent loss of hearing can occur after exposure to noise and occurs almost exclusively for noise within an animal's hearing range.

Richardson *et al.* (1995) described zones of increasing intensity of effect that might be expected to occur, in relation to distance from a source and assuming that the signal is within an animal's hearing range. First is the area within which the acoustic signal would be audible (potentially perceived) to the animal, but not strong enough to elicit any overt behavioral or physiological response. The next zone corresponds with the area where the signal is audible to the animal and of sufficient intensity to elicit behavioral or physiological responsiveness. Third is a zone within which, for signals of high intensity, the received level is sufficient to potentially cause discomfort or tissue damage to auditory systems. Overlaying these zones to a certain extent is the area within which masking (*i.e.*, when a sound interferes with or masks the ability of an animal to detect a signal of interest that is above the absolute hearing threshold) may occur; the masking zone may be highly variable in size.

Underwater sounds fall into one of two general sound types: impulsive and non-impulsive (defined in the following paragraphs). The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.*, Ward (1997) in Southall *et al.* (2007)). Please see Southall *et al.* (2007) for an in-depth discussion of these concepts.

Impulsive sound sources (*e.g.*, explosions, gunshots, sonic booms, impact pile driving) produce signals that are brief (typically considered to be less than one second), broadband, atonal transients (ANSI, 1986; ANSI, 2005; Harris, 1998; ISO, 2016; NIOSH, 1998) and occur either as isolated events or repeated in some succession. Impulsive sounds are all characterized by a relatively rapid rise from ambient pressure to a maximal pressure value followed by a rapid decay period that may include a period of diminishing, oscillating maximal and minimal pressures, and generally have an increased capacity to induce physical injury as compared with sounds that lack these features. There are no pulsed sound sources associated with any proposed ICEX26 activities.

Non-impulsive sounds can be tonal, narrowband, or broadband, brief or prolonged, and may be either continuous or non-continuous (ANSI, 1995; NIOSH, 1998). Some of these non-impulsive sounds can be transient signals of short duration but without the essential properties of pulses (*e.g.*, rapid rise time). Examples of non-impulsive sounds include those produced by vessels, aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar sources (such as those proposed for use by the Navy as part of the proposed ICEX26 activities) that intentionally direct a sound signal at a target that is reflected back in order to discern physical details about the target.

Modern sonar technology includes a variety of sonar sensor and processing systems. In concept, the simplest active sonar emits sound waves, or "pings," sent out in multiple directions, and the sound waves then reflect off of the target object in multiple directions. The sonar source calculates the time it takes for the reflected sound waves to return; this calculation determines the distance to the target object. More sophisticated active sonar systems emit a ping and then rapidly scan or listen to the sound waves in a specific area. This provides both distance to the target and directional information. Even more advanced sonar systems use multiple receivers to listen to echoes from several directions simultaneously and provide efficient detection of both direction and distance. In general, when sonar is in use, the sonar 'pings' occur at intervals, referred to as a duty cycle, and the signals themselves are very short in duration. For example, sonar that emits a 1-second ping every 10 seconds has a 10 percent duty cycle. The Navy's most powerful hull-mounted mid-frequency sonar source used in ICEX activities

typically emits a 1-second ping every 50 seconds representing a 2 percent duty cycle. The Navy utilizes sonar systems and other acoustic sensors in support of a variety of mission requirements.

#### Hearing Threshold Shift

NMFS defines a noise-induced threshold shift (TS) as a change, usually an increase, in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018; NMFS, 2024). The amount of TS is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2018) and NMFS (2024), there are numerous factors to consider when examining the consequence of TS, including, but not limited to, the signal temporal pattern (*e.g.*, impulsive or non-impulsive), likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.*, spectral content), the hearing frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.*, how animal uses sound within the frequency band of the signal) (*e.g.*, Kastelein *et al.*, 2014), and the overlap between the animal and the source (*e.g.*, spatial, temporal, and spectral).

#### Auditory Injury (AUD INJ) and Permanent Threshold Shift (PTS)

NMFS defines AUD INJ as damage to the inner ear that can result in destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Finneran, 2024; Houser, 2021). AUD INJ may or may not result in PTS, which NMFS defines as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024). PTS does not generally affect more than a limited frequency range, and an animal that has incurred PTS has incurred some level of hearing loss at the relevant frequencies; typically, animals with PTS are not functionally deaf (Au and Hastings, 2008; Finneran, 2016). Available data from humans and other terrestrial mammals indicate that a 40-dB threshold shift approximates PTS onset (see Ahroon *et al.*, 1996; Henderson *et al.*, 2008; Kryter *et al.*, 1966; Miller, 1974; Ward, 1960; Ward *et al.*, 1958; Ward *et al.*, 1959). AUD INJ levels for marine mammals are estimates, as with the exception of a single study unintentionally inducing

PTS in a harbor seal (*Phoca vitulina*) (Kastak *et al.*, 2008), there are no empirical data measuring PTS in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing AUD INJ are not typically pursued or authorized (NMFS, 2024).

#### Temporary Threshold Shift (TTS)

TTS is a temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024), and is not considered an AUD INJ. Based on data from marine mammal TTS measurements (Southall *et al.*, 2007; Southall *et al.*, 2019), a TTS of 6 dB is considered the minimum TTS clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Finneran *et al.*, 2000; Finneran *et al.*, 2002; Schlundt *et al.*, 2000). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level ( $SEL_{cum}$ ) in an accelerating fashion: at low exposures with lower  $SEL_{cum}$ , the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher  $SEL_{cum}$ , the growth curves become steeper and approach linear relationships with the noise SEL.

Marine mammal hearing plays a critical role in communication with conspecifics and in interpretation of environmental cues for purposes such as predator avoidance and prey capture. Depending on the degree (elevation of threshold in dB), duration (*i.e.*, recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in the Masking section). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts if it were in the same frequency band as the necessary vocalizations and of a severity that impeded communication. The fact that animals exposed to high levels of sound that would be expected to result in this physiological response would also be

expected to have behavioral responses of a comparatively more severe or sustained nature is potentially more significant than the simple existence of a TTS. However, it is important to note that TTS could occur due to longer exposures to sound at lower levels so that a behavioral response may not be elicited.

Depending on the degree and frequency range, the effects of AUD INJ on an animal could also range in severity, although it is considered generally more serious than TTS because it is a permanent condition (Reichmuth *et al.*, 2019). Of note, reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.*, 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without some cost to the animal.

Many studies have examined noise-induced hearing loss in marine mammals (see Finneran (2015) and Southall *et al.* (2019) for summaries). TTS is the mildest form of hearing impairment that can occur during exposure to sound. While experiencing TTS, the hearing threshold rises, and a sound must be at a higher level in order to be heard. In terrestrial and marine mammals, TTS can last from minutes or hours to days (in cases of strong TTS). In many cases, hearing sensitivity recovers rapidly after exposure to the sound ends. For cetaceans, published data on the onset of TTS are limited to captive bottlenose dolphin (*Tursiops truncatus*), beluga whale, harbor porpoise (*Phocoena phocoena*), and Yangtze finless porpoise (*Neophocoena asiaorientalis*) (Southall *et al.*, 2019). For pinnipeds in water, measurements of TTS are limited to harbor seals, elephant seals (*Mirounga angustirostris*), bearded seals, and California sea lions (*Zalophus californianus*) (Kastak *et al.*, 2007; Kastelein *et al.*, 2019a; Kastelein *et al.*, 2019c; Kastelein *et al.*, 2021; Kastelein *et al.*, 2022a; Kastelein *et al.*, 2022b; Reichmuth *et al.*, 2019; Sills *et al.*, 2020). TTS was not observed in spotted and ringed seals exposed to single airgun impulse sounds at levels matching previous predictions of TTS onset (Reichmuth *et al.*, 2016). These studies examine hearing thresholds measured in marine mammals before and after exposure to intense or long-duration sound exposures. The difference between the pre-exposure and post-exposure thresholds can be used to determine the amount of threshold shift at various post-exposure times.

The amount and onset of TTS depends on the exposure frequency. Sounds at low frequencies, well below the region of best sensitivity for a species or hearing group, are less hazardous than those at higher frequencies, near the region of best sensitivity (Finneran and Schlundt, 2013). At low frequencies, onset-TTS exposure levels are higher compared to those in the region of best sensitivity (*i.e.*, a low frequency noise would need to be louder to cause TTS onset when TTS exposure level is higher), as shown for harbor porpoises and harbor seals (Kastelein *et al.*, 2019a; Kastelein *et al.*, 2019b). Note that in general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). In addition, TTS can accumulate across multiple exposures, but the resulting TTS will be less than the TTS from a single, continuous exposure with the same SEL (Finneran *et al.*, 2010; Kastelein *et al.*, 2014; Mooney *et al.*, 2009). This means that TTS predictions based on the total, cumulative SEL will overestimate the amount of TTS from intermittent exposures, such as sonars and impulsive sources. Nachtigall *et al.* (2018) describe measurements of hearing sensitivity of multiple odontocete species (bottlenose dolphin, harbor porpoise, beluga, and false killer whale (*Pseudorca crassidens*)) when a relatively loud sound was preceded by a warning sound. These captive animals were shown to reduce hearing sensitivity when warned of an impending intense sound. Based on these experimental observations of captive animals, the authors suggest that wild animals may dampen their hearing during prolonged exposures or if conditioned to anticipate intense sounds. Another study showed that echolocating animals (including odontocetes) might have anatomical specializations that might allow for conditioned hearing reduction and filtering of low-frequency ambient noise, including increased stiffness and control of middle ear structures and placement of inner ear structures (Ketten *et al.*, 2021). Data available on noise-induced hearing loss for mysticetes are currently lacking. Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species.

Relationships between TTS and AUD INJ thresholds have not been studied in marine mammals, and there is no PTS data for cetaceans, but such relationships are assumed to be similar to those in humans and other terrestrial

mammals. AUD INJ typically occurs at exposure levels at least several decibels above that inducing mild TTS (*e.g.*, a 40-dB threshold shift approximates PTS onset (Kryter *et al.*, 1966; Miller, 1974), while a 6-dB threshold shift approximates TTS onset (Southall *et al.*, 2007; Southall *et al.*, 2019)). Based on data from terrestrial mammals, a precautionary assumption is that the AUD INJ thresholds for impulsive sounds (such as impact pile driving pulses as received close to the source) are at least 6 dB higher than the TTS threshold on a peak-pressure basis and AUD INJ SEL<sub>cum</sub> thresholds are 15 to 20 dB higher than TTS SEL<sub>cum</sub> thresholds (Southall *et al.*, 2007; Southall *et al.*, 2019). Given the higher level of sound or longer exposure duration necessary to cause AUD INJ as compared with TTS, it is considerably less likely that AUD INJ could occur.

#### Behavioral Responses

Exposure to noise also has the potential to behaviorally disturb marine mammals to a level that qualifies as harassment under the MMPA. Behavioral responses to sound are highly variable and context-specific (Nowacek *et al.*, 2007; Southall *et al.*, 2007; Southall *et al.*, 2019). Many different variables can influence an animal's perception of and response to (nature and magnitude) an acoustic event. An animal's prior experience with a sound or sound source affects whether it is less likely (habituation, self-mitigation) or more likely (sensitization) to respond to certain sounds in the future (animals can also be innately predisposed to respond to certain sounds in certain ways) (Finneran, 2018; Finneran *et al.*, 2024; Nachtigall and Supin, 2013; Nachtigall and Supin, 2014; Nachtigall and Supin, 2015; Nachtigall *et al.*, 2016a; Nachtigall *et al.*, 2016b; Southall *et al.*, 2007; Southall *et al.*, 2016). Related to the sound itself, the perceived proximity of the sound, bearing of the sound (approaching vs. retreating), the similarity of a sound to biologically relevant sounds in the animal's environment (*i.e.*, calls of predators, prey, or conspecifics), familiarity of the sound, and navigational constraints may affect the way an animal responds to the sound (DeRuiter *et al.*, 2013a; Ellison *et al.*, 2012; Southall *et al.*, 2007; Southall *et al.*, 2021; Wartzok *et al.*, 2003). Individuals (of different age, gender, reproductive status, *etc.*) among most populations will have variable hearing capabilities, and differing behavioral sensitivities to sounds that will be affected by prior conditioning, experience, and current activities of

those individuals. Southall *et al.* (2007) and Southall *et al.* (2021) have developed and subsequently refined methods developed to categorize and assess the severity of acute behavioral responses, considering impacts to individuals that may consequently impact populations. Often, specific acoustic features of the sound and contextual variables (*i.e.*, proximity, duration, or recurrence of the sound or the current behavior that the marine mammal is engaged in or its prior experience), as well as entirely separate factors such as the physical presence of a nearby vessel, may be more relevant to the animal's response than the received level alone.

Studies by DeRuiter *et al.* (2013a) indicate that variability of responses to acoustic stimuli depends not only on the species receiving the sound and the sound source, but also on the social, behavioral, or environmental contexts of exposure. Another study by DeRuiter *et al.* (2013b) examined behavioral responses of goose-beaked whales to MF sonar and found that whales responded strongly at low received levels (89–127 dB re 1  $\mu$ Pa) by ceasing normal fluking and echolocation, swimming rapidly away, and extending both dive duration and subsequent non-foraging intervals when the sound source was 3.4–9.5 km away. Importantly, this study also showed that whales exposed to a similar range of received levels (78–106 dB re 1  $\mu$ Pa) from distant sonar exercises 118 km away did not elicit such responses, suggesting that context may moderate responses.

Ellison *et al.* (2012) outlined an approach to assessing the effects of sound on marine mammals that incorporates contextual-based factors. The authors recommend considering not just the received level of sound, but also the activity the animal is engaged in at the time the sound is received, the nature and novelty of the sound (*i.e.*, whether this a new sound from the animal's perspective), and the distance between the sound source and the animal. They submit that this "exposure context," as described, greatly influences the type of behavioral response exhibited by the animal. Forney *et al.* (2017) also point out that an apparent lack of response (*e.g.*, no displacement or avoidance of a sound source) may not necessarily mean there is no cost to the individual or population, as some resources or habitats may be of such high value that animals may choose to stay, even when experiencing stress or hearing loss. Forney *et al.* (2017) recommend considering both the costs of remaining in an area of noise exposure such as

TTS, PTS, or masking, which could lead to an increased risk of predation or other threats or a decreased capability to forage, and the costs of displacement, including potential increased risk of vessel strike, increased risks of predation or competition for resources, or decreased habitat suitability for foraging, resting, or socializing. This sort of contextual information is challenging to predict with accuracy for ongoing activities that occur over large spatial and temporal expanses.

Friedlaender *et al.* (2016) provided the first integration of direct measures of prey distribution and density variables incorporated into across-individual analyses of behavior responses of blue whales to sonar and demonstrated a five-fold increase in the ability to quantify variability in blue whale diving behavior. These results illustrate that responses evaluated without such measurements for foraging animals may be misleading, which again illustrates the context-dependent nature of the probability of response. Exposure of marine mammals to sound sources can result in, but is not limited to, no response or any of the following observable responses: increased alertness; orientation or attraction to a sound source; vocal modifications; cessation of feeding; cessation of social interaction; alteration of movement or diving behavior; habitat abandonment (temporary or permanent); and, in severe cases, panic, flight, stampede, or stranding, potentially resulting in death (Southall *et al.*, 2007). A review of marine mammal responses to anthropogenic sound was first conducted by Richardson *et al.* (1995). More recent reviews (Nowacek *et al.*, 2007; DeRuiter *et al.*, 2013a; DeRuiter *et al.*, 2013b; Ellison *et al.*, 2012; Gomez *et al.*, 2016) address studies conducted since 1995 and focused on observations where the received sound level of the exposed marine mammal(s) was known or could be estimated. Gomez *et al.* (2016) conducted a review of the literature considering the contextual information of exposure in addition to received level and found that higher received levels were not always associated with more severe behavioral responses and vice versa. Southall *et al.* (2016) states that results demonstrate that some individuals of different species display clear yet varied responses, some of which have negative implications, while others appear to tolerate high levels, and that responses may not be fully predictable with simple acoustic exposure metrics (*e.g.*, received sound level). Rather, the authors state that differences among

species and individuals along with contextual aspects of exposure (*e.g.*, behavioral state) appear to affect response probability (Southall *et al.*, 2019). The following parts provide examples of behavioral responses to stressors that provide an idea of the variability in responses that would be expected given the differential sensitivities of marine mammal species to sound and the wide range of potential acoustic sources to which a marine mammal may be exposed. Behavioral responses that could occur for a given sound exposure should be determined from the literature that is available for each species or extrapolated from closely related species when no information exists, along with contextual factors.

For non-impulsive sounds (*i.e.*, similar to the sources used during the proposed specified activities), data suggest that exposures of pinnipeds to received levels between 90 and 140 dB re 1  $\mu$ Pa do not elicit strong behavioral responses; no data were available for exposures at higher received levels for Southall *et al.* (2007) to include in the severity scale analysis. Reactions of harbor seals were the only available data for which the responses could be ranked on the severity scale. For reactions that were recorded, the majority (17 of 18 individuals/groups) were ranked on the severity scale as a 4 (defined as moderate change in movement, brief shift in group distribution, or moderate change in vocal behavior) or lower; the remaining response was ranked as a 6 (defined as minor or moderate avoidance of the sound source). Additional data on hooded seals (*Cystophora cristata*) indicate avoidance responses to signals above 160–170 dB re 1  $\mu$ Pa (Kvadsheim *et al.*, 2010), and data on gray seals (*Halichoerus grypus*) and harbor seals indicate avoidance response at received levels of 135–144 dB re 1  $\mu$ Pa (Götz *et al.*, 2010). In each instance where food was available, which provided the seals motivation to remain near the source, habituation to the signals occurred rapidly. In the same study, it was noted that habituation was not apparent in wild seals where no food source was available (Götz *et al.*, 2010). This implies that the motivation of the animal is necessary to consider in determining the potential for a reaction. In one study that aimed to investigate the under-ice movements and sensory cues associated with under-ice navigation of ice seals, acoustic transmitters (60–69 kHz at 159 dB re 1  $\mu$ Pa at 1 m) were attached to ringed seals (Wartzok *et al.*, 1992a; Wartzok *et al.*, 1992b). An acoustic tracking system

then was installed in the ice to receive the acoustic signals and provide real-time tracking of ice seal movements. Although the frequencies used in this study are at the upper limit of ringed seal hearing, the ringed seals appeared unaffected by the acoustic transmissions, as they were able to maintain normal behaviors (*e.g.*, finding breathing holes).

Seals exposed to non-impulsive sources with a received sound pressure level within the range of calculated exposures for ICSEX26 activities (142–193 dB re 1  $\mu$ Pa), have been shown to change their behavior by modifying diving activity and avoidance of the sound source (Götz *et al.*, 2010; Kvadsheim *et al.*, 2010). Although a minor change to a behavior may occur as a result of exposure to the sources in the proposed specified activities, these changes would be within the normal range of behaviors for the animal (*e.g.*, the use of a breathing hole further from the source, rather than one closer to the source, would be within the normal range of behavior) (Kelly, 1988a).

Adult ringed seals spend up to 20 percent of the time in subnivean lairs during the winter season (Kelly *et al.*, 2010a). Ringed seal pups spend about 50 percent of their time in the lair during the nursing period (Lydersen and Hammill, 1993). During the warm season ringed seals haul out on the ice. In a study of ringed seal haulout activity by Born *et al.* (2002), ringed seals spent 25–57 percent of their time hauled out in June, which is during their molting season. Ringed seal lairs are typically used by individual seals (haulout lairs) or by a mother with a pup (birthing lairs); large lairs used by many seals for hauling out are rare (Smith and Stirling, 1975). If the non-impulsive acoustic transmissions are heard and are perceived as a threat, ringed seals within subnivean lairs could react to the sound in a similar fashion to their reaction to other threats, such as polar bears (their primary predators). Responses of ringed seals to a variety of human-induced sounds (*e.g.*, helicopter noise, snowmobiles, dogs, people, and seismic activity) have been variable; some seals entered the water and some seals remained in the lair. However, according to Kelly *et al.* (1988), in all instances in which observed seals departed lairs in response to noise disturbance, they subsequently reoccupied the lair.

Ringed seal mothers have a strong bond with their pups and may physically move their pups from the birth lair to an alternate lair to avoid predation, sometimes risking their lives to defend their pups from potential

predators (Smith, 1987). If a ringed seal mother perceives the proposed acoustic sources as a threat, the network of multiple birth and haulout lairs allows the mother and pup to move to a new lair (Smith and Hammill, 1981; Smith and Stirling, 1975). The acoustic sources from these proposed specified activities are not likely to impede a ringed seal from finding a breathing hole or lair, as captive seals have been found to primarily use vision to locate breathing holes and no effect to ringed seal vision would occur from the acoustic disturbance (Elsner *et al.*, 1989; Wartzok *et al.*, 1992a). It is anticipated that a ringed seal would be able to relocate to a different breathing hole relatively easily without impacting their normal behavior patterns.

#### Responses Due to Sonar and Other Transducers—

Pinniped behavioral response to sonar and other transducers is context-dependent (*e.g.*, Hastie *et al.*, 2014; Southall *et al.*, 2019). All studies on pinniped response to sonar thus far have been limited to captive animals, though, based on exposures of wild pinnipeds to vessel noise and impulsive sounds, pinnipeds may only respond strongly to military sonar that is in close proximity or approaching an animal. Kvadsheim *et al.* (2010) found that captive hooded seals exhibited avoidance response to sonar signals between 1–7 kHz (160–170 dB re 1  $\mu$ Pa RMS) by reducing diving activity, rapid surface swimming away from the source, and eventually moving to areas of least SPL. However, the authors noted a rapid adaptation in behavior (passive surface floating) during the second and subsequent exposures, indicating a level of habituation within a short amount of time. Kastelein *et al.* (2015) exposed captive harbor seals to three different sonar signals at 25 kHz with variable waveform characteristics and duty cycles and found individuals responded to a frequency modulated signal at received levels over 137 dB re 1  $\mu$ Pa by hauling out more, swimming faster, and raising their heads or jumping out of the water. However, seals did not respond to a continuous wave or combination signals at any received level (up to 156 dB re 1  $\mu$ Pa). Houser *et al.* (2013) conducted a study to determine behavioral responses of captive California sea lions to mid-frequency active sonar at various received levels (125–185 dB re 1  $\mu$ Pa). They found younger animals (less than 2 years old) were more likely to respond than older animals and responses included increased respiration rate, increased time spent submerged, refusal to

participate in a repetitive task, and hauling out. Most responses below 155 dB re 1  $\mu$ Pa were changes in respiration, while more severe responses (*i.e.*, refusing to participate, hauling out) began to occur over 170 dB re 1  $\mu$ Pa, and many of the most severe responses came from the young sea lions.

#### Masking

Sound can disrupt behavior through masking, or interfering with, an animal's ability to detect, recognize, interpret, or discriminate between acoustic signals of interest (*e.g.*, those used for intraspecific communication and social interactions, prey detection, predator avoidance, or navigation) (Branstetter and Sills, 2022; Clark *et al.*, 2009; Erbe and Farmer, 2000; Erbe *et al.*, 2016; Richardson *et al.*, 1995; Tyack, 2000). Masking occurs when the receipt of a sound is interfered with by another coincident sound at similar frequencies and at similar or higher intensity and may occur whether the coincident sound is natural (*e.g.*, snapping shrimp, wind, waves, precipitation) or anthropogenic (*e.g.*, shipping, sonar, seismic exploration) in origin.

The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.*, signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.*, sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age, or TTS hearing loss), and existing ambient noise and propagation conditions. Masking these acoustic signals can disturb the behavior of individual animals, groups of animals, or entire populations. Masking can lead to behavioral changes including vocal changes (*e.g.*, Lombard effect, increasing amplitude, or changing frequency), cessation of foraging, and leaving an area, to both signalers and receivers, in an attempt to compensate for noise levels (Erbe *et al.*, 2016).

Most research on auditory masking is focused on energetic masking, or the ability of the receiver (*i.e.*, listener) to detect a signal in noise. However, from a fitness perspective, both signal detection and signal interpretation are necessary for success. This type of masking is called informational masking and occurs when a signal is detected by an animal but the meaning of that signal has been lost. Few data exist on informational masking in marine mammals but studies have shown that some recognition of predator cues might be missed by species that are preyed

upon by killer whales if killer whale vocalizations are masked (Curé *et al.*, 2015; Curé *et al.*, 2016; Deecke *et al.*, 2002; Isojunno *et al.*, 2016; Visser *et al.*, 2016). von Benda-Beckmann *et al.* (2021) modeled the effect of pulsed and continuous active sonars on sperm whale (*Physeter macrocephalus*) echolocation and found that sonar sounds could reduce the ability of sperm whales to find prey under certain conditions.

Under certain circumstances, marine mammals experiencing significant masking could also be impaired from maximizing their performance fitness in survival and reproduction. Therefore, when the coincident (*i.e.*, masking) sound is human-made, it may be considered harassment when disrupting natural behavioral patterns to the point where the behavior is abandoned or significantly altered. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which only occurs during the sound exposure. Because masking (without resulting in TS) is not associated with abnormal physiological function, it is not considered a physiological effect, but rather a potential behavioral effect.

Richardson *et al.* (1995) argued that the maximum radius of influence of anthropogenic noise (including broadband low-frequency sound transmission) on a marine mammal is the distance from the source to the point at which the noise can barely be heard. This range is determined by either the hearing sensitivity (including critical ratios, or the lowest signal-to-noise ratio in which animals can detect a signal) of the animal (Finneran and Branstetter, 2013; Johnson *et al.*, 1989; Southall *et al.*, 2000) or the background noise level present. Masking is most likely to affect some species' ability to detect communication calls and natural sounds (*i.e.*, surf noise, prey noise, *etc.*) (Richardson *et al.*, 1995).

The frequency range of the potentially masking sound is important in determining any potential behavioral impacts. For example, low-frequency signals may have less effect on high-frequency echolocation sounds produced by odontocetes but are more likely to affect detection of mysticete communication calls and other potentially important natural sounds such as those produced by surf and some prey species. The masking of communication signals by anthropogenic noise may be considered as a reduction in the communication space of animals (*e.g.*, Clark *et al.*, 2009; Matthews *et al.*, 2016) and may result in energetic or other costs as animals change their vocalization behavior (*e.g.*,

Di Iorio and Clark, 2010; Foote *et al.*, 2004; Holt *et al.*, 2009; Miller *et al.*, 2000; Parks *et al.*, 2007). Masking can be reduced in situations where the signal and noise come from different directions (Richardson *et al.*, 1995), through amplitude modulation of the signal, or through other compensatory behaviors (Houser and Moore, 2014). Masking can be tested directly in captive species, but in wild populations it must be either modeled or inferred from evidence of masking compensation. There are few studies addressing real-world masking sounds likely to be experienced by marine mammals in the wild (*e.g.*, Branstetter *et al.*, 2024; Branstetter and Sills, 2022, Cholewiak *et al.*, 2018).

High-frequency sounds may mask the echolocation calls of toothed whales. Human data indicate low-frequency sound can mask high-frequency sounds (*i.e.*, upward masking). Studies on captive odontocetes by Au *et al.* (1974), Au *et al.* (1985), and Au (1993) indicate that some species may use various processes to reduce masking effects (*e.g.*, adjustments in echolocation call intensity or frequency as a function of background noise conditions). Odontocete hearing is highly directional at high frequencies, facilitating echolocation in masked conditions (Au and Moore, 1984). A study by Nachtigall *et al.* (2018) showed that false killer whales adjust their hearing to compensate for ambient sounds and the intensity of returning echolocation signals.

Impacts on signal detection, measured by masked detection thresholds, are not the only important factors to address when considering the potential effects of masking. As marine mammals use sound to recognize conspecifics, prey, predators, or other biologically significant sources (Branstetter *et al.*, 2016), it is also important to understand the impacts of masked recognition thresholds (*i.e.*, informational masking). Branstetter *et al.* (2016) measured masked recognition thresholds for whistle-like sounds of bottlenose dolphins and observed that they are approximately 4 dB above detection thresholds (energetic masking) for the same signals. Reduced ability to recognize a conspecific call or the acoustic signature of a predator could have severe negative impacts. Branstetter *et al.* (2016) observed that if "quality communication" is set at 90 percent recognition the output of communication space models (which are based on 50 percent detection) would likely result in a significant decrease in communication range. As marine mammals use sound to

recognize predators (Allen *et al.*, 2014; Cummings and Thompson, 1971; Curé *et al.*, 2015; Fish and Vania, 1971), the presence of masking noise may also prevent marine mammals from responding to acoustic cues produced by their predators, particularly if it occurs in the same frequency band. For example, harbor seals that reside in the coastal waters of British Columbia are frequently targeted by mammal-eating killer whales. The seals acoustically discriminate between the calls of mammal-eating and fish-eating killer whales (Deecke *et al.*, 2002), a capability that should increase survivorship while reducing the energy required to identify all killer whale calls. Similarly, sperm whales (Curé *et al.*, 2016; Isojunno *et al.*, 2016), long-finned pilot whales (Visser *et al.*, 2016), and humpback whales (Curé *et al.*, 2015) changed their behavior in response to killer whale vocalization playbacks. The potential effects of masked predator acoustic cues depend on the duration of the masking noise and the likelihood of a marine mammal encountering a predator during the time that detection and recognition of predator cues are impeded.

Redundancy and context can also facilitate detection of weak signals. These phenomena may help marine mammals detect weak sounds in the presence of natural or anthropogenic noise. Most masking studies in marine mammals present the test signal and the masking noise from the same direction. The dominant background noise may be highly directional if it comes from a particular anthropogenic source such as a vessel or industrial site. Directional hearing may significantly reduce the masking effects of these sounds by improving the effective signal-to-noise ratio.

Masking affects both senders and receivers of acoustic signals and can potentially have long-term chronic effects on marine mammals at the population level as well as at the individual level. Low-frequency ambient sound levels have increased by as much as 20 dB (more than three times in terms of SPL) in the world's ocean from pre-industrial periods, with most of the increase from distant commercial shipping (Cholewiak *et al.*, 2018; Hildebrand *et al.*, 2009). All anthropogenic sound sources, but especially chronic and lower-frequency signals (*e.g.*, from commercial vessel traffic), contribute to elevated ambient sound levels, thus intensifying masking for marine mammals.

#### Stress Response

Physiological stress is a natural and adaptive process that helps an animal

survive changing conditions. When an animal perceives a potential threat, whether or not the stimulus actually poses a threat, a stress response is triggered (Moberg, 2000; Sapolsky, 2005; Selye, 1950). Once an animal's central nervous system perceives a threat, it mounts a biological response or defense that consists of a combination of behavioral responses, autonomic nervous system responses, neuroendocrine responses, or immune responses.

The primary distinction between stress (which is adaptive and does not normally place an animal at risk) and distress is the biotic cost of the response. During a stress response, an animal uses glycogen stores that can be quickly replenished once the stress is alleviated. In such circumstances, the cost of the stress response would not pose serious fitness consequences. However, when an animal does not have sufficient energy reserves to satisfy the energetic costs of a stress response, energy resources must be diverted from other biotic functions. For example, when a stress response diverts energy away from growth in young animals, those animals may experience stunted growth. When a stress response diverts energy from a fetus, an animal's reproductive success and its fitness will suffer. In these cases, the animals will have entered a pre-pathological or pathological state which is called "distress" (Selye, 1950) or "allostatic loading" (McEwen and Wingfield, 2003). This pathological state of distress will last until the animal replenishes its energetic reserves sufficiently to restore normal function.

According to Moberg (2000), in the case of many stressors, an animal's first and sometimes most economical (in terms of biotic costs) response is behavioral avoidance of the potential stressor or avoidance of continued exposure to a stressor. An animal's second line of defense to stressors involves the sympathetic part of the autonomic nervous system and the classical "fight or flight" response, which includes the cardiovascular system, the gastrointestinal system, the exocrine glands, and the adrenal medulla to produce changes in heart rate, blood pressure, and gastrointestinal activity that humans commonly associate with "stress." These responses have a relatively short duration and may or may not have significant long-term effect on an animal's welfare.

An animal's third line of defense to stressors involves its neuroendocrine systems or sympathetic nervous systems; the system that has received the most study has been the

hypothalamus-pituitary-adrenal (HPA) system (also known as the HPA axis in mammals or the hypothalamus-pituitary-interrenal axis in fish and some reptiles). Unlike stress responses associated with the autonomic nervous system, virtually all neuro-endocrine functions that are affected by stress, including immune competence, reproduction, metabolism, and behavior, are regulated by pituitary hormones. Stress-induced changes in the secretion of pituitary hormones have been implicated in failed reproduction (Moberg, 1987; Rivier and Rivest, 1991), altered metabolism (Elsasser *et al.*, 2000), reduced immune competence (Blecha, 2000), and behavioral disturbance (Blecha, 2000, Moberg, 1987). Increases in the circulation of glucocorticosteroids (cortisol, corticosterone, and aldosterone in marine mammals; see Romano *et al.* (2004)) have been equated with stress for many years.

Marine mammals naturally experience stressors within their environment and as part of their life histories. Changing weather and ocean conditions, exposure to disease and naturally occurring toxins, lack of prey availability, and interactions with predators all contribute to the stress a marine mammal experiences (Atkinson *et al.*, 2015). Breeding cycles, periods of fasting, social interactions with members of the same species, and molting (for pinnipeds) are also stressors, although they are natural components of an animal's life history. Anthropogenic activities have the potential to provide additional stressors beyond those that occur naturally (*e.g.*, fishery interactions, pollution, tourism, ocean noise) (Fair *et al.*, 2014; Meissner *et al.*, 2015; Rolland *et al.*, 2012).

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well-studied through controlled experiments for both laboratory and free-ranging animals (*e.g.*, Holberton *et al.*, 1996; Hood *et al.*, 1998; Jessop *et al.*, 2003; Krausman *et al.*, 2004; Lankford *et al.*, 2005; Reneerkens *et al.*, 2002; Thompson and Hamer, 2000). However, it should be noted that our understanding of the functions of various stress hormones (*e.g.*, cortisol), is based largely upon observations of the stress response in terrestrial mammals. Atkinson *et al.* (2015) note that the endocrine response of marine mammals to stress may not be the same as that of terrestrial mammals because of the selective pressures marine mammals faced during their evolution in an ocean environment. For example, due to the necessity of breath-

holding while diving and foraging at depth, the physiological role of epinephrine and norepinephrine (the catecholamines) in marine mammals might be different than in other mammals. Relatively little information exists on the linkage between anthropogenic sound exposure and stress in marine mammals, and even less information exists on the ultimate consequences of sound-induced stress responses (either acute or chronic). Most studies to date have focused on acute responses to sound either by measuring catecholamines, a neurohormone, or heart rate as a proxy for an acute stress response.

The ability to make predictions from stress hormones about impacts on individuals and populations exposed to various forms of natural and anthropogenic stressors relies on understanding the linkages between changes in stress hormones and resulting physiological impacts. Currently, the sound characteristics that correlate with specific stress responses in marine mammals are poorly understood, as are the ultimate consequences of these changes. Several research efforts have improved the understanding of, and the ability to predict, how stressors ultimately affect marine mammal populations (e.g., King *et al.*, 2015; New *et al.*, 2013; Pirodda *et al.*, 2015; Pirodda *et al.*, 2022). This includes determining how and to what degree various types of anthropogenic sound cause stress in marine mammals and understanding what factors may mitigate those physiological stress responses. Factors potentially affecting an animal's response to a stressor include life history, sex, age, reproductive status, overall physiological and behavioral adaptability, and whether they are naïve or experienced with the sound (e.g., prior experience with a stressor may result in a reduced response due to habituation) (Finneran and Branstetter, 2013; St. Aubin and Dierauf, 2001). Because there are many unknowns regarding the occurrence of acoustically induced stress responses in marine mammals, any physiological response (e.g., hearing loss or injury) or significant behavioral response is assumed to be associated with a stress response.

#### *Potential Effects on Marine Mammal Habitat*

The Navy's proposed activities could have localized, temporary impacts on marine mammal habitat, including prey, by increasing in-water SPLs. Increased noise levels may affect acoustic habitat

and adversely affect marine mammal prey within the ITEX Study Area.

#### *Potential Effects of Sonar on Prey*

Ringed seals feed on marine invertebrates and fish. Marine invertebrates occur in the world's oceans, from warm shallow waters to cold deep waters, and are the dominant animals in all habitats of the ITEX Study Area. Although most species are found within the benthic zone, marine invertebrates can be found in all zones (sympagic (within the sea ice), pelagic (open ocean), or benthic (bottom dwelling)) of the Beaufort Sea (Josefson *et al.*, 2013). The diverse range of species include oysters, crabs, worms, ghost shrimp, snails, sponges, sea fans, isopods, and stony corals (Chess, 1997; Dugan *et al.*, 2000; Proctor, 1981).

Hearing capabilities of invertebrates are largely unknown (Lovell *et al.*, 2005; Popper and Schilt, 2008). Outside of studies conducted to test the sensitivity of invertebrates to vibrations, very little is known about the effects of anthropogenic underwater noise on invertebrates (Edmonds *et al.*, 2016). While data are limited, research suggests that some of the major cephalopods and decapods may have limited hearing capabilities (Hanlon, 1987; Offutt, 1970) and may hear only low-frequency (less than 1 kHz) sources (Offutt, 1970), which is most likely within the frequency band of biological signals (Hill, 2009). In a review of crustacean sensitivity of high amplitude underwater noise by Edmonds *et al.* (2016), crustaceans may be able to hear the frequencies at which they produce sound, but it remains unclear which noises are incidentally produced and if there are any negative effects from masking them. Acoustic signals produced by crustaceans range from low frequency rumbles (20–60 Hz) to high frequency signals (20–55 kHz) (Henninger and Watson III, 2005; Patek and Caldwell, 2006; Staaterman *et al.*, 2011). Aquatic invertebrates that can sense local water movements with ciliated cells include cnidarians, flatworms, segmented worms, urochordates (tunicates), mollusks, and arthropods (Budelmann, 1992a; Budelmann, 1992b; Popper *et al.*, 2001). Some aquatic invertebrates have specialized organs called statocysts for determination of equilibrium and, in some cases, linear or angular acceleration. Statocysts allow an animal to sense movement and may enable some species, such as cephalopods and crustaceans, to be sensitive to water particle movements associated with sound (Goodall *et al.*, 1990; Hu *et al.*, 2009; Kaifu *et al.*, 2008; Montgomery *et*

*al.*, 2006; Popper *et al.*, 2001; Roberts and Breithaupt, 2016; Salmon, 1971). Because any acoustic sensory capabilities, if present at all, are limited to detecting water motion, and water particle motion near a sound source falls off rapidly with distance, aquatic invertebrates are probably limited to detecting nearby sound sources rather than sound caused by pressure waves from distant sources.

Studies of sound energy effects on invertebrates are few and identify only behavioral responses. Non-auditory injury, AUD INJ, TTS, and masking studies have not been conducted for invertebrates. Both behavioral and auditory brainstem response studies suggest that crustaceans may sense frequencies up to 3 kHz, but best sensitivity is likely below 200 Hz (Goodall *et al.*, 1990; Lovell *et al.*, 2005; Lovell *et al.*, 2006). Most cephalopods likely sense low-frequency sound below 1 kHz, with best sensitivities at lower frequencies (Budelmann, 2010; Mooney *et al.*, 2010; Offutt, 1970). A few cephalopods may sense higher frequencies up to 1,500 Hz (Hu *et al.*, 2009).

It is expected that most marine invertebrates would not sense the frequencies of the sonar associated with the proposed specified activities. Most marine invertebrates would not be close enough to active sonar systems to potentially experience impacts to sensory structures. Any marine invertebrate capable of sensing sound may alter its behavior if exposed to sonar. Although acoustic transmissions produced during the proposed specified activities may briefly impact individuals, intermittent exposures to sonar are not expected to impact survival, growth, recruitment, or reproduction of widespread marine invertebrate populations.

The fish species located in the ITEX Study Area include those that are closely associated with the deep ocean habitat of the Beaufort Sea. Nearly 250 marine fish species have been described in the Arctic, excluding the larger parts of the sub-Arctic Bering, Barents, and Norwegian Seas (Mecklenburg *et al.*, 2011). However, only about 30 are known to occur in the Arctic waters of the Beaufort Sea (Christiansen and Reist, 2013). Largely because of the difficulty of sampling in remote, ice-covered seas, many high-Arctic fish species are known only from rare or geographically patchy records (Mecklenburg *et al.*, 2011). Aquatic systems of the Arctic undergo extended seasonal periods of ice cover and other harsh environmental conditions. Fish inhabiting such systems must be

biologically and ecologically adapted to surviving such conditions. Important environmental factors that Arctic fish must contend with include reduced light, seasonal darkness, ice cover, low biodiversity, and low seasonal productivity.

All fish have two sensory systems to detect sound in the water: the inner ear, which functions very much like the inner ear in other vertebrates, and the lateral line, which consists of a series of receptors along the fish's body (Popper and Fay, 2010; Popper *et al.*, 2014). The inner ear generally detects relatively higher-frequency sounds, while the lateral line detects water motion at low frequencies (below a few hundred Hz) (Hastings and Popper, 2005). Lateral line receptors respond to the relative motion between the body surface and surrounding water; this relative motion, however, only takes place very close to sound sources and most fish are unable to detect this motion at more than one to two body lengths distance away (Popper *et al.*, 2014). Although hearing capability data only exist for fewer than 100 of the approximately 32,000 fish species known to exist, current data suggest that most species of fish detect sounds from 50 to 1,000 Hz, with few fish hearing sounds above 4 kHz (Popper, 2008). It is believed that most fish have their best hearing sensitivity from 100 to 400 Hz (Popper, 2003). Permanent hearing loss has not been documented in fish. A study by Halvorsen *et al.* (2012) found that for temporary hearing loss or similar negative impacts to occur, the noise needed to be within the fish's individual hearing frequency range; external factors, such as developmental history of the fish or environmental factors, may result in differing impacts to sound exposure in fish of the same species. The sensory hair cells of the inner ear in fish can regenerate after they are damaged, unlike in mammals where sensory hair cells loss is permanent (Lombarte *et al.*, 1993; Smith *et al.*, 2006). As a consequence, any hearing loss in fish may be as temporary as the timeframe required to repair or replace the sensory cells that were damaged or destroyed (Smith *et al.*, 2006), and no permanent loss of hearing in fish would result from exposure to sound.

Fish species in the ICEX Study Area are expected to hear the low-frequency sources associated with the proposed specified activities, but most are not expected to detect the higher-frequency sounds. Only a few fish species are able to detect mid-frequency sonar above 1 kHz and could have behavioral reactions or experience auditory

masking during these activities. These effects are expected to be transient, and long-term consequences for the population are not expected. Fish with hearing specializations capable of detecting high-frequency sounds are not expected to be within the ICEX Study Area. If hearing specialists were present, they would have to be in close vicinity to the source to experience effects from the acoustic transmission. Human-generated sound could alter the behavior of a fish in a manner that would affect its way of living, such as where it tries to locate food or how well it can locate a potential mate; behavioral responses to loud noise could include a startle response, such as the fish swimming away from the source, the fish "freezing" and staying in place, or scattering (Popper, 2003). Auditory masking could also interfere with a fish's ability to hear biologically relevant sounds, inhibiting the ability to detect both predators and prey, and impacting schooling, mating, and navigating (Popper, 2003). If an individual fish comes into contact with low-frequency acoustic transmissions and is able to perceive the transmissions, they are expected to exhibit short-term behavioral reactions, when initially exposed to acoustic transmissions, which would not significantly alter breeding, foraging, or populations. Overall effects to fish from ICEX26 active sonar sources would be localized, temporary, and infrequent.

#### Effects of Acoustics on Physical and Foraging Habitat

Unless the sound source is stationary and/or continuous over a long duration in one area, neither of which applies to ICEX26 activities, the effects of the introduction of sound into the environment are generally considered to have a less severe impact on marine mammal habitat compared to any physical alteration of the habitat. Acoustic exposures are not expected to result in long-term physical alteration of the water column or bottom topography as the occurrences are of limited duration and would occur intermittently. Acoustic transmissions also would have no structural impact to subnivean lairs in the ice. Furthermore, since ice dampens acoustic transmissions (Richardson *et al.*, 1995), the level of sound energy that reaches the interior of a subnivean lair would be less than that ensonifying water under surrounding ice. For these reasons, it is unlikely that the Navy's acoustic activities in the ICEX Study Area would have any effect on marine mammal habitat.

#### Potential Effects of Vessel Strike

Because ICEX26 would occur only when there is ice coverage and conditions are appropriate to establish an ice camp on an ice floe, no ships or smaller boats would be involved in the activity. Vessel use would be limited to submarines and UUVs (hereafter referred to together as "vessels" unless noted separately). The potential for vessel strike during ICEX26 would therefore only arise from the use of submarines during training and testing activities, and the use of UUVs during research activities. Depths at which vessels would operate during ICEX26 would overlap with known dive depths of ringed seals, which have been recorded to 300 m in depth (Gjertz *et al.*, 2000; Lydersen and Ryg, 1991). Few authors have specifically described the responses of pinnipeds to vessels, and most of the available information on reactions to boats concerns pinnipeds hauled out on land or ice. No information is available on potential responses to submarines or UUVs. Brueggeman *et al.* (1992) stated ringed seals hauled out on the ice showed short-term escape reactions when they were within 0.25–0.5 km from a vessel; ringed seals would likely show similar reactions to submarines and UUVs, decreasing the likelihood of vessel strike during ICEX26 activities.

The Navy has kept strike records for over 20 years and has no records of individual pinnipeds being struck by a vessel as a result of Navy activities and, further, the smaller size and maneuverability of pinnipeds make a vessel strike unlikely. Also, NMFS has never received any reports indicating that pinnipeds have been struck by vessels of any type. Review of additional sources of information in the form of worldwide vessel strike records shows little evidence of strikes of pinnipeds from the shipping sector. Further, a review of seal stranding data from Alaska found that during 2020, nine ringed seal strandings were recorded by the Alaska Marine Mammal Stranding Network. Within the Arctic region of Alaska, seven ringed seal strandings were recorded. Of the nine strandings reported in Alaska (all regions included), none were found to be caused by vessel collisions (Savage, 2021).

Vessel speed, size, and mass are all important factors in determining both the potential likelihood and impacts of a vessel strike to marine mammals (Blondin *et al.*, 2025; Conn and Silber, 2013; Garrison *et al.*, 2025; Gende *et al.*, 2011; Silber *et al.*, 2010; Vanderlaan and Taggart, 2007; Wiley *et al.*, 2016). When

submerged, submarines are generally slow moving (to avoid detection) and therefore marine mammals at depth with a submarine are likely able to avoid collision with the submarine. For most of the research and training and testing activities during the specified activity, submarine and UUV speeds would not typically exceed 18.5 km/hr during the time spent within the ICEX Study Area, which would lessen the already extremely unlikely chance of collisions with marine mammals, specifically ringed seals.

Based on consideration of all this information, NMFS does not anticipate incidental take of marine mammals by vessel strike from submarines or UUVs.

*Potential Effects of Exercise Torpedo Strike*

As noted in the *Detailed Description of Specific Activity* section, the Navy may use inert exercise torpedoes in ICEX26. While the details of the proposed torpedo exercises are classified, given the limited potential number of exercise torpedoes deployed (maximum of 10) during the exercise window, and the low density of ringed seals in the ICEX Study Area during this time, NMFS does not anticipate incidental take of marine mammals by exercise torpedo strike.

*Potential Non-Acoustic Impacts*

Deployment of the ice camp could potentially affect ringed seal habitat by physically damaging or crushing subnivean lairs, which could potentially result in ringed seal injury or mortality. March 1 is generally expected to be the onset of ice seal lairing season, and ringed seals typically construct lairs

near pressure ridges. As described in the Proposed Mitigation section, the ice camp and runway would be established on a combination of first-year ice and multi-year ice without pressure ridges, which would minimize the possibility of physical impacts to subnivean lairs and habitat suitable for lairs. Ice camp deployment would begin mid-February, and be gradual, with activity increasing over the first 5 days. So, in addition, this schedule would discourage seals from establishing birthing lairs in or near the ice camp, and would allow ringed seals to relocate outside of the ice camp area as needed, though both scenarios are unlikely as described below in this section. Personnel on on-ice vehicles would observe for marine mammals, and would follow established routes when available, to avoid potential disturbance of lairs and habitat suitable for lairs. Personnel on foot and operating on-ice vehicles would avoid deep snow drifts near pressure ridges, also to avoid potential lairs and habitat suitable for lairs. Implementation of these measures are expected to prevent ringed seal lairs from being crushed or damaged during ICEX26 activities and are expected to minimize any other potential impacts to sea ice habitat suitable for the formation of lairs. Given the proposed mitigation requirements, we also do not anticipate ringed seal injury or mortality as a result of damage to subnivean lairs.

ICEX26 personnel would be actively conducting testing and training operations on the sea ice and would travel around the camp area, including the runway, on snowmobiles. Although the Navy does not anticipate observing any seals on the ice given the lack of

observations during previous ice exercises (U.S. Department of the Navy, 2018; U.S. Department of the Navy, 2020; U.S. Department of the Navy, 2022; U.S. Department of the Navy, 2025a), as a general matter, on-ice activities could cause a seal that would have otherwise built a lair in the area of an activity to be displaced and therefore, construct a lair in a different area outside of an activity area, or a seal could choose to relocate to a different existing lair outside of an activity area. However, in the case of the ice camp associated with ICEX26, displacement of seal lair construction or relocation to existing lairs outside of the ice camp area is unlikely, given the low average density of structures (the average ringed seal ice structure density in the vicinity of Prudhoe Bay, Alaska is 1.58 structures per km<sup>2</sup> (table 4)), the relative footprint of the Navy’s planned ice camp (2 km<sup>2</sup>), the lack of previous ringed seal observations on the ice during ICEX activities, and proposed mitigation requirements that would require the Navy to construct the ice camp and runway on first-year or multiyear ice without pressure ridges and would require personnel to avoid areas of deep snow drift or pressure ridges (see the Proposed Mitigation section for additional information about the proposed mitigation requirements). This measure, in combination with the other mitigation measures required for operation of the ice camp are expected to avoid impacts to the construction and use of ringed seal subnivean lairs, particularly given the already low average density of lairs, as described above.

TABLE 4—RINGED SEAL ICE STRUCTURE DENSITY IN THE VICINITY OF THE PRUDHOE BAY, ALASKA

Year	Ice structure density (structures per km <sup>2</sup> )	Source
1982 .....	3.6	Frost and Burns (1989).
1983 .....	0.81	Kelly <i>et al.</i> (1986).
1999 .....	0.71	Williams <i>et al.</i> (2001).
2000 .....	1.2	Williams <i>et al.</i> (2001).
Average Density .....	1.58	

Given the required mitigation measures and the low density of ringed seals anticipated in the Ice Camp Study Area during ICEX26, we do not anticipate behavioral disturbance of ringed seals due to human presence.

The Navy’s activities would occur prior to the late spring to early summer “basking period,” which occurs between abandonment of the subnivean lairs and melting of the seasonal sea ice, and is when the seals undergo their

annual molt (Kelly *et al.*, 2010b). Given that the ice camp would be demobilized prior to the basking period, and the remainder of the Navy’s activities occur below the sea ice, impacts to sea ice habitat suitable as a platform for basking and molting are not anticipated to result from the ICEX26 activities.

Our preliminary determination of potential effects to the physical environment includes minimal possible impacts to marine mammals and their

habitat from camp operation or deployment activities, given the proposed mitigation and the timing of the Navy’s proposed activities. In addition, given the relatively short duration of submarine testing and training activities, the relatively small area that would be affected, and the lack of impacts to physical or foraging habitat, the proposed specified activities are not likely to have an adverse effect on prey species or marine mammal

habitat, other than potential localized, temporary, and infrequent effects to fish as discussed above. Therefore, any impacts to ringed seals and their habitat, as discussed above in this section, are not expected to cause significant or long-term consequences for individual ringed seals or the population. Please see the Negligible Impact Analysis and Determination section for additional discussion regarding the likely impacts of the Navy's activities on ringed seals, including the reproductive success or survivorship of individual ringed seals, and how those impacts on individuals are likely to impact the species or stock.

### Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes proposed for authorization through the IHA, which will inform NMFS' consideration of the negligible impact determinations and impacts on subsistence uses.

Harassment is the only type of take expected to result from these activities. For this military readiness activity, the MMPA defines "harassment" as (i) any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where the behavioral patterns are abandoned or significantly altered (Level B harassment).

Authorized takes would be by Level B harassment only, in the form of behavioral responses and/or TTS for individual marine mammals resulting from exposure to acoustic transmissions. Based on the nature of the activity, Level A harassment is neither anticipated nor proposed to be authorized. As described previously, no serious injury or mortality is anticipated or proposed to be authorized for this activity. Below we describe how the proposed take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic criteria above which NMFS believes there is some reasonable potential for marine mammals to be behaviorally harassed or incur some degree of AUD INJ; (2) the area or volume of water that will be

ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.*, previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the proposed take estimates.

### Acoustic Criteria

NMFS recommends the use of acoustic criteria that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur AUD INJ of some degree (equated to Level A harassment). We note that the criteria for AUD INJ, as well as the names of two hearing groups, have been recently updated (NMFS, 2024) as reflected below in the Level A harassment section.

#### Level B Harassment

In coordination with NMFS, the Navy developed behavioral thresholds to support environmental analyses for the Navy's training and testing activities utilizing active sonar sources; these behavioral harassment thresholds are used here to evaluate the potential effects of the active sonar components of the proposed activities. Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.*, frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.*, bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (Ellison *et al.*, 2012; Southall *et al.*, 2007; Southall *et al.*, 2021).

The Navy's Phase IV pinniped behavioral criteria is based on controlled exposure experiments on the following captive animals: hooded seal, harbor seal, and California sea lion

(Houser *et al.*, 2013; Kastelein *et al.*, 2015; Kvasdshim *et al.*, 2010). Overall exposure levels were 110–170 dB re 1  $\mu$ Pa for hooded seals, 107–160 dB re 1  $\mu$ Pa for harbor seals, and 125–185 dB re 1  $\mu$ Pa for California sea lions. Responses occurred at received levels ranging from 107–185 dB re 1  $\mu$ Pa. However, the mean of the response data was 154 dB re 1  $\mu$ Pa. Hooded seals were exposed to increasing levels of sonar until an avoidance response was observed. The harbor seals were exposed to a variety of contexts, frequencies, and received levels. Each individual California sea lion was exposed to the same received level 10 times; these exposure sessions were combined into a single response value, with an overall response assumed if an animal responded in any single session.

Based on the Navy's pinniped behavioral response function (see figure 6–1 of the application), there is a 50 percent probability of response at 156 dB re 1  $\mu$ Pa. To account for proximity to the active acoustic source and based on the best scientific information, a distance of 5 km is used beyond which exposures would not qualify as take by Level B harassment under the military readiness definition.

#### Level A Harassment

NMFS' Updated Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0) (NMFS, 2024) identifies dual criteria to assess AUD INJ (Level A harassment) to five different underwater marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). The Navy's proposed activity includes the use of non-impulsive (active sonar) sources.

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group. The thresholds are provided in table 5 below for phocid pinnipeds underwater. The references, analysis, and methodology used in the development of the criteria are described in NMFS' 2024 Updated Technical Guidance, which may be accessed at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools>.

TABLE 5—THRESHOLDS IDENTIFYING THE ONSET OF AUDITORY INJURY

Hearing group	AUD INJ onset acoustic thresholds* (received level)	
	Impulsive	Non-impulsive
Phocid Pinnipeds (PW) (Underwater) .....	$L_{pk,flat}$ : 223 dB; $L_{E,PW,24h}$ : 183 dB .....	$L_{E,PW,24h}$ : 195 dB.

\* Dual metric criteria for impulsive sounds: Use whichever criteria results in the larger isopleth for calculating AUD INJ onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level criteria associated with impulsive sounds, the PK SPL criteria are recommended for consideration for non-impulsive sources.

**Note:** Peak sound pressure level ( $L_{p,0-pk}$ ) has a reference value of 1  $\mu$ Pa, and weighted cumulative sound exposure level ( $L_{E,p}$ ) has a reference value of 1  $\mu$ Pa<sup>2</sup>s. In this table, criteria are abbreviated to be more reflective of International Organization for Standardization standards (ISO, 2017). The subscript “flat” is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals underwater (i.e., 7 Hz to 165 kHz). The subscript associated with cumulative sound exposure level criteria indicates the designated marine mammal auditory weighting function (PW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level criteria could be exceeded in a multitude of ways (i.e., varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these criteria will be exceeded.

For previous ICEX activities, the Navy’s PTS/TTS analysis began with mathematical modeling to predict the sound transmission patterns from Navy sources, including sonar. These data were then coupled with marine species distribution and abundance data to determine the sound levels likely to be received by various marine species. These criteria and thresholds were applied to estimate specific effects that animals exposed to Navy-generated sound may experience. For weighting function derivation, the most critical data required were TTS onset exposure levels as a function of exposure frequency. These values can be estimated from published literature by examining TTS as a function of sound exposure level (SEL) for various frequencies.

*Marine Mammal Occurrence*

In this section we provide information about the occurrence of marine mammals, including density or other relevant information which will inform the take calculations.

The Navy performed a quantitative analysis to estimate the number of mammals that could be harassed by the underwater acoustic transmissions during the specified activity. The only marine mammal susceptible to impacts from acoustic transmissions associated with the proposed activities would be ringed seals.

Ringed seal presence in the ICEX Study Area was obtained using sighting data from the Ocean Biodiversity Information System-Spatial Ecological Analysis of Megavertebrate Populations (OBIS–SEAMAP) (Halpin *et al.*, 2009). The ICEX Study Area was overlaid on the OBIS–SEAMAP ringed seal sightings map that included sightings from the years 2000–2007 and the year 2013. Sighting data were only available for the

mid to late summer and fall months. To date, there have been no surveys to determine ringed seal presence in the Study Area during winter and spring months.

It is assumed that during the fall most ringed seals would migrate south and west from the Beaufort Sea to the Bering and Chukchi Seas, with some ringed seals remaining in the Beaufort Sea. Additionally, some ringed seals would create subnivean lairs on landfast (shorefast) ice over the continental shelf during the winter and spring months, and move back into the Chukchi and Beaufort Seas during the summer and fall months (Crawford *et al.*, 2012; Frost and Lowry, 1984; Harwood *et al.*, 2012; Young *et al.*, 2024). Therefore, the average number of individual ringed seals per year was assumed to be present in the ICEX Study Area during the proposed activities, regardless of the time of year that the sighting occurred. Based on the sightings data, it is assumed that three ringed seals would be present in the ICEX Study Area.

*Take Estimation*

Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and proposed for authorization.

When sound sources are active, exposure to increased SPLs would likely involve individuals that are moving through the area during foraging trips. Ringed seals also may be exposed en route to haul out sites or subnivean lairs. If exposure were to occur, the pinnipeds could exhibit behavioral responses, such as avoidance, increased swimming speeds, increased surfacing time, or decreased foraging. Most likely, individuals affected by acoustic transmissions resulting from the proposed activities would move away

from the sound source. Ringed seals may be temporarily displaced from their subnivean lairs within the Ice Camp Study Area. Any pinniped would have to be within 5 km of the source for any behavioral reaction (e.g., flushing from a lair). Any effects experienced by individual pinnipeds are anticipated to be limited to short-term disturbance of normal behavior, temporary displacement or disruption of animals that may occur near the proposed activity.

Navy estimated that three ringed seals may be taken by Level B harassment per day of activity within the ICEX Study Area. Navy anticipates conducting active acoustic transmissions on 42 days, and therefore requested 126 takes by Level B harassment of ringed seals (3 seals per day × 42 days = 126 takes by Level B harassment) (table 6). NMFS concurs and proposes to authorize 126 takes by Level B harassment. All takes are classified as Level B harassment and not further distinguished because the method used to estimate take does not support the differentiation between behavioral harassment or TTS.

Modeling for three previous ICEXs (2018, 2020, and 2022), which employed similar acoustic sources, did not result in any estimated takes by PTS; therefore, particularly in consideration of the fact that total takes were likely overestimated for those ICEX activities given the density information used in the analyses (NMFS anticipates that the density of ringed seals is actually much lower than estimated in those analyses) and the similarity between those activities and the activities proposed for ICEX26, the Navy did not request, and NMFS is not proposing to authorize, take by Level A harassment of ringed seal.

TABLE 6—ESTIMATED TAKE OF MARINE MAMMALS FROM THE SPECIFIED ACTIVITIES

Species	Level B harassment	Level A harassment	Instances of take as a percentage of population
Ringed seal .....	126	0	<1

During monitoring for the 2018 IHA covering similar military readiness activities in the ICEX26 Study Area, the Navy did not visually observe or acoustically detect any marine mammals (U.S. Department of the Navy, 2018). During monitoring for the 2020 IHA covering similar military readiness activities in the ICEX26 Study Area, the Navy also did not visually observe any marine mammals (U.S. Department of the Navy, 2020). Acoustic monitoring associated with the 2020 IHA did not detect any discernible marine mammal vocalizations (Henderson *et al.*, 2021). The monitoring report states that “there were a few very faint sounds that could have been (ringed seal) barks or yelps.” However, these were likely not from ringed seals, given that ringed seal vocalizations are generally produced in series (Jones *et al.*, 2014). Henderson *et al.* (2021) expect that these sounds were likely ice-associated or perhaps anthropogenic. While the distance at which ringed seals could be acoustically detected is not definitive, Henderson *et al.* (2021) states that Expendable Mobile ASW Training Targets (EMATTs) “traveled a distance of 10 nmi (18.5 km) away and were detected the duration of the recordings; although ringed seal vocalization source levels are likely far lower than the sounds emitted by the EMATTs, this gives some idea of the potential detection radius for the cryophone. The periods when the surface anthropogenic activity is occurring in close proximity to the cryophone are dominated by those broadband noises due to the shallow hydrophone placement in ice (only 10 cm down), and any ringed seal vocalizations that were underwater could have been masked.” During monitoring for the 2022 IHA covering similar military readiness activities in the ICEX26 Study Area, the Navy also did not visually observe any marine mammals (U.S. Department of the Navy, 2022). With the exception of PAM conducted during activities for mitigation purposes (no detections), PAM did not occur in 2022 because the ice camp ice flow broke up, and therefore, Navy had to relocate camp. Given the lost time, multiple research projects were canceled, including the under-ice PAM that the Naval Postgraduate School was planning to

conduct. During monitoring for the 2024 IHA covering similar military readiness activities in the ICEX26 Study Area, the Navy also did not visually observe any marine mammals (U.S. Department of the Navy, 2025a).

**Proposed Mitigation**

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses. NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)). The 2004 NDAA amended the MMPA as it relates to military readiness activities and the incidental take authorization process such that “least practicable impact” shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

The mitigation requirements described in the following were proposed by the Navy or are the result of coordination between NMFS and the Navy following receipt of the application, and the Navy has agreed that all of the mitigation measures are practicable. NMFS has fully reviewed the specified activities and the mitigation measures included in the application to determine if the mitigation measures would result in the least practicable adverse impact on marine mammals and their habitat, as required by the MMPA, and has determined the proposed measures are appropriate. NMFS describes these below as proposed mitigation requirements, and has included them in the proposed IHA.

The proposed IHA requires that appropriate personnel (including civilian personnel) involved in mitigation and training or testing activity reporting under the specified activities must complete Arctic Environmental and Safety Awareness Training. Modules include: Arctic Species Awareness and Mitigations, Environmental Considerations, Hazardous Materials Management, and General Safety.

Further, the following general mitigation measures are required to prevent incidental take of ringed seals on the ice floe associated with the ice camp (further explanation of certain mitigation measures is provided in parentheses following the measure):

- The ice camp and runway must be established on first-year and multi-year ice without pressure ridges. (This will minimize physical impacts to subnivean lairs and impacts to sea ice habitat suitable for lairs);
- Ice camp deployment must begin no later than mid-February 2026, and be gradual, with activity increasing over the first 5 days. Camp deployment must be completed by March 15, 2026. (Given that mitigation measures require that the

ice camp and runway be established on first-year or multi-year ice without pressure ridges, as well as the average ringed seal lair density in the area, and the relative footprint of the Navy's planned ice camp (2 km<sup>2</sup>), it is extremely unlikely that a ringed seal would build a lair in the vicinity of the ice camp. Additionally, based on the best available science, Arctic ringed seal whelping is not expected to occur prior to mid-March, and therefore, construction of the ice camp will be completed prior to whelping in the area of ICEX26. Further, as noted above, ringed seal lairs are not expected to occur in the ice camp study area, and therefore, NMFS does not expect ringed seals to relocate pups due to human disturbance from ice camp activities, including construction);

- Personnel on all on-ice vehicles must observe for marine and terrestrial animals;
- Snowmobiles must follow established routes, when available. On-ice vehicles must not be used to follow any animal, with the exception of actively deterring polar bears if the situation requires;
- Personnel on foot and operating on-ice vehicles must avoid areas of deep (>0.5 m) snowdrifts and pressure ridges by 0.8 km. (These areas are preferred areas for subnivean lair development);
- Personnel must maintain a 100 m avoidance distance from all observed marine mammals; and
- All material (e.g., tents, unused food, excess fuel) and wastes (e.g., solid waste, hazardous waste) must be removed from the ice floe upon completion of ICEX26 activities.

The following mitigation measures are required for activities involving acoustic transmissions (further explanation of certain mitigation measures is provided in parentheses following the measure):

- Personnel must begin passive acoustic monitoring (PAM) for vocalizing marine mammals 15 minutes prior to the start of activities involving active acoustic transmissions from submarines and exercise torpedoes. (This PAM would be conducted for the area around the submarine in real time by technicians on board the submarine);
- Personnel must delay active acoustic transmissions and exercise torpedo launches if a marine mammal is detected during pre-activity PAM and must shutdown active acoustic transmissions if a marine mammal is detected during acoustic transmissions; and
- Personnel must not restart acoustic transmissions or exercise torpedo launches until 15 minutes have passed with no marine mammal detections.

Ramp up procedures for acoustic transmissions are not required as the Navy determined, and NMFS concurs, that they would result in impacts on military readiness and on the realism of training that would be impracticable.

The following mitigation measures are required for aircraft activities to prevent incidental take of marine mammals due to the presence of aircraft and associated noise.

- Fixed wing aircraft must operate at the highest altitudes practicable taking into account safety of personnel, meteorological conditions, and need to support safe operations of a drifting ice camp. Aircraft must not reduce altitude if a seal is observed on the ice. In general, cruising elevation must be 457 m or higher;
- UAS must maintain a minimum altitude of at least 15.2 m above the ice. They must not be used to track or follow marine mammals;
- Helicopter flights must use prescribed transit corridors when traveling to or from Prudhoe Bay and the ice camp. Helicopters must not hover or circle above marine mammals or within 457 m of marine mammals;
- Aircraft must maintain a minimum separation distance of 1.6 km from groups of 5 or more seals; and
- Aircraft must not land on ice within 800 m of hauled-out seals.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS above, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

#### Proposed Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS

should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (e.g., presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (e.g., source characterization, propagation, ambient noise); (2) affected species (e.g., life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (e.g., age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (e.g., marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

The Navy has coordinated with NMFS to develop an overarching program, the Integrated Comprehensive Monitoring Program (ICMP), intended to coordinate marine species monitoring efforts across all regions and to allocate the most appropriate level and type of effort for each range complex based on a set of standardized objectives, and in acknowledgement of regional expertise and resource availability. The ICMP was created in direct response to Navy requirements established in various MMPA regulations and ESA consultations. As a framework document, the ICMP applies by regulation to those activities on ranges and operating areas for which the Navy is seeking or has sought incidental take authorizations. In 2023, Navy, NMFS, the Marine Mammal Commission, and scientific experts participated in a Research and Monitoring Summit. One outcome of the summit was a refreshed strategic framework effectively replacing the ICMP, which will provide increased coordination across Navy's protected marine species investment programs.

The strategic framework is focused on Navy training and testing ranges where the majority of Navy activities occur

regularly, as those areas have the greatest potential for being impacted by the Navy's activities. In comparison, ICEX is a short duration exercise that occurs approximately every other year. Due to the location and expeditionary nature of the ice camp, the number of personnel on site is extremely limited and is constrained by the requirement to be able to evacuate all personnel in a single day with small planes. As such, the Navy asserts that a dedicated monitoring project akin to those conducted in other study areas is not feasible as it would require additional personnel and equipment, and NMFS concurs.

Nonetheless, the Navy must conduct the following monitoring and reporting under the IHA. Ice camp personnel must generally monitor for marine mammals in the vicinity of the ice camp and record all observations of marine mammals, regardless of distance from the ice camp, as well as the additional data indicated below. Additionally, Navy personnel must conduct PAM during all active sonar use. Ice camp personnel must also maintain an awareness of the surrounding environment and document any observed marine mammals. When traveling away from camp, each snow machine must have a dedicated observer (not the vehicle operator) or each expeditionary team must have at least one observer. Observers must be capable of observing and recording marine mammal presence and behaviors, and accurately and completely record data. When traveling, observers will have no other primary duty than to watch for and report observations related to marine mammals and human/seal interactions. Dedicated observers can also serve as the communicator between the field party and camp.

In addition, the Navy is required to provide NMFS with a draft exercise monitoring report within 90 days of the conclusion of the specified activity. A final report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are received from NMFS within 30 calendar days of receipt of the draft report, the report shall be considered final. The report, at minimum, must include:

- Marine mammal monitoring effort including date, time, duration of observation efforts;
- The minimum distance between human activities and seals or seal lairs;
- Duration of time during which seals or seal lairs were known to be present within 150 m of human activities, and

the behaviors exhibited by the seals during those observation periods;

- Account of the status of seal lairs located within 150 m of camps or ice trails through time;
- Ice camp activities occurring during each monitoring period (*e.g.*, construction, demobilization, safety watch, field parties);
- Number of marine mammals detected;
- Upon observation of a marine mammal, record the following information:
  - Environmental conditions when animal was observed, including relevant weather conditions such as cloud cover, snow, sun glare, and overall visibility, and estimated observable distance;
  - Lookout location and ice camp activity at time of sighting (or location and activity of personnel who made observation, if observed outside of designated monitoring periods);
  - Time and approximate location of sighting;
  - Identification of the animal(s) (*e.g.*, seal, or unidentified), also noting any identifying features;
  - Distance and location of each observed marine mammal relative to the ice camp location for each sighting;
  - Estimated number of animals (min/max/best estimate); and
  - Description of any marine mammal behavioral observations (*e.g.*, observed behaviors such as traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.*, no response or changes in behavioral state such as ceasing feeding, changing direction, flushing).

Also, all sonar usage will be collected via the Navy's Sonar Positional Reporting System database. The Navy is required to provide data regarding sonar use and the number of shutdowns during ICEX26 activities in the Atlantic Fleet Training and Testing (AFTT) Letter of Authorization 2026 annual classified report. The Navy is also required to analyze any declassified underwater recordings collected during ICEX26 for marine mammal vocalizations and report that information to NMFS, including the types and nature of sounds heard (*e.g.*, clicks, whistles, creaks, burst pulses, continuous, sporadic, strength of signal) and the species or taxonomic group (if determinable). This information will be submitted to NMFS in an ICEX26 declassified monitoring report.

Finally, in the event that personnel discover an injured or dead marine mammal, personnel must report the incident to OPR, NMFS and to the Alaska regional stranding network as

soon as feasible. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal(s) was discovered (*e.g.*, during submarine activities, observed on ice floe, or by transiting aircraft).

#### Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.*, intensity, duration), the context of any impacts or responses (*e.g.*, critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

Underwater acoustic transmissions associated with ICEX26, as outlined previously, have the potential to result in Level B harassment of ringed seals in the form of TTS and behavioral disturbance. No take by Level A

harassment, serious injury, or mortality are anticipated to result from this activity. Further, at close ranges and high sound levels approaching those that could cause AUD INJ, seals would likely avoid the area immediately around the sound source.

NMFS anticipates that take of ringed seals by TTS could occur from the submarine activities. TTS is a temporary impairment of hearing and can last from minutes or hours to days (in cases of strong TTS). In many cases, however, hearing sensitivity recovers rapidly after exposure to the sound ends. This activity has the potential to result in only minor levels of TTS, and hearing sensitivity of affected animals would be expected to recover quickly. Though TTS may occur as indicated, the overall fitness of the impacted individuals is unlikely to be affected given the temporary nature of TTS and the minor levels of TTS expected from these activities. Negative impacts on the reproduction or survival of affected ring seals as well as impacts on the stock are not anticipated.

Effects on individuals that are taken by Level B harassment by behavioral disturbance could include alteration of dive behavior, alteration of foraging behavior, effects to breathing, interference with or alteration of vocalization, avoidance, and flight. More severe behavioral responses are not anticipated due to the localized, intermittent use of active acoustic sources and mitigation using PAM, which would limit exposure to active acoustic sources. Most likely, individuals would be temporarily displaced by moving away from the sound source. As described previously in the *Acoustic Impacts* section, seals exposed to non-impulsive sources with a received sound pressure level within the range of calculated exposures (142–193 dB re 1  $\mu$ Pa), have been shown to change their behavior by modifying diving activity and avoidance of the sound source (Götz *et al.*, 2010; Kvadsheim *et al.*, 2010). Although a minor change to a behavior may occur as a result of exposure to the sound sources associated with the proposed specified activity, these changes would be within the normal range of behaviors for the animal (*e.g.*, the use of a breathing hole further from the source, rather than one closer to the source). Further, given the limited number of total instances of takes and the unlikelihood that any single individuals would be taken repeatedly, multiple times over sequential days, these takes are unlikely to impact the reproduction or survival of any individuals.

The Navy's proposed activities are localized and of relatively short duration. While the total ICEX Study Area is large, the Navy expects that most activities would occur within the Ice Camp Study Area in relatively close proximity to the ice camp. The larger Navy Activity Study Area depicts the range where submarines may maneuver during the exercise. The ice camp would be in existence for up to 6 weeks with acoustic transmission occurring intermittently over approximately 4 weeks.

The project is not expected to have significant adverse effects on marine mammal habitat. The project activities are limited in time and would not modify physical marine mammal habitat. While the activities may cause some fish to leave a specific area ensonified by acoustic transmissions, temporarily impacting marine mammals' foraging opportunities, these fish would likely return to the affected area. As such, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

For on-ice activity, Level A harassment, Level B harassment, serious injury, and mortality are not anticipated, given the nature of the activities, the lack of previous ringed seal observations, and the mitigation measures NMFS has proposed to include in the IHA. The ringed seal pupping season on the ice lasts for 5–9 weeks during late winter and spring. As stated in the Potential Effects of Specified Activities on Marine Mammals and their Habitat section, March 1 is generally expected to be the onset of ice seal lairing season. The ice camp and runway would be established on first-year ice or multi-year ice without pressure ridges, as ringed seals tend to build their lairs near pressure ridges. Ice camp deployment will begin no later than mid-February, and be gradual, with activity increasing over the first 5 days. Ice camp deployment will be completed by March 15, before the pupping season. Displacement of seal lair construction or relocation to existing lairs outside of the ice camp area is unlikely, given the low average density of lairs (the average ringed seal lair density in the vicinity of Prudhoe Bay, Alaska, is 1.58 lairs per km<sup>2</sup> (table 4) the relative footprint of the Navy's planned ice camp (2 km<sup>2</sup>), the lack of previous ringed seal observations on the ice during ICEX activities, and mitigation requirements that require the Navy to construct the ice camp and runway on first-year or multi-year ice without pressure ridges and require

personnel to avoid areas of deep snow drift or pressure ridges.

Given that mitigation measures require that the ice camp and runway be established on first-year or multi-year ice without pressure ridges, where ringed seals tend to build their lairs, it is extremely unlikely that a ringed seal would build a lair in the vicinity of the ice camp. This measure, together with the other mitigation measures required for operation of the ice camp, are expected to avoid impacts to the construction and use of ringed seal subnivean lairs, particularly given the already low average density of lairs, as described above. Given that ringed seal lairs are not expected to occur in the ice camp study area, NMFS would not expect ringed seals to relocate pups due to human disturbance from ice camp activities.

Additional mitigation measures would also prevent damage to and disturbance of ringed seals and their lairs that could otherwise result from on-ice activities. Personnel on on-ice vehicles would observe for marine mammals, and would follow established routes when available, to avoid potential damage to or disturbance of lairs. Personnel on foot and operating on-ice vehicles would avoid deep snow drifts near pressure ridges, also to avoid potential damage to or disturbance of lairs. Further, personnel would maintain a 100 m (328 ft) distance from all observed marine mammals to avoid disturbing the animals due to the personnel's presence. Implementation of these measures would prevent ringed seal lairs from being crushed or damaged during ICEX26 activities.

In summary and as described above, the following factors primarily support our preliminary determination that the impacts resulting from this activity are not expected to adversely affect any of the species or stocks through effects on annual rates of recruitment or survival:

- No Level A harassment, serious injury or mortality is anticipated or authorized;
- Impacts would be limited to Level B harassment, primarily in the form of behavioral disturbance that results in minor changes in behavior;
- TTS is expected to affect only a limited number of animals and is expected to be minor and short term;
- The number of takes proposed to be authorized are low relative to the estimated abundances of the affected stock, even given the extent to which abundance is significantly underestimated;
- Submarine training and testing activities would occur over only 4

weeks of the total 6-week activity period;

- There would be no loss or modification of ringed seal habitat and minimal, temporary impacts on prey;
- Physical impacts to ringed seal subnivean lairs would be avoided; and
- Mitigation requirements for ice camp activities would prevent impacts to ringed seals during the pupping season.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

#### Unmitigable Adverse Impact Analysis and Determination

In order to issue an IHA, NMFS must find that the specified activity will not have an “unmitigable adverse impact” on the subsistence uses of the affected marine mammal species or stocks by Alaskan Natives. NMFS has defined “unmitigable adverse impact” in 50 CFR 216.103 as an impact resulting from the specified activity: (1) that is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by: (i) causing the marine mammals to abandon or avoid hunting areas; (ii) directly displacing subsistence users; or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

Impacts to marine mammals from the specified activity would mostly include limited, temporary behavioral disturbances of ringed seals; however, some TTS is also anticipated. No Level A harassment (auditory or non-auditory injury), serious injury, or mortality of marine mammals is expected or proposed for authorization, and the activities are not expected to have any impacts on reproductive or survival rates of any marine mammal species.

The specified activity and associated harassment of ringed seals would not be expected to impact marine mammals in numbers or locations sufficient to reduce their availability for subsistence harvest given the short-term, temporary nature of the activities, and the distance offshore from known subsistence hunting areas. The specified activity would occur for a brief period of time outside of the primary subsistence

hunting season, and though seals are harvested for subsistence uses off the North Slope of Alaska, the ICEX Study Area is seaward of known subsistence hunting areas. The Study Area boundary is approximately 50 km from shore at the closest point, though exercises will occur farther offshore.

The Navy proposes to provide advance public notice to local residents and other users of the Prudhoe Bay region of Navy activities and measures used to reduce impacts on resources. This includes notification to local Alaska Natives who hunt marine mammals for subsistence. If any Alaska Natives express concerns regarding project impacts to subsistence hunting of marine mammals, the Navy would further communicate with the concerned individuals or community. The Navy would provide project information and clarification of the mitigation measures that will reduce impacts to marine mammals.

Based on the description of the specified activity, the measures described to minimize adverse effects on the availability of marine mammals for subsistence purposes, and the proposed mitigation and monitoring measures, NMFS has preliminarily determined that there will not be an unmitigable adverse impact on subsistence uses from the Navy’s proposed activities.

#### Endangered Species Act

Section 7(a)(2) of the ESA of 1973 (16 U.S.C. 1531 *et seq.*) requires that each Federal agency ensures that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species, in this case with NMFS’ Alaska Regional Office (AKR).

NMFS Office of Protected Resources (OPR) is proposing to authorize take of ringed seals, which are listed under the ESA. OPR has requested initiation of section 7 consultation with AKR for the issuance of this IHA. The Navy has also requested a section 7 consultation with AKR for ICEX26 activities. OPR will conclude the ESA consultation prior to reaching a determination regarding the proposed issuance of the authorization.

#### Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the Navy for conducting

submarine training and testing activities in the Arctic Ocean beginning in February 2026, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the proposed IHA can be found at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities>.

#### Request for Public Comments

We request comment on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the proposed ICEX26 activities. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

On a case-by-case basis, NMFS may issue a one-time, 1-year renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical or nearly identical activities as described in the Description of Proposed Activity section of this notice is planned or (2) the activities as described in the Description of Proposed Activity section of this notice would not be completed by the time the IHA expires and a renewal would allow for completion of the activities beyond that described in the *Dates and Duration* section of this notice, provided all of the following conditions are met:

- A request for renewal is received no later than 60 days prior to the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond 1 year from expiration of the initial IHA).
- The request for renewal must include the following:

1. An explanation that the activities to be conducted under the requested renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).

2. A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

- Upon review of the request for renewal, the status of the affected

species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: November 10, 2025.

**Samuel D. Rauch III,**

*Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.*

[FR Doc. 2025-19886 Filed 11-13-25; 8:45 am]

**BILLING CODE 3510-22-P**

## ENVIRONMENTAL PROTECTION AGENCY

[FRL OP-OFA-197]

### Environmental Impact Statements; Notice of Availability

*Responsible Agency:* Office of Federal Activities, General Information 202-993-3272 or <https://www.epa.gov/nepa>.

Receipt of Environmental Impact Statements (EIS)

For Emergency Publication.

Pursuant to CEQ Guidance on 42 U.S.C. 4332.

*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. 20250152, Draft Supplement, USACE, TX, Matagorda Ship Channel Improvement Project, Port Lavaca, Texas, Comment Period Ends: 12/29/2025, Contact: Heather Briscoe 409-766-3139.*

Dated: November 12, 2025.

**Nancy Abrams,**

*Associate Director, Office of Federal Activities.*

[FR Doc. 2025-19890 Filed 11-13-25; 8:45 am]

**BILLING CODE 6560-50-P**

## FEDERAL RETIREMENT THRIFT INVESTMENT BOARD

### Notice of Board Meeting

**DATE:** November 20, 2025, at 11:00 a.m. ET.

**ADDRESSES:** Telephonic. Dial-in (listen only) information: Number: 1-202-599-1426, Code: 699 114 845#; or via web: <https://www.frtib.gov/>.

**FOR FURTHER INFORMATION CONTACT:** James Kaplan, Director, Office of External Affairs, (202) 864-7150.

### SUPPLEMENTARY INFORMATION:

#### Board Meeting Agenda

##### Open Session

1. Approval of the October 28, 2025, Board Meeting Minutes
2. Monthly Reports
  - (a) Participant Report
  - (b) Investment Report
  - (c) Legislative Report
3. Quarterly Reports
  - (d) Metrics
4. Internal Audit Update

##### Closed Session

5. Information covered under 5 U.S.C. 552b(c)(6).

*Authority:* 5 U.S.C. 552b(e)(1).

Dated: November 10, 2025.

**Dharmesh Vashee,**

*General Counsel, Federal Retirement Thrift Investment Board.*

[FR Doc. 2025-19879 Filed 11-13-25; 8:45 am]

**BILLING CODE:P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### Notice of Permanent Closure; Indianapolis Downtown Heliport, Indianapolis, Indiana

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice.

**SUMMARY:** The Federal Aviation Administration (FAA) received written

notice from the Indianapolis Airport Authority on August 12, 2025 that it will permanently close the Indianapolis Downtown Heliport (8A4), Indianapolis, IN on December 15, 2025. The notice was in excess of 30 days before the closure in accordance with federal law.

**DATES:** The permanent closure of the heliport is effective as of December 15, 2025.

### FOR FURTHER INFORMATION CONTACT:

Debra L. Bartell, Acting Deputy Director, Airports Division, Great Lakes Region, (847) 294-7272.

**SUPPLEMENTARY INFORMATION:** 8A4 is a 5.36 acre, non-towered, heliport that is listed in the National Plan of Integrated Airport Systems (NPIAS). The Indianapolis Airport Authority (IAA) has been the recipient of grant funding from the FAA at 8A4 in the past. On November 25, 2024, the FAA issued a letter of intent to release IAA of its Federal obligations at 8A4 and authorize closure of the Heliport. Section 46319 of Title 49 of the United States Code [49 U.S.C. 46319] provides that a public agency (as defined in 49 U.S.C. 47102) may not permanently close an airport listed in the NPIAS under 49 U.S.C. 47103 without providing written notice to the Administrator of the FAA at least 30 days before the date of closure. The FAA recognized the letter received August 12, 2025, from IAA meets that requirement and is publishing IAA's notice of permanent closure of the Indianapolis Downtown Heliport in accordance with 49 U.S.C. 46319(b). The FAA will release IAA of its Federal obligations at 8A4 once all required actions as outlined in the November 25, 2024 letter have been completed.

Issued in Des Plaines, IL, on November 5, 2025.

**James Gregory Keefer,**

*Acting Director, Airports Division, Great Lakes Region.*

[FR Doc. 2025-19883 Filed 11-13-25; 8:45 am]

**BILLING CODE 4910-13-P**



# FEDERAL REGISTER

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Part II

## The President

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Proclamation 10989—Granting Pardons for Certain Offenses Related to the 2020 Presidential Election



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**Presidential Documents**

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Title 3—

**Proclamation 10989 of November 7, 2025****The President****Granting Pardons for Certain Offenses Related to the 2020 Presidential Election****By the President of the United States of America****A Proclamation**

This proclamation ends a grave national injustice perpetrated upon the American people following the 2020 Presidential Election and continues the process of national reconciliation.

Acting pursuant to the grant of authority in Article II, Section 2, of the Constitution of the United States, I, DONALD J. TRUMP, do hereby grant a full, complete, and unconditional pardon to all United States citizens for conduct relating to the advice, creation, organization, execution, submission, support, voting, activities, participation in, or advocacy for or of any slate or proposed slate of Presidential electors, whether or not recognized by any State or State official, in connection with the 2020 Presidential Election, as well for any conduct relating to their efforts to expose voting fraud and vulnerabilities in the 2020 Presidential Election.

This includes, but is not limited to:

- Mark Amick
- Kathy Berden
- Christina Bobb
- Tyler Bowyer
- Joseph Brannan
- Carol Brunner
- Mary Buestrin
- Darryl Carlson
- James “Ken” Carroll
- Brad Carver
- Robert Cheeley
- Kenneth Chesebro
- Hank Choate
- Jeffrey Clark
- Vikki Consiglio
- Nancy Cottle
- James DeGraffenreid
- John Downey
- John Eastman
- Jenna Ellis
- Boris Epshteyn
- Amy Facchinello
- Bill Feehan

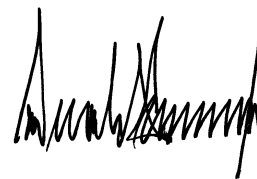
- Carolyn Fisher
- Harrison Floyd
- Clifford Frost
- Kay Godwin
- Edward Scott Grabins
- Stanley Grot
- Rudolph Giuliani
- John Haggard
- Scott Hall
- Misty Hampton
- David G. Hanna
- Mark Hennessy
- Mari-Ann Henry
- Durward James Hindle III
- Andrew Hitt
- Jake Hoffman
- Burt Jones
- Anthony T. Kern
- Kathy Kiernen
- Timothy King
- Trevian Kutti
- James Lamon
- Cathleen Latham
- Jesse Law
- Stephen Lee
- Michele Lundgren
- Meshawn Maddock
- Michael McDonald
- Mark Meadows
- Shawn Meehan
- Robert Montgomery
- Daryl Moody
- Samuel I. Moorhead
- Loraine Pellegrino
- Sidney Powell
- James Renner
- Eileen Rice
- Mayra Rodriguez
- Mike Roman
- Rose Rook
- Kelly Ruh
- Greg Safsten
- David Shafer

- Marian Sheridan
- Ray Stallings Smith III
- Robert F. Spindell Jr.
- Shawn Still
- Ken Thompson
- Pam Travis
- James Troupis
- Kent Vanderwood
- Kelli Ward
- Michael Ward
- C.B. Yadav

This pardon does not apply to the President of the United States, Donald J. Trump.

The Attorney General, acting through the Pardon Attorney, shall administer and effectuate the issuance of certificates of pardon to eligible applicants.

IN WITNESS WHEREOF, I have hereunto set my hand this seventh day of November, in the year of our Lord two thousand twenty-five, and of the Independence of the United States of America the two hundred and fiftieth.

A handwritten signature in black ink, appearing to be the signature of the Attorney General, located on the right side of the page.



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Part III

## The President

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Proclamation 10990—250th Anniversary of the Founding of the United States Marine Corps

Proclamation 10991—Veterans Day, 2025



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# Presidential Documents

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Title 3—

Proclamation 10990 of November 10, 2025

The President

## 250th Anniversary of the Founding of the United States Marine Corps

By the President of the United States of America

### A Proclamation

For two and a half centuries, the United States Marine Corps has stood as a living force of American courage, discipline, and unity. From the birth of our Republic to the challenges of the modern world, the Marines have always proven that they can accomplish any task, defend any shore, and defeat any enemy. As the United States approaches 250 years of independence, we give thanks to Almighty God for the steadfast men and women of the Marine Corps and we thank every Marine who has carried the defense of our country upon their shoulders with valor and devotion.

The Marine Corps was born in the fires of revolution when the Second Continental Congress established the Continental Marines by resolution on November 10, 1775. From the first combat action at Nassau in 1776, Marines have proven to be ruthless in battle, and lethal guardians of liberty and justice. From that moment onward, the Marines have helped shape the destiny of our Nation, fighting beside Andrew Jackson at the Battle of New Orleans, standing firm in the trenches of World War I at Belleau Wood, where they earned the nickname “Devil Dogs,” and seizing victory after victory across the Pacific at Guadalcanal, Iwo Jima, and Okinawa. They confronted communism in Korea and Vietnam, upheld the right to self-government in the Persian Gulf, and brought justice to our enemies in the deserts and mountains of the Global War on Terror. Marines protect our embassies abroad, and ensure our Federal law enforcement can do their jobs here at home. Wherever liberty has been threatened, the Marine Corps has answered with strength, courage, and unyielding honor.

At Iwo Jima, the world witnessed why the United States Marine Corps stands as the tip of the spear—the lead force that strikes first and holds the line when freedom is on the brink. On the morning of February 19, 1945, during World War II, the Marines launched one of the most consequential and grueling campaigns in our Nation’s history. Against relentless fire and unyielding resistance from the Japanese Imperial Army, our Marines stormed the black sand shores, raised the stars and stripes over Mount Suribachi, and proved that no enemy could break the spirit of the American warrior. The battle was defined by massive casualties, but also extraordinary acts of gallantry—22 Marines received the Medal of Honor for their valor, the most ever awarded for a single battle in American history. Their triumph at Iwo Jima advanced America’s cause in the Pacific and set a timeless standard for Marines who serve, defined by honor, courage, and unwavering commitment to country.

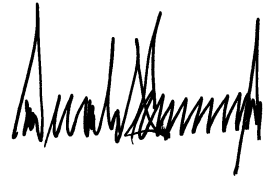
Today, the United States Marine Corps continues to stand as the shield and spear of our Republic. Their courage in combat, disciplined precision, and relentless endurance are admired around the world, sure in the knowledge that true peace is secured only by superior strength. Our Marines now serve under a mission-driven Department of War, hyper-focused on military readiness, and they are receiving our best resources and unrelenting support. My Administration is committing more than \$150 billion to forge

a leaner, more lethal force fit for the twenty-first century. With our investments in shipbuilding, missile defense, and advanced capabilities, my Administration is providing our Marines with every operational advantage so they can continue to ensure American strength prevails in every domain. Under my leadership, I will always have the backs of our Marines and make certain they are never constrained in exercising their legendary, indomitable warrior spirit.

From the halls of Montezuma to the shores of Tripoli, the United States Marines have time and again carved their names into history. Their motto, *Semper Fidelis*, meaning always faithful, speaks to the enduring strength of the Corps and to the greatness of the country they defend—one Nation, under God, steadfast, and forever free.

NOW, THEREFORE, I, DONALD J. TRUMP, President of the United States of America, by virtue of the authority vested in me by the Constitution and the laws of the United States, do hereby proclaim November 10, 2025, as a day to commemorate the 250th anniversary of the founding of the United States Marine Corps. I call upon all Government officials to display the flag of the United States over Government buildings, and I encourage the American people to display the flag and hold appropriate ceremonies as an expression of our Nation's gratitude and respect for the Marine Corps' valiant heritage.

IN WITNESS WHEREOF, I have hereunto set my hand this tenth day of November, in the year of our Lord two thousand twenty-five, and of the Independence of the United States of America the two hundred and fiftieth.



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## Presidential Documents

**Proclamation 10991 of November 10, 2025**

**Veterans Day, 2025**

**By the President of the United States of America**

### **A Proclamation**

The story of America is written with the courage, honor, and dedicated service of our veterans. Through their sacrifice, the fires of freedom burn brightly, our Republic secured, and our way of life made possible. For nearly 250 years, their unyielding spirit has carried our Nation through every trial and triumph, ensuring that liberty endures for all time. This Veterans Day, we show our gratitude and recommit to honor their service, uphold their legacy, and give every veteran the loyalty, respect, and support they have earned and so dearly deserve.

From the moment our Nation's Founders raised the cause of independence, they recognized that freedom rests upon those willing to defend it. During the midst of the American Revolution, the Continental Congress enacted the first national veterans' benefits law to care for wounded and disabled veterans. From that early act of foresight came a fundamental promise: a Nation devoted to liberty owes a debt to those who secured freedom for our people. Yet for too many decades, politicians have failed to provide the benefits earned by the best among us, leading to shameful outcomes on veteran healthcare, housing, and employment. Under my leadership, the Federal Government will no longer betray these heroes.

During my first term, my Administration achieved historic reforms to the Department of Veterans Affairs (VA) and expanded choice in healthcare and economic opportunity for our veterans. I signed into law landmark legislation to increase accountability, remove those who failed our veterans, and deliver faster, high-quality care. Now, we are building off these successes by continuing to improve the VA. We have opened 16 new veteran health clinics throughout the country, made it easier for veterans to pass on their benefits to their survivors, and ended DEI and transgender policies so we can use taxpayer dollars on programs that help veterans in need. Just this year, we have already reduced the backlog of veterans waiting for VA benefits by more than 37 percent, after rising 24 percent during the previous administration—and we are just getting started.

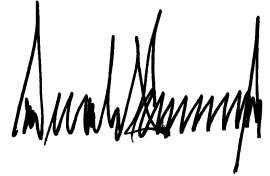
In May, I signed an Executive Order to build the National Center for Warrior Independence, which will house up to 6,000 homeless veterans by 2028. I also signed into law the One Big Beautiful Bill, making the 2017 Trump Tax Cut permanent and ending taxes on Social Security for most seniors, relieving some of the financial burden for veterans on fixed incomes. Through these reforms and actions, we are renewing our Nation's commitment to all those who served.

Our Nation remains great because of those who have served honorably in uniform and committed their lives to defending our families, our freedom, and American values. Today, we extend our deepest gratitude to our Soldiers, Sailors, Marines, Airmen, Coast Guardsmen, and Guardians for their sacrifice, and we thank the families who share the burden of their service. Under my leadership, our Nation will always uphold the legacy of our veterans by keeping America strong, proud, and free—and as President, I will always have their backs.

In respectful recognition of the contributions our service members have made to advance peace and freedom around the world, the Congress has provided (5 U.S.C. 6103(a)) that November 11 of each year shall be set aside as a legal public holiday to honor our Nation's veterans.

NOW, THEREFORE, I, DONALD J. TRUMP, President of the United States of America, do hereby proclaim November 11, 2025, as Veterans Day. I encourage all Americans to reflect on the courage and sacrifice of our veterans through public ceremonies and private thoughts and prayers of gratitude. I call upon Federal, State, and local officials to display the flag of the United States and to participate in patriotic activities in their communities.

IN WITNESS WHEREOF, I have hereunto set my hand this tenth day of November, in the year of our Lord two thousand twenty-five, and of the Independence of the United States of America the two hundred and fiftieth.



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**LIST OF PUBLIC LAWS**

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This is a continuing list of public bills from the current session of Congress which have become Federal laws. This list is also available online at <https://www.archives.gov/federal-register/laws/current.html>.

The text of laws is not published in the **Federal**

**Register** but may be ordered in "slip law" (individual pamphlet) form from the Superintendent of Documents, U.S. Government Publishing Office, Washington, DC 20402 (phone, 202-512-1808). The text is available at <https://www.govinfo.gov/app/collection/plaw>. Some laws may not yet be available.

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Military Construction and Veterans Affairs, and Extensions Act, 2026 (Nov. 12, 2025; 139 Stat. 495)  
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**Public Laws Electronic Notification Service (PENS)**

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**PENS** is a free email notification service of newly

enacted public laws. To subscribe, go to [https://portalguard.gsa.gov/\\_layouts/pg/register.aspx](https://portalguard.gsa.gov/_layouts/pg/register.aspx).

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