ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2016–0678; FRL–9977–32–OAR]

RIN 2060–AT71

National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products Residual Risk and Technology Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is proposing amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Wood Building Products to address the results of the residual risk and technology review (RTR) that the EPA is required to conduct under the Clean Air Act (CAA). We found risks due to emissions of air toxics to be acceptable from this source category and determined that the current NESHAP provides an ample margin of safety to protect public health. We identified no new cost-effective controls under the technology review to achieve further emissions reductions. The EPA is proposing: To add an alternative compliance demonstration equation; to amend provisions addressing periods of startup, shutdown and malfunction (SSM); to amend provisions regarding electronic reporting; and to make technical and editorial changes. The EPA is proposing these amendments to improve the effectiveness of the NESHAP. This action also proposes a new EPA test method to measure isocyanate compounds in certain surface coatings.

DATES: *Comments.* Comments must be received on or before June 15, 2018 unless a public hearing is requested by May 21, 2018. If a public hearing is requested, comments must be received on or before July 2, 2018. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before June 15, 2018.

Public Hearing. If a public hearing is requested by May 21, 2018, then we will hold a public hearing on May 31, 2018 at the location described in the **ADDRESSES** section. The last day to pre-register in advance to speak at the public hearing will be May 29, 2018.

ADDRESSES: *Comments.* Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2016–0678, at *http://www.regulations.gov.* Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov. Regulations.gov* is our preferred method of receiving comments. However, other submission formats are accepted. To ship or send mail via the United States Postal Service, use the following address: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA–HQ–OAR–2016–0678, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460. Use the following Docket Center address if you are using express mail, commercial delivery, hand delivery or courier: EPA Docket Center, EPA WJC West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC 20004. Delivery verification signatures will be available only during regular business hours.

Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Send or deliver information identified as CBI only to the following address: OAQPS Document Control Officer (C404–02), Office of Air Quality Planning and Standards, Environmental Protection Agency, Research Triangle Park, NC 27711, Attention EPA–HQ–OAR–2016–0678. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD–ROM that you mail to the EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets.*

The EPA may publish any comment received to its public docket. 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).

Public Hearing. If a public hearing is requested, it will be held at the EPA's Washington DC Campus located at 1201 Constitution Avenue, NW, Washington, DC. If a public hearing is requested, then we will provide details about the public hearing on our website at: *https://www.epa.gov/stationary-sources-air-pollution/surface-coating-wood-building-products-national-emission-standard-1.* The EPA does not intend to publish another document in the **Federal Register** announcing any updates on the request for a public hearing. Please contact Ms. Aimee St. Clair at (919) 541–1063 or by email at *stclair.aimee@epa.gov* to request a public hearing, to register to speak at the public hearing, or to inquire as to whether a public hearing will be held.

The EPA will make every effort to accommodate all speakers who arrive and register. If a hearing is held at a U.S. government facility, individuals planning to attend should be prepared to show a current, valid state- or federal-approved picture identification to the security staff in order to gain access to the meeting room. An expired form of identification will not be permitted. Please note that the Real ID Act, passed by Congress in 2005, established new requirements for entering federal facilities. If your driver's license is issued by a noncompliant state, you must present an additional form of identification to enter a federal facility. Acceptable alternative forms of identification include: Federal employee badge, passports, enhanced driver's licenses, and military identification cards. Additional information on the Real ID Act is available at *https://www.dhs.gov/real-id-frequently-asked-questions.* In addition, you will need to obtain a property pass for any personal belongings you bring with you. Upon leaving the building, you will be required to return this property pass to the security desk. No large signs will be allowed in the building, cameras may only be used outside of the building, and demonstrations will not be allowed on federal property for security reasons.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Mr. John Bradfield, Sector Policies and Programs Division (E143–03), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–3062; fax number: (919) 541–0516; and email address: *bradfield.john@epa.gov.* For specific information regarding the risk modeling methodology, contact Mr. James Hirtz, Health and Environmental Impacts Division (C539–02), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–0881; fax number: (919) 541–0840; and email address: *hirtz.james@epa.gov.* For information about the applicability of the NESHAP to a particular entity, contact Mr. John Cox, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC South Building (Mail Code 2221A), 1200 Pennsylvania Avenue NW, Washington DC 20460; telephone number: (202) 564–1395; and email address: *cox.john@epa.gov.*

SUPPLEMENTARY INFORMATION:

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA–HQ–OAR–2016–0678. All documents in the docket are listed in the *Regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* 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. Publicly available docket materials are available either electronically in *Regulations.gov* or in hard copy at the EPA Docket Center, Room 3334, EPA WJC West Building, 1301 Constitution Avenue NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

Instructions. Direct your comments to Docket ID No. EPA–HQ–OAR–2016–0678. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or email. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *http://www.regulations.gov,* your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/dockets.*

Preamble Acronyms and Abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

AEGL	acute exposure guideline level
AERMOD	air dispersion model used by the HEM–3 model
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
BACT	best available control technology
CAA	Clean Air Act
CalEPA	California EPA
CAP	criteria air pollutant
CBI	Confidential Business Information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
CHIEF	Clearinghouse for Inventories and Emissions Factors
CO	catalytic oxidizers
ECHO	Enforcement and Compliance History Online
EJ	environmental justice
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
ERT	Electronic Reporting Tool
GACT	generally available control technology
HAP	hazardous air pollutant(s)
HCl	hydrochloric acid
HDI	hex methylene 1,6 diisocyanate
HEM-3	Human Exposure Model, Version 1.1.0
HF	hydrogen fluoride
HI	hazard index
HQ	hazard quotient
IBR	incorporation by reference
ICR	information collection request
IRIS	Integrated Risk Information System
km	kilometer
LAER	lowest achievable emission rate
m^3	cubic meter
MACT	maximum achievable control technology
MDI	methylene diphenyl diisocyanate
MI	methyl isocyanate
MIR	maximum individual risk
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NAS	National Academy of Sciences
NEI	National Emissions Inventory
NESHAP	national emission standards for hazardous air pollutants
No.	Number
NRDC	Natural Resources Defense Council
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
PB-HAP	hazardous air pollutants known to be persistent and bio-accumulative in the environment
PDF	portable document format
PRA	Paperwork Reduction Act
QA	quality assurance
QC	quality control
RACT	reasonably available control technology
RBLC	RACT/BACT/LAER Clearinghouse
REL	reference exposure level
RFA	Regulatory Flexibility Act
RfC	reference concentration
RfD	reference dose
RTR	residual risk and technology review
SAB	Science Advisory Board
SSM	startup, shutdown, and malfunction
TDI 2,4	toluene diisocyanate
TO	thermal oxidizers
TOSHI	target organ-specific hazard index
tpy	tons per year
TRI	Toxics Release Inventory
UF	uncertainty factor
UMRA	Unfunded Mandates Reform Act
URE	unit risk estimate
U.S.	United States
U.S.C.	United States Code
VCS	voluntary consensus standards
VOC	volatile organic compounds
VOHAP	volatile organic hazardous air pollutants
WebFIRE	Web Factor Information Retrieval System
XML	extensible markup language

Organization of this Document. The information in this preamble is organized as follows:

I. General Information

A. Does this action apply to me?

Table 1 of this preamble lists the NESHAP and associated regulated industrial source category that is the subject of this proposal. Table 1 is not intended to be exhaustive, but rather provides a guide for readers regarding the entities that this proposed action is likely to affect. The proposed standards, once promulgated, will be directly applicable to the affected sources. Federal, state, local and tribal government entities would not be affected by this proposed action. As defined in the *Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990* (see 57 FR 31576, July 16, 1992), the ''Surface Coating of Wood Building Products'' source category is any facility engaged in the surface coating of wood building products. Wood building products are defined as any product that contains more than 50 percent by weight wood or wood fiber, excluding the weight of glass components, and is used in the construction, either interior or exterior, of a residential, commercial, or institutional building. This NESHAP, 40 Code of Federal regulations (CFR) part 63, subpart QQQQ, regulates all operations associated with the surface coating of wood building products, which includes preparation of the coating for application (*e.g.,* mixing with thinners); surface preparation of the wood building products; coating application, curing, and drying equipment; equipment cleaning; and storage, transfer, and handling of coatings, thinners, cleaning materials, and waste materials.

TABLE 1—NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS PROPOSED ACTION

Source category	NESHAP	NAICS code [1]
Wood Building Products	Surface Coating of Wood Building Products	321211, 321212, 321218, 321219, 321911, 321999.

[1] North American Industry Classification System.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at: *https://www.epa.gov/stationary-sources-air-pollution/surface-coating-wood-building-products-national-emission-standard-1.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the proposal and key technical documents at this same website. Information on the overall RTR program is available at *http://www3.epa.gov/ttn/atw/rrisk/rtrpg.html.*

A redline version of the regulatory language that incorporates the proposed changes in this action is available in the docket for this action (Docket ID No. EPA–HQ–OAR–2016–0678).

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

Submitting CBI. Do not submit information containing CBI to the EPA through *http://www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD–ROM that you mail to the EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI for inclusion in the public docket. If you submit a CD–ROM or disk that does not contain CBI, mark the outside of the disk or CD–ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. Send or deliver information identified as CBI only to the following address: OAQPS Document Control Officer (C404–02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA–HQ–OAR–2016–0678.

II. Background

A. What is the statutory authority for this action?

The statutory authority for this action is provided by sections 112 and 301 of the CAA, as amended (42 U.S.C. 7401 *et seq.*). Section 112 of the CAA establishes a two-stage regulatory process to develop standards for emissions of hazardous air pollutants (HAP) from stationary sources. Generally, the first stage involves establishing technology-based standards and the second stage involves evaluating those standards that are based on maximum achievable control technology (MACT) to determine whether additional standards are needed to further address any remaining risk associated with HAP emissions. This second stage is commonly referred to as the ''residual risk review.'' In addition to the residual risk review, the CAA also requires the EPA to review standards set under CAA section 112 every 8 years to determine if there are ''developments in practices, processes, or control technologies'' that may be appropriate to incorporate into the standards. This review is commonly referred to as the ''technology review.'' When the two reviews are combined into a single rulemaking, it is commonly referred to as the ''risk and technology review.'' The discussion that follows identifies the most relevant statutory sections and briefly explains the contours of the methodology used to implement these statutory requirements. A more comprehensive discussion appears in the document titled *CAA Section 112 Risk and Technology Reviews: Statutory Authority and Methodology* in the docket for this rulemaking.

In the first stage of the CAA section 112 standard setting process, the EPA promulgates technology-based standards under CAA section 112(d) for categories of sources identified as emitting one or more of the HAP listed in CAA section 112(b). Sources of HAP emissions are either major sources or area sources, and CAA section 112 establishes different requirements for major source standards and area source standards. ''Major sources'' are those that emit or have the potential to emit 10 tons per year (tpy) or more of a single HAP or 25 tpy or more of any combination of HAP. All other sources are ''area sources.'' For major sources, CAA section 112(d) provides that the technology-based NESHAP must reflect the maximum degree of emission reductions of HAP achievable (after considering cost, energy requirements, and non-air quality health and environmental impacts). These standards are commonly referred to as MACT standards. CAA section 112(d)(3) also establishes a minimum control level for MACT standards, known as the MACT ''floor.'' The EPA must also consider control options that are more stringent than the floor. Standards more stringent than the floor are commonly referred to as beyond-the-floor standards. In certain instances, as provided in CAA section 112(h), the EPA may set work practice standards where it is not feasible to prescribe or enforce a numerical emission standard. For area sources, CAA section 112(d)(5) gives the EPA discretion to set standards based on generally available control technologies or management practices (GACT standards) in lieu of MACT standards.

The second stage in standard-setting focuses on identifying and addressing any remaining (*i.e.,* ''residual'') risk according to CAA section 112(f). Section 112(f)(2) of the CAA requires the EPA to determine for source categories subject to MACT standards whether promulgation of additional standards is needed to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect. CAA section 112(d)(5) provides that this residual risk review is not required for categories of area sources subject to GACT standards. Section 112(f)(2)(B) of the CAA further expressly preserves the EPA's use of the two-step approach for developing standards to address any residual risk and the Agency's interpretation of ''ample margin of safety'' developed in the *National Emissions Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants* (Benzene NESHAP) (54 FR 38044, September 14, 1989). The EPA notified Congress in the Risk Report that the Agency intended to use the Benzene NESHAP approach in making CAA section 112(f) residual risk determinations (EPA–453/R–99–001, p. ES–11). The EPA subsequently adopted this approach in its residual risk determinations, and the United States Court of Appeals for the District of Columbia Circuit (the Court) upheld the EPA's interpretation that CAA section 112(f)(2) incorporates the approach established in the Benzene NESHAP. See *Natural Resources Defense Council (NRDC)* v. *EPA,* 529 F.3d 1077, 1083 (D.C. Cir. 2008).

The approach incorporated into the CAA and used by the EPA to evaluate residual risk and to develop standards under CAA section 112(f)(2) is a two-step approach. In the first step, the EPA determines whether risks are acceptable. This determination ''considers all health information, including risk estimation uncertainty, and includes a presumptive limit on maximum individual lifetime [cancer] risk (MIR)[1] of approximately [1-in-10 thousand] [*i.e.,* 100-in-1 million].'' 54 FR 38045, September 14, 1989. If risks are unacceptable, the EPA must determine the emissions standards necessary to bring risks to an acceptable level without considering costs. In the second step of the process, the EPA considers whether the emissions standards provide an ample margin of safety ''in consideration of all health information, including the number of persons at risk levels higher than approximately 1-in-1 million, as well as other relevant factors, including costs and economic impacts, technological feasibility, and other factors relevant to each particular decision.'' *Id.* The EPA must promulgate emission standards necessary to provide an ample margin of safety to protect public health. After conducting the ample margin of safety analysis, we consider whether a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.

CAA section 112(d)(6) separately requires the EPA to review standards promulgated under CAA section 112 and revise them ''as necessary (taking into account developments in practices, processes, and control technologies)'' no less frequently than every 8 years. In conducting this review, which we call the ''technology review,'' the EPA is not required to recalculate the MACT floor. *NRDC* v. *EPA,* 529 F.3d 1077, 1084 (D.C. Cir. 2008); *Association of Battery Recyclers, Inc.* v. *EPA,* 716 F.3d 667 (D.C. Cir. 2013). The EPA may consider cost in deciding whether to revise the standards pursuant to CAA section 112(d)(6).

B. What is this source category and how does the current NESHAP regulate its HAP emissions?

The ''Surface Coating of Wood Building Products'' source category includes any facility engaged in the surface coating of wood building products, which means the application of coatings using, for example, roll coaters or curtain coaters in the finishing or laminating of any wood building product that contains more than 50 percent by weight wood or wood fiber, excluding the weight of any glass components, and is used in the construction, either interior or exterior, of a residential, commercial, or institutional building. Regulated operations include all processes and process units incorporating wood building products surface coating operations. The processes include, but are not limited to, coating application production lines, emissions capture and exhaust ducting systems, cleanup stations, coating preparation stations

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[1] Although defined as ''maximum individual risk,'' MIR refers only to cancer risk. MIR, one metric for assessing cancer risk, is the estimated risk if an individual were exposed to the maximum level of a pollutant for a lifetime.

(*e.g.,* mixing with thinners), surface preparation of the wood building products, curing and drying equipment; and storage, transfer, and handling of coatings, thinners, cleaning materials, and waste materials. This NESHAP, 40 CFR part 63, subpart QQQQ, regulates surface coating of wood building products (referred to in this document as the Surface Coating of Wood Building Products NESHAP).

This proposal includes both a residual risk assessment and a technology review of the emission sources subject to the Surface Coating of Wood Building Products NESHAP, which includes numerical emission limits for five subcategories of wood building products:

- Exterior siding and primed doorskins;
- Flooring;
- Interior wall paneling or tileboard;
- Other interior panels; and
- Doors, windows, and miscellaneous.

C. What data collection activities were conducted to support this action?

The EPA collected data from several environmental databases that included information pertaining to wood building products manufacturing facilities with surface coating operations in the United States. The primary databases were the Enforcement and Compliance History Online (ECHO) database, the Toxics Release Inventory (TRI), and the National Emissions Inventory (NEI) for 2011 and 2014. Title V operating permits were obtained from states that have facilities subject to 40 CFR part 63, subpart QQQQ. For more details of the title V operating permit review, see the memorandum titled *Preparation of the Residual Risk Modeling Input File for Subpart QQQQ* in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2016–0678). No formal information collection request was performed.

D. What other relevant background information and data are available?

In addition to the ECHO, TRI, and NEI databases, the EPA reviewed the additional information sources listed below and consulted with stakeholders regulated under the Surface Coating of Wood Building Products NESHAP to determine if there have been developments in practices, processes, or control technologies by wood building products surface coating sources. These include:

- Permit limits and selected compliance options from permits collected from state agencies;
- Information on air pollution control options in the wood building products surface coating industry from the reasonably available control technology (RACT)/best achievable control technology (BACT)/lowest achievable emission limits (LAER) Clearinghouse (RBLC);
- Information on the most effective ways to control emissions of volatile organic compounds (VOC) and volatile organic HAP (VOHAP) from sources in various industries, including the wood building products manufacturing industry;
- Product Data Sheets and Material Safety Data Sheets submitted with compliance demonstrations; and
- Communication with trade groups and associations representing industries in the affected NAICS categories and their members.

III. Analytical Procedures

In this section, we describe the analyses performed to support the proposed decisions for the RTR and other issues addressed in this proposal.

A. How do we consider risk in our decision-making?

As discussed in section II.A of this preamble and in the Benzene NESHAP, in evaluating and developing standards under CAA section 112(f)(2), we apply a two-step approach to determine whether or not risks are acceptable and to determine if the standards provide an ample margin of safety to protect public health. As explained in the Benzene NESHAP, ‘‘the first step judgment on acceptability cannot be reduced to any single factor’’ and, thus, ‘‘[t]he Administrator believes that the acceptability of risk under section 112 is best judged on the basis of a broad set of health risk measures and information.’’ 54 FR 38046, September 14, 1989. Similarly, with regard to the ample margin of safety determination, ‘‘the Agency again considers all of the health risk and other health information considered in the first step. Beyond that information, additional factors relating to the appropriate level of control will also be considered, including cost and economic impacts of controls, technological feasibility, uncertainties, and any other relevant factors.’’ *Id.*

The Benzene NESHAP approach provides flexibility regarding factors the EPA may consider in making determinations and how the EPA may weigh those factors for each source category. The EPA conducts a risk assessment that provides estimates of the MIR posed by the HAP emissions from each source in the source category, the hazard index (HI) for chronic exposures to HAP with the potential to cause noncancer health effects, and the hazard quotient (HQ) for acute exposures to HAP with the potential to cause noncancer health effects.[2] The assessment also provides estimates of the distribution of cancer risks within the exposed populations, cancer incidence, and an evaluation of the potential for adverse environmental effects. The scope of the EPA's risk analysis is consistent with the EPA's response to comment on our policy under the Benzene NESHAP where the EPA explained that:

> ‘‘[t]he policy chosen by the Administrator permits consideration of multiple measures of health risk. Not only can the MIR figure be considered, but also incidence, the presence of noncancer health effects, and the uncertainties of the risk estimates. In this way, the effect on the most exposed individuals can be reviewed as well as the impact on the general public. These factors can then be weighed in each individual case. This approach complies with the *Vinyl Chloride* mandate that the Administrator ascertain an acceptable level of risk to the public by employing his expertise to assess available data. It also complies with the Congressional intent behind the CAA, which did not exclude the use of any particular measure of public health risk from the EPA's consideration with respect to CAA section 112 regulations, and thereby implicitly permits consideration of any and all measures of health risk which the Administrator, in his judgment, believes are appropriate to determining what will 'protect the public health'.''

See 54 FR 38057, September 14, 1989. Thus, the level of the MIR is only one factor to be weighed in determining acceptability of risks. The Benzene NESHAP explained that ‘‘an MIR of approximately one in 10 thousand should ordinarily be the upper end of the range of acceptability. As risks increase above this benchmark, they become presumptively less acceptable under CAA section 112, and would be weighed with the other health risk measures and information in making an overall judgment on acceptability. Or, the Agency may find, in a particular case, that a risk that includes MIR less than the presumptively acceptable level is unacceptable in the light of other health risk factors.'' *Id.* at 38045. Similarly, with regard to the ample margin of safety analysis, the EPA stated in the Benzene NESHAP that: ‘‘EPA believes the relative weight of the many

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[2] The MIR is defined as the cancer risk associated with a lifetime of exposure at the highest concentration of HAP where people are likely to live. The HQ is the ratio of the potential exposure to the HAP to the level at or below which no adverse chronic noncancer effects are expected; the HI is the sum of HQs for HAP that affect the same target organ or organ system.

factors that can be considered in selecting an ample margin of safety can only be determined for each specific source category. This occurs mainly because technological and economic factors (along with the health-related factors) vary from source category to source category.'' *Id.* at 38061. We also consider the uncertainties associated with the various risk analyses, as discussed earlier in this preamble, in our determinations of acceptability and ample margin of safety.

The EPA notes that it has not considered certain health information to date in making residual risk determinations. At this time, we do not attempt to quantify those HAP risks that may be associated with emissions from other facilities that do not include the source category under review, mobile source emissions, natural source emissions, persistent environmental pollution, or atmospheric transformation in the vicinity of the sources in the category.

The EPA understands the potential importance of considering an individual's total exposure to HAP in addition to considering exposure to HAP emissions from the source category and facility. We recognize that such consideration may be particularly important when assessing noncancer risks, where pollutant-specific exposure health reference levels (*e.g.,* reference concentrations (RfCs)) are based on the assumption that thresholds exist for adverse health effects. For example, the EPA recognizes that, although exposures attributable to emissions from a source category or facility alone may not indicate the potential for increased risk of adverse noncancer health effects in a population, the exposures resulting from emissions from the facility in combination with emissions from all of the other sources (*e.g.,* other facilities) to which an individual is exposed may be sufficient to result in increased risk of adverse noncancer health effects. In May 2010, the Science Advisory Board (SAB) advised the EPA ''that RTR assessments will be most useful to decision makers and communities if results are presented in the broader context of aggregate and cumulative risks, including background concentrations and contributions from other sources in the area.'' [3]

In response to the SAB recommendations, the EPA is incorporating cumulative risk analyses into its RTR risk assessments, including those reflected in this proposal. The Agency is (1) conducting facility-wide assessments, which include source category emission points, as well as other emission points within the facilities; (2) combining exposures from multiple sources in the same category that could affect the same individuals; and (3) for some persistent and bioaccumulative pollutants, analyzing the ingestion route of exposure. In addition, the RTR risk assessments have always considered aggregate cancer risk from all carcinogens and aggregate noncancer HI from all noncarcinogens affecting the same target organ system.

Although we are interested in placing source category and facility-wide HAP risks in the context of total HAP risks from all sources combined in the vicinity of each source, we are concerned about the uncertainties of doing so. Because of the contribution to total HAP risk from emission sources other than those that we have studied in depth during this RTR review, such estimates of total HAP risks would have significantly greater associated uncertainties than the source category or facility-wide estimates. Such aggregate or cumulative assessments would compound those uncertainties, making the assessments too unreliable.

B. How do we perform the technology review?

Our technology review focuses on the identification and evaluation of developments in practices, processes, and control technologies that have occurred since the MACT standards were promulgated. Where we identify such developments, in order to inform our decision of whether it is ''necessary'' to revise the emissions standards, we analyze the technical feasibility of applying these developments and the estimated costs, energy implications, and non-air environmental impacts, and we also consider the emission reductions. In addition, we consider the appropriateness of applying controls to new sources versus retrofitting existing sources.

For this exercise, we consider any of the following to be a ''development'':

- Any add-on control technology or other equipment that was not identified and considered during development of the original MACT standards;
- Any improvements in add-on control technology or other equipment (that were identified and considered during development of the original MACT standards) that could result in additional emissions reduction;
- Any work practice or operational procedure that was not identified or considered during development of the original MACT standards;
- Any process change or pollution prevention alternative that could be broadly applied to the industry and that was not identified or considered during development of the original MACT standards; and
- Any significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards).

In addition to reviewing the practices, processes, and control technologies that were considered at the time we originally developed (or last updated) the NESHAP, we review a variety of data sources in our investigation of potential practices, processes, or controls to consider. Among the sources we reviewed were the NESHAP for various industries that were promulgated since the MACT standards being reviewed in this action. We reviewed the regulatory requirements and/or technical analyses associated with these regulatory actions to identify any practices, processes, and control technologies considered in these efforts that could be applied to emission sources in the Surface Coating of Wood Building Products source category, as well as the costs, non-air impacts, and energy implications associated with the use of these technologies. Finally, we reviewed information from other sources, such as state and/or local permitting agency databases and industry-supported databases.

C. How did we estimate post-MACT risks posed by the source category?

The EPA conducted a risk assessment that provides estimates of the MIR for cancer posed by the HAP emissions from each source in the source category, the HI for chronic exposures to HAP with the potential to cause noncancer health effects, and the HQ for acute exposures to HAP with the potential to cause noncancer health effects. The assessment also provides estimates of the distribution of cancer risks within the exposed populations, cancer incidence, and an evaluation of the potential for adverse environmental effects. The seven sections that follow this paragraph describe how we estimated emissions and conducted the risk assessment. The docket for this rulemaking contains the following document which provides more information on the risk assessment

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[3] The EPA's responses to this and all other key recommendations of the SAB's advisory on RTR risk assessment methodologies (which is available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf*) are outlined in a memorandum to this rulemaking docket from David Guinnup titled, *EPA's Actions in Response to the Key Recommendations of the SAB Review of RTR Risk Assessment Methodologies.*

inputs and models: *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule.* The methods used to assess risks (as described in the seven primary steps below) are consistent with those peer-reviewed by a panel of the SAB in 2009 and described in their peer review report issued in 2010;[4] they are also consistent with the key recommendations contained in that report.

1. How did we estimate actual emissions and identify the emissions release characteristics?

Data were extracted from the ECHO database to determine which facilities were potentially subject to the Surface Coating of Wood Building Products NESHAP to develop a facility list. The ECHO database provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide and it allows for the search of information on permit data, inspection dates and findings, violations, and enforcement actions. For more details on ECHO, see *https://echo.epa.gov/resources/general-info/learn-more-about-echo.* The ECHO database identified 135 facilities as potentially subject to the Surface Coating of Wood Building Products NESHAP. Further review of the permits for these facilities found that 64 facilities have surface coating of wood building products operations, and 55 of those facilities are subject to the requirements of 40 CFR part 63, subpart QQQQ. We are interested in your comments on the development of the facility list used in our analysis. For more details on the facility list development, see the memorandum titled *Preparation of the Residual Risk Modeling Input File for Subpart QQQQ* in the docket for this rulemaking (Docket ID No. EPA–HQ–OAR–2016–0678).

As discussed in section II.C of this preamble, we used data from facility permits, the 2014 NEI (version 1), and the TRI as the basis for the emissions used in the risk assessment for the Surface Coating of Wood Building Products source category. The NEI is a database that contains information about sources that emit criteria air pollutants (CAP), CAP precursors, and HAP. The NEI is released every 3 years based primarily on data provided by state, local, and tribal air agencies for sources in their jurisdictions and supplemented with data developed by the EPA. The NEI database includes estimates of actual annual air pollutant emissions from point and fugitive sources and emission release characteristic data, such as emission release height, temperature, diameter, velocity, and flow rates. The NEI database also includes locational latitude/longitude coordinates. For more details on the NEI, see *https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei.* The TRI tracks the management of certain toxic chemicals that may pose a threat to human health and the environment through annual facility reporting of how much of each chemical is released into the environment. For more details on the TRI, see *https://www.epa.gov/toxics-release-inventory-tri-program/learn-about-toxics-release-inventory.*

We began compiling an initial draft residual risk modeling input file for use in the Surface Coating of Wood Building Products NESHAP residual risk review in 2016.[5] We made further updates to the source category facility list to account for facilities that recently closed or reopened, added new products covered by the Surface Coating of Wood Building Products NESHAP, and/or changed their surface coating equipment or application techniques.

We estimated actual emissions based on the 2014 NEI, preferentially, and subsequent site-specific inventory revisions provided by states or individual facilities. Where 2014 NEI data were not available for a facility, we used data from the 2011 NEI and then the 2014 TRI. Using this combination of EPA databases, we collected emissions information on the 55 sources in the category. We identified nine facilities that reported zero HAP emissions for the Surface Coating of Wood Building Products source category, and they were excluded from the risk modeling file. As a result, the risk modeling file characterized the impact of emissions from 46 sources.[6]

The total HAP emissions for the source category, which were included in the modeling file, are approximately 260 tpy. Based on the available data, the HAP emitted in the largest quantities are methanol, toluene, xylenes, ethyl benzene, methyl isobutyl ketone, glycol ethers, vinyl acetate, ethylene glycol, methyl methacrylate, formaldehyde, and dimethyl phthalate. Other than lead, persistent and bioaccumulative HAP (PB–HAP) were not reported as being emitted from this source category. Therefore, the only assessment of multipathway risk was for lead, and that assessment compared the ambient air lead concentrations to the lead National Ambient Air Quality Standard (NAAQS). Further information about the multipathway analysis performed for this category follows in section III.C.3.d.

2. How did we estimate MACT-allowable emissions?

The available emissions data in the RTR emissions dataset include estimates of the mass of HAP emitted during a specified annual time period. These ''actual'' emission levels are often lower than the emission levels allowed under the requirements of the current MACT standards. The emissions level allowed to be emitted under the MACT standards is referred to as the ''MACT-allowable'' emissions level. We discussed the use of both MACT-allowable and actual emissions in the final Coke Oven Batteries RTR (70 FR 19998–19999, April 15, 2005) and in the proposed and final Hazardous Organic NESHAP RTRs (71 FR 34428, June 14, 2006, and 71 FR 76609, December 21, 2006, respectively). In those actions, we noted that assessing the risks at the MACT-allowable level is inherently reasonable since these risks reflect the maximum level facilities could emit and still comply with national emission standards. We also explained that it is reasonable to consider actual emissions, where such data are available, in both steps of the risk analysis, in accordance with the Benzene NESHAP approach. (54 FR 38044, September 14, 1989.)

Actual emissions are often lower than MACT-allowable emissions due to compliance margins, more stringent state or local rules, or over-control due to use of control technologies, equipment, or work practices that are significantly better than required to meet the NESHAP limits. However, over 90 percent of wood building products manufacturers use compliant coatings with low- or no-HAP emissions and production rate limits. We assume that coatings in the category are engineered to meet the standard with a reasonable compliance margin. For those operations, we would expect actual emissions to equal MACT-allowable emissions, because of the use of the compliant coatings and/or low-HAP coatings. Additionally, for new sources,

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[4] U.S. EPA SAB. *Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing,* May 2010.

[5] For more information, see the memorandum in the docket titled *Preparation of Residual Risk Modeling Input File for Subpart QQQQ.* The memorandum describes the source of the inventory data, discusses quality assurance of the 40 CFR part 63, subpart QQQQ data, provides actual versus allowable and acute risk multipliers for subpart QQQQ sources, and identifies potential outliers and suspect data for further review.

[6] *Id.*

three of five new source limits in the NESHAP are zero-HAP limits, and, as a result, we assumed that the reported actual emissions were equal to the MACT-allowable emissions for these sources since the MACT-allowable emissions are zero. For facilities using an add-on control, the operating permits indicate that the coating lines may not operate without controls. Therefore, we assumed that MACT-allowable emissions were equal to actual emissions. We are requesting comment on the assumption that actual and MACT-allowable emissions are the same for this source category.

3. How did we conduct dispersion modeling, determine inhalation exposures, and estimate individual and population inhalation risks?

Both long-term and short-term inhalation exposure concentrations and health risks from the source category addressed in this proposal were estimated using the Human Exposure Model (HEM–3). The HEM–3 performs three primary risk assessment activities: (1) Conducting dispersion modeling to estimate the concentrations of HAP in ambient air, (2) estimating long-term and short-term inhalation exposures to individuals residing within 50 kilometers (km) of the modeled sources, and (3) estimating individual and population-level inhalation risks using the exposure estimates and quantitative dose-response information.

a. Dispersion Modeling

The air dispersion model AERMOD, used by the HEM–3 model, is one of the EPA's preferred models for assessing air pollutant concentrations from industrial facilities.[7] To perform the dispersion modeling and to develop the preliminary risk estimates, HEM–3 draws on three data libraries. The first is a library of meteorological data, which is used for dispersion calculations. This library includes 1 year (2016) of hourly surface and upper air observations from 824 meteorological stations selected to provide coverage of the United States and Puerto Rico. A second library of United States Census Bureau census block[8] internal point locations and populations provides the basis of human exposure calculations (U.S. Census, 2010). In addition, for each census block, the census library includes the elevation and controlling hill height, which are also used in dispersion calculations. A third library of pollutant-specific dose-response values is used to estimate health risks. These dose-response values are the latest values recommended by the EPA for HAP. They are available at *https://www.epa.gov/fera/dose-response-assessing-health-risks-associated-exposure-hazardous-air-pollutants* and are discussed in more detail later in this section.

b. Risk From Chronic Exposure to HAP That May Cause Cancer

In developing the risk assessment for chronic exposures, we used the estimated annual average ambient air concentrations of each HAP emitted by each source for which we have emissions data in the source category. The air concentrations at each nearby census block centroid were used as a surrogate for the chronic inhalation exposure concentration for all the people who reside in that census block. We calculated the MIR for each facility as the cancer risk associated with a continuous lifetime (24 hours per day, 7 days per week, 52 weeks per year, for a 70-year period) exposure to the maximum concentration at the centroid of inhabited census blocks. Individual cancer risks were calculated by multiplying the estimated lifetime exposure to the ambient concentration of each HAP (in micrograms per cubic meter ($\mu g/m^3$)) by its unit risk estimate (URE). The URE is an upper bound estimate of an individual's probability of contracting cancer over a lifetime of exposure to a concentration of 1 microgram of the pollutant per cubic meter of air. For residual risk assessments, we generally use UREs from the EPA's Integrated Risk Information System (IRIS). For carcinogenic pollutants without IRIS values, we look to other reputable sources of cancer dose-response values, often using California EPA (CalEPA) UREs, where available. In cases where new, scientifically credible dose-response values have been developed in a manner consistent with the EPA guidelines and have undergone a peer review process similar to that used by the EPA, we may use such dose-response values in place of, or in addition to, other values, if appropriate.

To estimate incremental individual lifetime cancer risks associated with emissions from the facilities in the source category, the EPA summed the risks for each of the carcinogenic HAP[9] emitted by the modeled sources. Cancer incidence and the distribution of individual cancer risks for the population within 50 km of the sources were also estimated for the source category by summing individual risks. A distance of 50 km is consistent with both the analysis supporting the 1989 Benzene NESHAP (54 FR 38044, September 14, 1989) and the limitations of Gaussian dispersion models, including AERMOD.

c. Risk From Chronic Exposure to HAP That May Cause Health Effects Other Than Cancer

To assess the risk of noncancer health effects from chronic exposure to HAP, we calculate either an HQ or a target organ-specific hazard index (TOSHI). We calculate an HQ when a single noncancer HAP is emitted. Where more than one noncancer HAP is emitted, we sum the HQ for each of the HAP that affects a common target organ system to obtain a TOSHI. The HQ is the estimated exposure divided by the chronic noncancer dose-response value, which is a value selected from one of several sources. The preferred chronic noncancer dose-response value is the EPA RfC (*https://iaspub.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&vocabName=IRIS%20Glossary*), defined as ''an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.'' In cases where an RfC from the EPA's IRIS database is not available or where the EPA determines that using a value other than the RfC is appropriate, the chronic noncancer dose-response value can be a value from the following prioritized sources, which

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[7] U.S. EPA. Revision to the *Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions* (70 FR 68218, November 9, 2005).

[8] A census block is the smallest geographic area for which census statistics are tabulated.

[9] The EPA classifies carcinogens as: carcinogenic to humans, likely to be carcinogenic to humans, and suggestive evidence of carcinogenic potential. These classifications also coincide with the terms ''known carcinogen, probable carcinogen, and possible carcinogen,'' respectively, which are the terms advocated in the EPA's *Guidelines for Carcinogen Risk Assessment,* published in 1986 (51 FR 33992, September 24, 1986). In August 2000, the document, *Supplemental Guidance for Conducting Health Risk Assessment of Chemical Mixtures* (EPA/630/R–00/002), was published as a supplement to the 1986 document. Copies of both documents can be obtained from *https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=20533&CFID=70315376&CFTOKEN=71597944.* Summing the risks of these individual compounds to obtain the cumulative cancer risks is an approach that was recommended by the EPA's SAB in their 2002 peer review of the EPA's National Air Toxics Assessment (NATA) titled *NATA—Evaluating the National-scale Air Toxics Assessment 1996 Data—an SAB Advisory,* available at *http://yosemite.epa.gov/sab/sabproduct.nsf/214C6E915BB04E14852570CA007A682C/$File/ecadv02001.pdf.*

define their dose-response values similarly to the EPA: (1) The Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Level (*http://www.atsdr.cdc.gov/mrls/index.asp*); (2) the CalEPA Chronic Reference Exposure Level (REL) (*http://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0*); or (3), as noted above, a scientifically credible dose-response value that has been developed in a manner consistent with the EPA guidelines and has undergone a peer review process similar to that used by the EPA.

d. Risk From Acute Exposure to HAP That May Cause Health Effects Other Than Cancer

For each HAP for which appropriate acute inhalation dose-response values are available, the EPA also assesses the potential health risks due to acute exposure. For these assessments, in order to avoid under-estimating effects, the EPA makes conservative assumptions about emission rates, meteorology, and exposure location. We use the peak hourly emission rate,[10] worst-case dispersion conditions, and, in accordance with our mandate under section 112 of the CAA, the point of highest off-site exposure to assess the potential risk to the maximally exposed individual.

To characterize the potential health risks associated with estimated acute inhalation exposures to a HAP, we generally use multiple acute dose-response values, including acute RELs, acute exposure guideline levels (AEGLs), and emergency response planning guidelines (ERPG) for 1-hour exposure durations), if available, to calculate acute HQs. The acute HQ is calculated by dividing the estimated acute exposure by the acute dose-response value. For each HAP for which acute dose-response values are available, the EPA calculates acute HQs.

An acute REL is defined as ''the concentration level at or below which no adverse health effects are anticipated for a specified exposure duration.'' [11] Acute RELs are based on the most sensitive, relevant, adverse health effect reported in the peer-reviewed medical and toxicological literature. They are designed to protect the most sensitive individuals in the population through the inclusion of margins of safety. Because margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact. AEGLs represent threshold exposure limits for the general public and are applicable to emergency exposures ranging from 10 minutes to 8 hours.[12] They are guideline levels for ''once-in-a-lifetime, short-term exposures to airborne concentrations of acutely toxic, high-priority chemicals.'' *Id.* at 21. The AEGL–1 is specifically defined as ''the airborne concentration (expressed as ppm (parts per million) or mg/m^3 (milligrams per cubic meter)) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.'' Airborne concentrations below AEGL–1 represent exposure levels that can produce mild and progressively increasing but transient and nondisabling odor, taste, and sensory irritation or certain asymptomatic, nonsensory effects.'' *Id.* AEGL–2 are defined as ''the airborne concentration (expressed as parts per million or milligrams per cubic meter) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.'' *Id.*

ERPGs are developed for emergency planning and are intended as health-based guideline concentrations for single exposures to chemicals.'' [13] *Id.* at 1. The ERPG–1 is defined as ''the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hour without experiencing other than mild transient adverse health effects or without perceiving a clearly defined, objectionable odor.'' *Id.* at 2. Similarly, the ERPG–2 is defined as ''the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.'' *Id.* at 1.

An acute REL for 1-hour exposure durations is typically lower than its corresponding AEGL–1 and ERPG–1. Even though their definitions are slightly different, AEGL–1s are often the same as the corresponding ERPG–1s, and AEGL–2s are often equal to ERPG–2s. The maximum HQs from our acute inhalation screening risk assessment typically result when we use the acute REL for a HAP. In cases where the maximum acute HQ exceeds 1, we also report the HQ based on the next highest acute dose-response value (usually the AEGL–1 and/or the ERPG–1).

For this source category, we did not have short-term emissions data; therefore, we estimated the peak, short-term emissions using available annual emissions data from the NEI. We assumed that the peak, 1-hour emission rate could exceed a facility's annual average hourly emission rate by as much as a factor of 10, under worst-case meteorological conditions. For facilities that used compliant coatings, the default acute multiplier of 10 is overly conservative because compliant coatings result in an emissions profile that is not expected to have significant fluctuations in HAP emissions. Further review of permits found that two facilities utilizing the compliant coating approach only operate coating operations for one 8-hour shift per day, therefore, an acute multiplier of 3 was used. The default multiplier of 10 was applied to all other facilities. A further discussion of why these factors were chosen can be found in the memorandum, *Preparation of the Residual Risk Modeling Input File for*

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[10] In the absence of hourly emission data, we develop estimates of maximum hourly emission rates by multiplying the average actual annual emissions rates by a default factor (usually 10) to account for variability. This is documented in *Residual Risk Assessment for Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule, September, 2017 Risk and Technology Review Proposed Rule* and in Appendix 5 of the report: *Analysis of Data on Short-term Emission Rates Relative to Long-term Emission Rates.* Both are available in the docket for this rulemaking.

[11] CalEPA issues acute RELs as part of its Air Toxics Hot Spots Program, and the 1-hour and 8-hour values are documented in *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I, The Determination of Acute Reference Exposure Levels for Airborne Toxicants,* which is available at *http://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary.*

[12] National Academy of Sciences, 2001. *Standing Operating Procedures for Developing Acute Exposure Levels for Hazardous Chemicals,* page 2. Available at *https://www.epa.gov/sites/production/files/2015-09/documents/sop_final_standing_operating_procedures_2001*.pdf. Note that the National Advisory Committee/AEGL Committee ended in October 2011, but the AEGL program continues to operate at the EPA and works with the National Academies to publish final AEGLs (*https://www.epa.gov/aegl*).

[13] *ERPGS Procedures and Responsibilities.* March 2014. American Industrial Hygiene Association. Available at: *https://www.aiha.org/get-involved/AIHAGuidelineFoundation/EmergencyResponsePlanningGuidelines/Documents/ERPG%20Committee%20Standard%20Operating%20Procedures%20%20-%20March%202014%20Revision%20%28Updated%2010-2-2014%29.pdf.*

Subpart QQQQ, available in the docket for this rulemaking.

In our acute inhalation screening risk assessment, acute impacts are deemed negligible for HAP where acute HQs are less than or equal to 1 (even under the conservative assumptions of the screening assessment), and no further analysis is performed for these HAP. In cases where an acute HQ from the screening step is greater than 1, we consider additional site-specific data to develop a more refined estimate of the potential for acute impacts of concern. For this source category, we refined our analysis by reviewing the receptor locations where the maximum HQ occurred. These refinements are discussed more fully in the *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* which is available in the docket for this source category.

4. How did we conduct the multipathway exposure and risk screening assessment?

The EPA conducted a tiered screening assessment examining the potential for significant human health risks due to exposures via routes other than inhalation (*i.e.,* ingestion). We first determined whether any sources in the source category emitted any PB–HAP, as identified in the EPA's Air Toxics Risk Assessment Library (see Volume 1, Appendix D, at *http://www2.epa.gov/fera/risk-assessment-and-modeling-air-toxics-risk-assessment-reference-library*).

For the Surface Coating of Wood Building Products source category, we did not identify emissions of any PB–HAP except for lead compounds, for which the lead NAAQS was applied to assess multipathway impacts. Because we did not identify PB–HAP emissions requiring further evaluation, no further evaluation of multipathway risk was conducted for this source category.

In evaluating the potential multipathway risk from emissions of lead compounds, rather than developing a screening threshold emission rate, we compare maximum estimated chronic inhalation exposure concentrations with the level of the current NAAQS for lead.[14] Values below the level of the primary (health-based) lead NAAQS are considered to have a low potential for multipathway risk.

For further information on the multipathway assessment approach, see the *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* which is available in the docket for this action.

5. How did we conduct the environmental risk screening assessment?

a. Adverse Environmental Effects, Environmental HAP, and Ecological Benchmarks

The EPA conducts a screening assessment to examine the potential for adverse environmental effects as required under section 112(f)(2)(A) of the CAA. Section 112(a)(7) of the CAA defines ''adverse environmental effect'' as ''any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.''

The EPA focuses on eight HAP, which are referred to as ''environmental HAP,'' in its screening assessment: six PB–HAP and two acid gases. The PB–HAP included in the screening assessment are arsenic compounds, cadmium compounds, dioxins/furans, polycyclic organic matter, mercury (both inorganic mercury and methyl mercury), and lead compounds. The acid gases included in the screening assessment are hydrochloric acid (HCl) and hydrogen fluoride (HF).

The HAP that persist and bioaccumulate are of particular environmental concern because they accumulate in the soil, sediment, and water. The acid gases, HCl and HF, were included due to their well-documented potential to cause direct damage to terrestrial plants. In the environmental risk screening assessment, we evaluate the following four exposure media: Terrestrial soils, surface water bodies (includes water-column and benthic sediments), fish consumed by wildlife, and air. Within these four exposure media, we evaluate nine ecological assessment endpoints, which are defined by the ecological entity and its attributes. For PB–HAP (other than lead), both community-level and population-level endpoints are included. For acid gases, the ecological assessment evaluated is terrestrial plant communities.

An ecological benchmark represents a concentration of HAP that has been linked to a particular environmental effect level. For each environmental HAP, we identified the available ecological benchmarks for each assessment endpoint. We identified, where possible, ecological benchmarks at the following effect levels: Probable effect levels, lowest-observed-adverse-effect level, and no-observed-adverse-effect level. In cases where multiple effect levels were available for a particular PB–HAP and assessment endpoint, we use all of the available effect levels to help us to determine whether ecological risks exist and, if so, whether the risks could be considered significant and widespread.

For further information on how the environmental risk screening assessment was conducted, including a discussion of the risk metrics used, how the environmental HAP were identified, and how the ecological benchmarks were selected, see Appendix 9 of the *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* which is available in the docket for this action.

b. Environmental Risk Screening Methodology

For the environmental risk screening assessment, the EPA first determined whether any facilities in the Surface Coating of Wood Building Products source category emitted any of the environmental HAP. For the Surface Coating of Wood Building Products source category, we identified emissions of lead compounds.

Because one or more of the environmental HAP evaluated are emitted by at least one facility in the source category, we proceeded to the second step of the evaluation.

To evaluate the potential for adverse environmental effects from lead, we compared the average modeled air concentrations (from HEM–3) of lead around each facility in the source category to the level of the secondary NAAQS for lead. The secondary lead NAAQS is a reasonable means of evaluating environmental risk because it is set to provide substantial protection against adverse welfare effects which

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[14] In doing so, the EPA notes that the legal standard for a primary NAAQS—that a standard is requisite to protect public health and provide an adequate margin of safety (CAA section 109(b))—differs from the CAA section 112(f) standard (requiring, among other things, that the standard provide an ''ample margin of safety''). However, the primary lead NAAQS is a reasonable measure of determining risk acceptability (*i.e.,* the first step of the Benzene NESHAP analysis) since it is designed to protect the most susceptible group in the human population—children, including children living near major lead emitting sources. 73 FR 67002/3; 73 FR 67000/3; 73 FR 67005/1. In addition, applying the level of the primary lead NAAQS at the risk acceptability step is conservative, since that primary lead NAAQS reflects an adequate margin of safety.

can include ''effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being.''

6. How did we conduct facility-wide assessments?

To put the source category risks in context, we typically examine the risks from the entire ''facility,'' where the facility includes all HAP-emitting operations within a contiguous area and under common control. In other words, we examine the HAP emissions not only from the source category emission points of interest, but also emissions of HAP from all other emission sources at the facility for which we have data.

For this source category, we conducted the facility-wide assessment using a dataset that the EPA compiled from the 2014 NEI. We used the NEI data for the facility and did not adjust any category or ''non-category'' data. Therefore, there could be differences in the dataset from that used for the source category assessments described in this preamble. We analyzed risks due to the inhalation of HAP that are emitted ''facility-wide'' for the populations residing within 50 km of each facility, consistent with the methods used for the source category analysis described above. For these facility-wide risk analyses, we made a reasonable attempt to identify the source category risks, and these risks were compared to the facility-wide risks to determine the portion of facility-wide risks that could be attributed to the source category addressed in this proposal. We also specifically examined the facility that was associated with the highest estimate of risk and determined the percentage of that risk attributable to the source category of interest. The *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* available through the docket for this action, provides the methodology and results of the facility-wide analyses, including all facility-wide risks and the percentage of source category contribution to facility-wide risks.

7. How did we consider uncertainties in risk assessment?

Uncertainty and the potential for bias are inherent in all risk assessments, including those performed for this proposal. Although uncertainty exists, we believe that our approach, which used conservative tools and assumptions in order to avoid underestimating effects, ensures that our decisions are health and environmentally protective. A brief discussion of the uncertainties in the RTR emissions dataset, dispersion modeling, inhalation exposure estimates, and dose-response relationships follows below. Also included are those uncertainties specific to our acute screening assessments, multipathway screening assessments, and our environmental risk screening assessments. A more thorough discussion of these uncertainties is included in the *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* which is available in the docket for this action. If a multipathway site-specific assessment was performed for this source category, a full discussion of the uncertainties associated with that assessment can be found in Appendix 11 of that document, *Site-Specific Human Health Multipathway Residual Risk Assessment Report.*

a. Uncertainties in the RTR Emissions Dataset

Although the development of the RTR emissions dataset involved quality assurance/quality control (QC) processes, the accuracy of emissions values will vary depending on the source of the data, the degree to which data are incomplete or missing, the degree to which assumptions made to complete the datasets are accurate, errors in emission estimates, and other factors. The emission estimates considered in this analysis generally are annual totals for certain years, and they do not reflect short-term fluctuations during the course of a year or variations from year to year. The estimates of peak hourly emission rates for the acute effects screening assessment were based on an emission adjustment factor applied to the average annual hourly emission rates, which are intended to account for emission fluctuations due to normal facility operations.

b. Uncertainties in Dispersion Modeling

We recognize there is uncertainty in ambient concentration estimates associated with any model, including the EPA's recommended regulatory dispersion model, AERMOD. In using a model to estimate ambient pollutant concentrations, the user chooses certain options to apply. For RTR assessments, we select some model options that have the potential to overestimate ambient air concentrations (*e.g.,* not including plume depletion or pollutant transformation). We select other model options that have the potential to underestimate ambient impacts (*e.g.,* not including building downwash). Other options that we select have the potential to either under- or overestimate ambient levels (*e.g.,* meteorology and receptor locations). On balance, considering the directional nature of the uncertainties commonly present in ambient concentrations estimated by dispersion models, the approach we apply in the RTR assessments should yield unbiased estimates of ambient HAP concentrations. We also note that the selection of meteorology dataset location could have an impact on the risk estimates. As we continue to update and expand our library of meteorological station data used in our risk assessments, we expect to reduce this variability.

c. Uncertainties in Inhalation Exposure Assessment

Although every effort is made to identify all of the relevant facilities and emission points, as well as to develop accurate estimates of the annual emission rates for all relevant HAP, the uncertainties in our emission inventory likely dominate the uncertainties in the exposure assessment. Some uncertainties in our exposure assessment include human mobility, using the centroid of each census block, assuming lifetime exposure, and assuming only outdoor exposures. For most of these factors, there is neither an under nor overestimate when looking at the maximum individual risks or the incidence, but the shape of the distribution of risks may be affected. With respect to outdoor exposures, actual exposures may not be as high if people spend time indoors, especially for very reactive pollutants or larger particles. For all factors, we reduce uncertainty when possible. For example, with respect to census-block centroids, we analyze large blocks using aerial imagery and adjust locations of the block centroids to better represent the population in the blocks. We also add additional receptor locations where the population of a block is not well represented by a single location.

d. Uncertainties in Dose-Response Relationships

There are uncertainties inherent in the development of the dose-response values used in our risk assessments for cancer effects from chronic exposures and noncancer effects from both chronic and acute exposures. Some uncertainties are generally expressed quantitatively, and others are generally expressed in qualitative terms. We note, as a preface to this discussion, a point on dose-response uncertainty that is stated in the EPA's *2005 Cancer Guidelines;* namely, that ''the primary goal of EPA actions is protection of human health; accordingly, as an Agency policy, risk assessment procedures, including default options that are used in the absence of scientific data to the contrary, should be health protective'' (EPA's *2005 Cancer Guidelines,* pages 1–7). This is the approach followed here as summarized in the next paragraphs.

Cancer UREs used in our risk assessments are those that have been developed to generally provide an upper bound estimate of risk. That is, they represent a ''plausible upper limit to the true value of a quantity'' (although this is usually not a true statistical confidence limit).[15] In some circumstances, the true risk could be as low as zero; however, in other circumstances the risk could be greater.[16] Chronic noncancer RfC and reference dose (RfD) values represent chronic exposure levels that are intended to be health-protective levels. To derive dose-response values that are intended to be ''without appreciable risk,'' the methodology relies upon an uncertainty factor (UF) approach (U.S. EPA, 1993 and 1994) which considers uncertainty, variability, and gaps in the available data. The UFs are applied to derive dose-response values that are intended to protect against appreciable risk of deleterious effects.

Many of the UFs used to account for variability and uncertainty in the development of acute dose-response values are quite similar to those developed for chronic durations. Additional adjustments are often applied to account for uncertainty in extrapolation from observations at one exposure duration (*e.g.,* 4 hours) to derive an acute dose-response value at another exposure duration (*e.g.,* 1 hour). Not all acute dose-response values are developed for the same purpose, and care must be taken when interpreting the results of an acute assessment of human health effects relative to the dose-response value or values being exceeded. Where relevant to the estimated exposures, the lack of acute dose-response values at different levels of severity should be factored into the risk characterization as potential uncertainties.

Uncertainty also exists in the selection of ecological benchmarks for the environmental risk screening assessment. We established a hierarchy of preferred benchmark sources to allow selection of benchmarks for each environmental HAP at each ecological assessment endpoint. We searched for benchmarks for three effect levels (*i.e.,* no-effects level, threshold-effect level, and probable effect level), but not all combinations of ecological assessment/environmental HAP had benchmarks for all three effect levels. Where multiple effect levels were available for a particular HAP and assessment endpoint, we used all of the available effect levels to help us determine whether risk exists and whether the risk could be considered significant and widespread.

Although every effort is made to identify appropriate human health effect dose-response values for all pollutants emitted by the sources in this risk assessment, some HAP emitted by this source category are lacking dose-response assessments. Accordingly, these pollutants cannot be included in the quantitative risk assessment, which could result in quantitative estimates understating HAP risk. To help to alleviate this potential underestimate, where we conclude similarity with a HAP for which a dose-response value is available, we use that value as a surrogate for the assessment of the HAP for which no value is available. To the extent use of surrogates indicates appreciable risk, we may identify a need to increase priority for an IRIS assessment for that substance. We additionally note that, generally speaking, HAP of greatest concern due to environmental exposures and hazard are those for which dose-response assessments have been performed, reducing the likelihood of understating risk. Further, HAP not included in the quantitative assessment are assessed qualitatively and considered in the risk characterization that informs the risk management decisions, including consideration of HAP reductions achieved by various control options.

For a group of compounds that are unspeciated (*e.g.,* glycol ethers), we conservatively use the most protective dose-response value of an individual compound in that group to estimate risk. Similarly, for an individual compound in a group (*e.g.,* ethylene glycol diethyl ether) that does not have a specified dose-response value, we also apply the most protective dose-response value from the other compounds in the group to estimate risk.

e. Uncertainties in Acute Inhalation Screening Assessments

In addition to the uncertainties highlighted above, there are several factors specific to the acute exposure assessment that the EPA conducts as part of the risk review under section 112 of the CAA. The accuracy of an acute inhalation exposure assessment depends on the simultaneous occurrence of independent factors that may vary greatly, such as hourly emissions rates, meteorology, and the presence of humans at the location of the maximum concentration. In the acute screening assessment that we conduct under the RTR program, we assume that peak emissions from the source category and worst-case meteorological conditions co-occur, thus, resulting in maximum ambient concentrations. These two events are unlikely to occur at the same time, making these assumptions conservative in the sense that they may over-estimate effects. We then include the additional assumption that a person is located at this point during this same time period. For this source category, these assumptions would tend to be worst-case actual exposures as it is unlikely that a person would be located at the point of maximum exposure during the time when peak emissions and worst-case meteorological conditions occur simultaneously.

IV. Analytical Results and Proposed Decisions

A. What are the results of the risk assessment and analyses?

As described above, for the Surface Coating of Wood Building Products source category, we conducted an inhalation risk assessment for all HAP emitted, and multipathway and environmental risk screening assessments on the only PB–HAP emitted, lead. We present results of the risk assessment briefly below and in more detail in the residual risk document titled *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* which is available in the docket for this action.

1. Inhalation Risk Assessment Results

Table 2 of this preamble provides an overall summary of the results of the inhalation risk assessment. As discussed in section III.C.2 of this preamble, we set MACT-allowable HAP emission levels equal to actual emissions. For more detail about the MACT-allowable emission levels, see the memorandum,

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[15] IRIS glossary (*https://ofmpub.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&glossaryName=IRIS%20Glossary*).

[16] An exception to this is the URE for benzene, which is considered to cover a range of values, each end of which is considered to be equally plausible, and which is based on maximum likelihood estimates.

Preparation of Residual Risk Modeling Input File for Subpart QQQQ,[5] which is available in the docket for this action.

TABLE 2—SURFACE COATING OF WOOD BUILDING PRODUCTS INHALATION RISK ASSESSMENT RESULTS [1]

Risk assessment	Number of facilities [2]	Maximum individual cancer risk (in 1 million) [3]	Estimated population at increased risk of cancer ≥1-in-1 Million	Estimated annual cancer incidence (cases per year)	Maximum chronic noncancer TOSHI [4]	Maximum screening acute noncancer HQ [5]
Source Category ..	46	6	800	0.0006	0.05	1
Facility-Wide	46	30	26,000	0.004	7	....

[1] Based on actual and allowable emissions. For this source category, actual and allowable emissions are identical, so a separate risk assessment was not conducted for allowable emissions.

[2] Number of facilities evaluated in the risk assessment. As described elsewhere, there are additional facilities included in the data set for the technology review.

[3] Maximum individual excess lifetime cancer risk due to HAP emissions from the source category.

[4] Maximum TOSHI. The target organ with the highest TOSHI for the wood building products source category is the respiratory system.

[5] The maximum estimated acute exposure concentration was divided by available short-term threshold values to develop an array of HQ values. HQ values shown use the lowest available acute threshold value, which in most cases is the REL. When an HQ exceeds 1, we also show the HQ using the next lowest available acute dose-response value.

The inhalation risk modeling performed to estimate risks based on actual and allowable emissions relied primarily on emissions data from the NEI. The results of the inhalation cancer risk assessment, as shown in Table 2 of this preamble, indicate that the MIR could be up to 6-in-1 million, with formaldehyde from the melamine laminating process as the sole contributor (100 percent) to the MIR. The total estimated cancer incidence from wood building product coating sources based on actual emission levels is 0.0006 excess cancer cases per year or one case every 1,667 years, with emissions of formaldehyde (35 percent), naphthalene (27 percent), ethyl benzene (21 percent), and chromium (VI) compounds (17 percent) contributing to the cancer incidence. In addition, we estimate that approximately 800 people have cancer risks greater than or equal to 1-in-1 million.

The maximum modeled chronic noncancer HI (TOSHI) value for the source category based on actual emissions is estimated to be 0.05, with emissions of formaldehyde from the melamine laminating process as the sole contributor (100 percent) to the TOSHI. The target organ affected is the respiratory system. There are not any people estimated to have exposure to HI levels greater than 1 as a result of emissions from this source category.

2. Acute Risk Results

Table 2 of this preamble shows the acute risk results for this category. The screening analysis for acute impacts was based on actual emissions, and to estimate the peak emission rates from the average rates, an industry-specific multiplier of 3 was used for two facilities, and a default factor of 10 was used for the remaining facilities. The results of the acute screening analysis indicate that the maximum off-facility-site acute HQ is 1, based on the REL value for formaldehyde, and occurs at two facilities. One of these two facilities used the acute factor of 3 to characterize short-term emissions, while the other used the factor of 10. For all other HAP and facilities, acute HQ values are less than 1. Refer to the document titled *Preparation of the Residual Risk Modeling Input File for Subpart QQQQ* (available in the docket for this action) for a detailed description of how the acute factors were developed for this source category. For more detailed acute risk results, refer to the residual risk document titled *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* which is available in the docket for this action.

3. Multipathway Risk Screening Results

The only PB–HAP emitted by facilities in this source category is lead. Results of the analysis for lead indicate that based on actual emissions, the maximum annual off-site ambient lead concentration was only 0.1 percent of the primary NAAQS for lead, and if the total annual emissions occurred during a 3-month period, the maximum 3-month rolling average concentration would still be only 0.5 percent of the NAAQS. Therefore, we do not expect any human health multipathway risks as a result of emissions from this source category.

4. Environmental Risk Screening Results

The only environmental HAP emitted by facilities in this source category is lead. Results of the analysis for lead indicate that based on actual emissions, the maximum annual off-site ambient lead concentration was only 0.1 percent of the secondary NAAQS for lead, and if the total annual emissions occurred during a 3-month period, the maximum 3-month rolling average concentration would still be only 0.5 percent of the NAAQS. Therefore, we do not expect an adverse environmental effect as a result of HAP emissions from this source category.

5. Facility-Wide Risk Results

An assessment of the facility-wide risks was performed to provide context for the source category risks, using NEI data as described above. The maximum facility-wide cancer MIR is 30-in-1 million, mainly driven by formaldehyde, chromium (VI) compounds, and nickel compounds emissions from wood drying and enamel coating operations. Wood drying is regulated under 40 CFR part 63, subpart DDDD, the Plywood and Composite Wood Products NESHAP, and enamel coating is regulated under 40 CFR part 63, subpart RRRR, the Surface Coating of Metal Furniture NESHAP. Risk and technology reviews are currently underway for both NESHAP categories. The total estimated cancer incidence from the facility-wide assessment is 0.004 excess cancer cases per year, or one excess case in every 250 years. Approximately 26,000 people are estimated to have cancer risks greater than 1-in-1 million from exposure to HAP emitted from both MACT and non-MACT sources. The maximum facility-wide TOSHI is estimated to be 7, mainly driven by emissions of acrolein from industrial processes related to wood products that are characterized as ‘‘other, not classified’’ in NEI. Wood drying, regulated under 40 CFR part 63, subpart DDDD, noted above, is presumably the source of the acrolein since the facilities identified as sources also dry wood. We estimate that approximately 900 people are exposed to noncancer HI levels above 1, based on facility-wide emissions.

6. What demographic groups might benefit from this regulation?

To examine the potential for any environmental justice (EJ) issues that might be associated with the source category, we performed a demographic analysis, which is an assessment of risks to individual demographic groups of the populations living within 5 km and within 50 km of the facilities. In the analysis, we evaluated the distribution of HAP-related cancer and noncancer risks from the Surface Coating of Wood Building Products source category across different demographic groups within the populations living near facilities.[17]

The results of the demographic analysis are summarized in Table 3 below. These results, for various demographic groups, are based on the estimated risks from actual emissions levels for the population living within 50 km of the facilities.

TABLE 3—SURFACE COATING OF WOOD BUILDING PRODUCTS SOURCE CATEGORY DEMOGRAPHIC RISK ANALYSIS RESULTS

	Nationwide	Population with cancer risk at or above 1-in-1 million due to wood building products surface coating	Population with chronic hazard index above 1 due to wood building products surface coating
Total Population	317,746,049	800	0
Race by Percent			
White	62	16	0
All Other Races	38	84	0
Race by Percent			
White	62	16	0
African American	12	75	0
Native American	0.8	0.0	0
Other and Multiracial	7	3	0
Ethnicity by Percent			
Hispanic	18	6	0
Non-Hispanic	82	94	0
Income by Percent			
Below Poverty Level	14	19	0
Above Poverty Level	86	81	0
Education by Percent			
Over 25 and without High School Diploma	14	25	0
Over 25 and with a High School Diploma	86	75	0

The results of the Surface Coating of Wood Building Products source category demographic analysis indicate that emissions from the source category expose approximately 800 people to a cancer risk at or above 1-in-1 million and no people to a chronic noncancer TOSHI greater than 1. The percentages of the at-risk population are greater than their respective nationwide percentages for the following demographic groups (excluding non-Hispanic): African American, people over 25 without a high school diploma, and people living below the poverty level. The other demographic groups within the exposed population were similar to or lower than the corresponding nationwide percentages.

The methodology and the results of the demographic analysis are presented in a technical report, *Risk and Technology Review—Analysis of Demographic Factors for Populations Living Near Wood Building Products Surface Coating Facilities,* available in the docket for this action.

B. What are our proposed decisions regarding risk acceptability, ample margin of safety, and adverse environmental effects?

1. Risk Acceptability

As noted in section II.A of this preamble, the EPA sets standards under CAA section 112(f)(2) using ‘‘a two-step standard-setting approach, with an analytical first step to determine an ‘acceptable risk’ that considers all health information, including risk estimation uncertainty, and includes a presumptive limit on MIR of ‘‘approximately 1-in-10 thousand’’ (54 FR 38045, September 14, 1989). We weigh all health risk factors in our risk

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[17] Demographic groups included in the analysis are: White, African American, Native American, other races and multiracial, Hispanic or Latino, children 17 years of age and under, adults 18 to 64 years of age, adults 65 years of age and over, adults without a high school diploma, people living below the poverty level, people living two times the poverty level, and linguistically isolated people.

acceptability determination, including the cancer MIR, cancer incidence, the maximum cancer TOSHI, the maximum acute noncancer HQ, the extent of noncancer risks, the distribution of cancer and noncancer risks in the exposed population, and the risk estimation uncertainties.

For this risk assessment, the EPA estimated risks based on actual and allowable emissions from wood building products surface coating sources. Allowable emissions were estimated to be equal to actual emissions. The estimated inhalation cancer risk to the individual most exposed to emissions from the source category is 6-in-1-million. Approximately 800 people face an increased cancer risk greater than 1-in-1 million due to inhalation exposure to HAP emissions from this source category. The risk analysis indicates very low cancer incidence (0.0006 excess cancer cases per year, or one excess case every 1,667 years), as well as low potential for adverse chronic noncancer health effects. The acute screening assessment indicates no pollutants or facilities exceeding an HQ value of 1. Therefore, we find there is little potential concern of acute noncancer health impacts. In evaluating the potential for multipathway effects from emissions of lead from the source category, the risk assessment indicates no significant potential for multipathway effects.

Considering all of the health risk information and factors discussed above, including the uncertainties discussed in section III of this preamble, the EPA proposes that the risks from the Surface Coating of Wood Building Products source category are acceptable.

2. Ample Margin of Safety Analysis and Proposed Controls

As directed by CAA section 112(f)(2), we conducted an analysis to determine if the current emissions standards provide an ample margin of safety to protect public health. Under the ample margin of safety analysis, the EPA considers all health factors evaluated in the risk assessment and evaluates the cost and feasibility of available control technologies and other measures (including the controls, measures, and costs reviewed under the technology review) that could be applied to this source category to further reduce the risks (or potential risks) due to emissions of HAP identified in our risk assessment. In this analysis, we considered the results of the technology review, risk assessment, and other aspects of our MACT rule review to determine whether there are any cost-effective controls or other measures that would reduce emissions further to provide an ample margin of safety with respect to the risks associated with these emissions.

Although we are proposing that the risks from this source category are acceptable, risk estimates for approximately 800 people in the exposed population are above 1-in-1 million, caused by formaldehyde emissions from one facility. The maximum acute risk is an HQ of 1 also caused by formaldehyde. As a result, we further considered whether the MACT standards for this source category provide an ample margin of safety to protect public health.

Our technology review did not identify any new practices, controls, or process options that are being used in this industry, or in other industries, that would be cost effective and result in further reduction of formaldehyde emissions.[18] Our review of the operating permits for major sources subject to the Surface Coating of Wood Building Products MACT did not reveal any facilities with limits set below the current new or existing source limits (Tables 1 and 2, 40 CFR part 63, subpart QQQQ). Limits set below the current standards would have been an indication that improved controls or lower emission compliant coatings were available. As discussed in the technology review memorandum, our review of the RACT/BACT/LAER Clearinghouse (RBLC) identified three sources that are potentially covered under 40 CFR part 63, subpart QQQQ, but none contained new control methods.

Because no new controls, technologies, processes, or work practices were identified to reduce formaldehyde emissions and the risk assessment determined that the health risks associated with HAP emissions remaining after implementation of the Surface Coating of Wood Building Products MACT were acceptable, we are proposing that the current standards protect public health with an ample margin of safety.

3. Adverse Environmental Effects

The emissions data for this source category indicate the presence of one environmental HAP, lead, emitted by sources within this source category. Based on the results of our environmental risk screening assessment, we conclude that there is not an adverse environmental effect as a result of HAP emissions from the Surface Coatings of Wood Building Products source category.[19] Thus, we are proposing that it is not necessary to set a more stringent standard.

C. What are the results and proposed decisions based on our technology review?

1. How did we evaluate technological developments?

Section 112(d)(6) of the CAA requires a review of ‘‘developments in practices, processes and control technologies’’ in each source category as part of the technology review process. For this technology review, the ‘‘developments’’ we consider include:

- Add-on control technology that was not identified during the NESHAP development;
- improvement to an existing add-on control technology resulting in significant additional HAP emissions reductions;
- work practice or operational procedure that was not previously identified;
- process change or pollution prevention alternative that was not identified; or
- a coating formulation or application technique that was not previously identified.

2. What was our analysis and conclusions regarding technological developments?

Our review of the developments in technology for the Surface Coating of Wood Building Products source category did not reveal any changes that require revisions to the emission standards. In the original NESHAP, it was noted that ‘‘the most prevalent form of emission control for surface coating of wood building products is the use of low-VOC and low-HAP coatings, such as waterborne or ultraviolet-cured coatings.’’ [20]

Our review did not identify any new or improved add-on control technology, any new work practices, operational procedures, process changes, or new pollution prevention approaches that reduce emissions in the category that have been implemented at wood building products surface coating

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[18] *Technology Review for the Surface Coating of Wood Building Products Source Category—Proposed Rule;* see Docket ID No. EPA–HQ–OAR–2016–0678.

[19] The environmental screening analysis is documented in *Residual Risk Assessment for Wood Building Products Surface Coating Sources in Support of the February 2018 Risk and Technology Review Proposed Rule,* in the docket for this action.

[20] *Preliminary Industry Characterization: Wood Building Products Surface Coating.* Publication No. EPA–453/R–00–004. September 1998. Available at *https://www3.epa.gov/airtoxics/coat/flatw/wbppic.pdf.*

operations since promulgation of the current NESHAP. Consequently, we propose that no revisions to the NESHAP are necessary pursuant to CAA section 112(d)(6).

D. What other actions are we proposing?

In addition to the proposed determinations described above, we are proposing additional revisions. We are proposing revisions to the SSM provisions of the MACT rule in order to ensure that they are consistent with the Court decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), which vacated two provisions that exempted sources from the requirement to comply with otherwise applicable CAA section 112(d) emission standards during periods of SSM. We also are proposing various other changes, including an alternative compliance calculation, electronic submittal of notifications, compliance reports, and performance test reports, a new EPA test method, incorporation by reference (IBR) of several test methods (listed in section IV.D.5 below), and various technical and editorial changes. Additionally, we are requesting comment on repeat emissions testing requirements for facilities that demonstrate compliance with the standards using add-on control devices. Our analyses and proposed changes related to these issues are discussed in sections IV.D.1 through 6 of this preamble.

1. Startup, Shutdown, and Malfunction

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the Court vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some CAA section 112 standards apply continuously.

We are proposing the elimination of the SSM exemption in this rule, which appears at 40 CFR 63.4700, 40 CFR 63.4720, and in Table 4 to Subpart QQQQ of Part 63. Consistent with *Sierra Club* v. *EPA,* we are proposing standards in this rule that apply at all times. We are also proposing several revisions to Table 4 (the General Provisions Applicability Table) as is explained in more detail below. For example, we are proposing to eliminate the incorporation of the General Provisions' requirement that the source develop an SSM plan. We also are proposing to eliminate and revise certain recordkeeping and reporting requirements related to the SSM exemption as further described below.

The EPA has attempted to ensure that the provisions we are proposing to eliminate are inappropriate, unnecessary, or redundant in the absence of the SSM exemption. We are specifically seeking comment on whether we have successfully done so. The EPA believes the removal of the SSM exemption creates no additional burden to facilities regulated under the Surface Coating of Wood Building Products NESHAP. Deviations currently addressed by a facility's SSM Plan are required to be reported in the Semiannual Compliance Report, a requirement that remains under the proposal (40 CFR 63.4720). Facilities will no longer need to develop an SSM Plan or keep it current (Table 4, 40 CFR part 63, subpart QQQQ). Facilities will also no longer have to file special SSM reports for deviations not described in the their SSM Plan [40 CFR 63.4720(c)(2)]. We are specifically seeking comment on whether we have successfully removed SSM exemptions without adding unforeseen burden.

Periods of startup and shutdown. In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, is not proposing alternate standards for those periods.

For add-on control systems, the Surface Coating of Wood Building Products NESHAP requires the measurement of thermal oxidizer (TO) operating temperature or catalytic oxidizer (CO) average temperature across the catalyst bed as well as other types of parameter monitoring. Parameter limits apply at all times, including during periods of startup and shutdown. The Surface Coating of Wood Building Products NESHAP requires TO or CO operating temperature and other add-on control device operating parameters to be recorded at least once every 15 minutes. The Surface Coating of Wood Building Products NESHAP specifies in 40 CFR 63.4763(c) that if an operating parameter is out of the allowed range, this is a deviation from the operating limit and must be reported as specified in 40 CFR 63.4710(c)(6) and 63.4720(a)(7).

Our permit review of the facilities using add-on control as a compliance approach indicated that all were required, by permit, to have their control system in operation during all time periods when coating processes were operational. The rule requires compliance based on a 12-month rolling average emissions calculation. Periods of startup and shutdown are included, but, because of operational requirements in the category, are a very small component of the emissions calculation. Therefore, we are not proposing separate standards for startup and/or shutdown periods.

Periods of malfunction. Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead they are, by definition, sudden, infrequent, and not reasonably preventable failures of emissions control, process or monitoring equipment. (40 CFR 63.2, definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards and this reading has been upheld as reasonable by the Court in *U.S. Sugar Corp.* v. *EPA,* 830 F.3d 579, 606–610 (2016). Under CAA section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the Agency to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the Court has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *National Association of Clean Water Agencies* v. *EPA,* 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the Agency to consider malfunctions as part of that analysis. The EPA is not required to treat a malfunction in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in ''normal or usual manner,'' and no statutory language compels the EPA to consider such events in setting CAA section 112 standards.

As the Court recognized in *U.S. Sugar Corporation,* accounting for malfunctions in setting standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. *Id.* at 608 (''the EPA would have to conceive of a standard that could apply equally to the wide range of possible boiler malfunctions, ranging from an explosion to minor mechanical defects. Any possible standard is likely to be hopelessly generic to govern such a wide array of circumstances.'') As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. See, *e.g., Sierra Club* v. *EPA,* 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.''') See also, *Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) (''In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation.''). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an air pollution control device with 99-percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady state type unit that would take days to shut down, the source would go from 99-percent control to zero control until the control device was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations. As such, the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

Although no statutory language compels the EPA to set standards for malfunctions, the EPA has the discretion to do so where feasible. For example, in the Petroleum Refinery Sector RTR, the EPA established a work practice standard for unique types of malfunction that result in releases from pressure relief devices or emergency flaring events because information was available to determine that such work practices reflected the level of control that applies to the best performing sources. 80 FR 75178, 75211–14 (December 1, 2015). The EPA will consider whether circumstances warrant setting work practice standards for a particular type of malfunction and, if so, whether the EPA has sufficient information to identify the relevant best performing sources and establish a standard for such malfunctions. We also encourage commenters to provide any such information.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, sudden, infrequent, not reasonably preventable and was not instead caused in part by poor maintenance or careless operation. 40 CFR 63.2 (definition of malfunction).

If the EPA determines in a particular case that an enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In summary, the EPA interpretation of the CAA and, in particular, CAA section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations. *U.S. Sugar Corporation* v. *EPA,* 830 F.3d 579, 606–610 (2016).

a. General Duty

We are proposing to revise the General Provisions table (Table 4) entry for 40 CFR 63.6(e)(1)–(2) by redesignating it as 40 CFR 63.6(e)(1)(i) and changing the ''yes'' in column 3 to a ''no.'' Section 63.6(e)(1)(i) describes the general duty to minimize emissions. Some of the language in that section is no longer necessary or appropriate considering the elimination of the SSM exemption. We are proposing instead to add general duty regulatory text at 40 CFR 63.4700(b) that reflects the general duty to minimize emissions while eliminating the reference to periods covered by an SSM exemption. The current language in 40 CFR 63.6(e)(1)(i) characterizes what the general duty entails during periods of SSM. With the elimination of the SSM exemption, there is no need to differentiate between normal operations and SSM events in describing the general duty. Therefore, the language the EPA is proposing for 40 CFR 63.4700(b) does not include that language from 40 CFR 63.6(e)(1).

We are also proposing to revise the General Provisions table (Table 4) to add an entry for 40 CFR 63.6(e)(1)(ii) and include a ''no'' in column 3. Section 63.6(e)(1)(ii) imposes requirements that are not necessary with the elimination of the SSM exemption or are redundant with the general duty requirement being added at 40 CFR 63.4700(b).

We are also proposing to revise the General Provisions table (Table 4) to add an entry for 40 CFR 63.6(e)(1)(iii) and include a ''yes'' in column 3.

Finally, we are proposing to revise the General Provisions table (Table 4) to add an entry for 40 CFR 63.6(e)(2) and include a ''no'' in column 3. This paragraph is reserved and is not applicable to 40 CFR part 63, subpart QQQQ.

b. SSM Plan

We are proposing to revise the General Provisions table (Table 4) to add an entry for 40 CFR 63.6(e)(3) and include a ''no'' in column 3. Generally, these paragraphs require development of an SSM plan and specify SSM recordkeeping and reporting requirements related to the SSM plan. As noted, the EPA is proposing to remove the SSM exemptions. Therefore, affected units will be subject to an emission standard during such events. The applicability of a standard during such events will ensure that sources have ample incentive to plan for and achieve compliance, and, thus, the SSM plan requirements are no longer necessary.

c. Compliance With Standards

We are proposing to revise the General Provisions table (Table 4) entries for 40 CFR 63.6(f) and (h) by re-designating these sections as 40 CFR 63.6(f)(1) and (h)(1) and including a ''no'' in column 3. The current language in 40 CFR 63.6(f)(1) excludes sources from non-opacity standards during periods of SSM, while the current language in 40 CFR 63.6(h)(1) excludes sources from opacity standards during periods of SSM. As discussed above, the Court in *Sierra Club* vacated the exemptions contained in this provision and held that the CAA requires that some CAA section 112 standards apply continuously. Consistent with *Sierra Club,* the EPA is proposing to revise standards in this rule to apply at all times.

d. Performance Testing

We are proposing to revise the General Provisions table (Table 4) entry for 40 CFR 63.7(e) by re-designating it as 40 CFR 63.7(e)(1) and including a ''yes'' in column 3. Section 63.7(e)(1) describes performance testing requirements. Section 63.4764(a) of the current rule specifies that performance testing must be conducted when the emission capture system and add-on control device are operating at representative conditions. You must document why the conditions represent normal operation. As in 40 CFR 63.7(e)(1), performance tests conducted under this subpart should not be conducted during malfunctions because conditions during malfunctions are often not representative of normal operating conditions. The EPA is proposing to add language that requires the owner or operator to record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operations. Section 63.7(e) requires that the owner or operator make available to the Administrator such records ''as may be necessary to determine the condition of the performance test'' available to the Administrator upon request, but does not specifically require the information to be recorded. The regulatory text the EPA is proposing to add to this provision builds on that requirement and makes explicit the requirement to record the information.

e. Monitoring

We are proposing to revise the General Provisions table (Table 4) by re-designating 40 CFR 63.8(c) as 40 CFR 63.8(c)(1), adding entries for 40 CFR 63.8(c)(1)(i) through (iii) and including ''no'' in column 3 for paragraphs (i) and (iii). The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary considering other requirements of 40 CFR 63.8 that require good air pollution control practices (40 CFR 63.8(c)(1)) and that set out the requirements of a QC program for monitoring equipment (40 CFR 63.8(d)).

f. Recordkeeping

We are proposing to revise the General Provisions table (Table 4) by adding an entry for 40 CFR 63.10(b)(2)(i) and including a ''no'' in column 3. Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. These recording provisions are no longer necessary because the EPA is proposing that recordkeeping and reporting applicable to normal operations will apply to startup and shutdown. Special provisions applicable to startup and shutdown, such as a startup and shutdown plan, have been removed from the rule (with exceptions discussed below), thereby reducing the need for additional recordkeeping for startup and shutdown periods.

We are also proposing to revise the General Provisions table (Table 4) by adding an entry for 40 CFR 63.10(b)(2)(iv)–(v) and including a ''no'' in column 3. When applicable, the provision requires sources to record actions taken during SSM events when actions were inconsistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

We are also proposing to revise the General Provisions table (Table 4) by adding an entry for 40 CFR 63.10(c)(15) and including a ''no'' in column 3. The EPA is proposing that 40 CFR 63.10(c)(15) no longer applies. When applicable, the provision allows an owner or operator to use the affected source's SSM plan or records kept to satisfy the recordkeeping requirements of the SSM plan, specified in 40 CFR 63.6(e), to also satisfy the requirements of 40 CFR 63.10(c)(10) through (12). The EPA is proposing to eliminate this requirement because SSM plans would no longer be required, and, therefore, 40 CFR 63.10(c)(15) no longer serves any useful purpose for affected units.

g. Reporting

We are proposing to revise the General Provisions table (Table 4) entry for 40 CFR 63.10(d)(5) by changing the ''yes'' in column 3 to a ''no.'' Section 63.10(d)(5) describes the reporting requirements for startups, shutdowns, and malfunctions. To replace the General Provisions reporting requirement for malfunctions, the EPA is proposing to replace the SSM report under 40 CFR 63.10(d)(5) with the existing reporting requirements under 40 CFR 63.4720(a). The replacement language differs from the General Provisions requirement in that it eliminates periodic SSM reports as a stand-alone report. We are proposing language that requires sources that fail to meet an applicable standard at any time to report the information concerning such events in the semiannual report to be required under the proposed rule. We are proposing that the report must contain the number, date, time, duration, and the cause of such events (including unknown cause, if applicable), a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

Examples of such methods would include mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing this requirement to ensure that there is adequate information to determine compliance, to allow the EPA to determine the severity of the failure to meet an applicable standard, and to provide data that may document how the source met the general duty to minimize emissions during a failure to meet an applicable standard.

We will no longer require owners or operators to determine whether actions taken to correct a malfunction are consistent with an SSM plan, because plans would no longer be required. The proposed amendments, therefore, eliminate the cross-reference to 40 CFR 63.10(d)(5)(i) that contains the description of the previously required SSM report format and submittal schedule from this section. These specifications are no longer necessary because the events will be reported in otherwise required reports with similar format and submittal requirements.

The proposed amendments also eliminate the cross-reference to 40 CFR 63.10(d)(5)(ii). Section 63.10(d)(5)(ii) describes an immediate report for startups, shutdown, and malfunctions when a source failed to meet an applicable standard, but did not follow the SSM plan. We will no longer require owners and operators to report when actions taken during a startup, shutdown, or malfunction were not consistent with an SSM plan, because plans would no longer be required.

2. Alternative Compliance Calculations

An alternative monitoring request was submitted to the EPA which proposed utilizing a HAP emission factor to demonstrate compliance with the emission rate without add-on controls compliance option instead of the current emission factor in the rule which assumes that all HAP in the coating is emitted to the atmosphere. As discussed below, we are proposing to include this compliance calculation approach in this rulemaking to allow any facility utilizing a similar process to use the approach without requiring the submittal of an alternative monitoring request to the EPA under the provisions of 40 CFR 63.8(f). The proposed amendment adds compliance flexibility, but does not alter the emission standard.

The coating process uses a liquid catalyst to initiate chemical and physical change of the coating materials by the formation of a cross-linked polymer, and involves spraying wood panels with a two-part mixture consisting of a HAP-containing resin and a non-HAP catalyst. The catalyst polymerizes the resin to form the applied coating within a matter of seconds. The result is that the HAP in the resin is nearly completely polymerized and, as a result, the air emissions of HAP are a very small fraction of the total HAP applied.

We are proposing to add a new equation to the existing compliance demonstration calculations to more adequately represent the HAP amounts emitted by this type of surface coating or any similar coating. The existing equation assumes that all of the HAP in the coating is emitted. Facilities wishing to apply this emission calculation method could submit to the EPA an alternative monitoring request, however, this would add a compliance burden. To reduce the burden, we are adding alternative compliance demonstration equations, which do not assume 100 percent of the HAP in the coating is emitted. The proposed demonstration equations would use a HAP emission factor based on initial stack testing of the proposed coating process. This approach quantifies emissions in a way that is representative of the actual emissions from this coating operation.

2. Emissions Testing

The EPA is proposing amendments to the Surface Coating of Wood Building Products NESHAP that would provide an additional compliance demonstration equation. Facilities using the proposed alternative compliance demonstration equation (40 CFR 63.4751(i)) of the emission rate without add-on controls option would be required to conduct an initial performance test to demonstrate compliance. As explained in the technical supporting memoranda accompanying this proposal,[18] performance testing is needed to develop process specific emission factors to demonstrate compliance for the new alternative equation. In addition, requiring initial performance testing under the proposed option would be equitable with respect to sources meeting the currently promulgated compliance demonstration requirements, as facilities demonstrating compliance through the currently promulgated emission rate with add-on controls option (40 CFR 63.4691(c)) are already required to conduct a similar initial air emissions performance test to demonstrate compliance. This amendment is expected to impact one facility, with a one-time cost of $22,000 for the initial performance test.

Additionally, the EPA is requesting comment on whether a periodic emissions testing provision should be added to the rule for sources using add-on controls. Currently, there are four existing facilities that have operating permits indicating the use of add-on control devices for wood building product surface coating operations. Only one of those facilities is not conducting a performance test on at least a 5-year frequency due to state requirements. The repeat performance testing provision on which the Agency is requesting comment would impact this facility if the provisions were finalized, with an estimated cost of $22,000 for each repeat performance test. The periodic testing provision on which the Agency is requesting comment would also require facilities utilizing the proposed alternative compliance demonstration equations (40 CFR 63.4751(i)) of the emission rate without add-on controls option to conduct a periodic air emissions performance test to develop process specific emissions factors to demonstrate continuing compliance. The periodic testing provision which the EPA is requesting comment would require one performance test at least every 5 years. The inclusion of a periodic repeat testing requirement would help demonstrate that emissions control equipment is continuing to operate as designed and that the facility remains in compliance with the standard.

3. Electronic Reporting

The EPA is proposing that owners and operators of facilities subject to 40 CFR part 63, subpart QQQQ submit electronic copies of compliance reports, which include performance test reports, semiannual reports, and notifications, through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). Specifically, we are proposing that owners and operators create performance test reports using the Electronic Reporting Tool (ERT) and submit the performance test reports, as well as notifications and semiannual reports through CEDRI. The EPA believes that the electronic submittal of the reports addressed in this proposed rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability, will further assist in the protection of public health and the environment, and will ultimately result in less burden on the regulated community. Under current requirements, paper reports are often stored in filing cabinets or boxes, which make the reports more difficult to obtain and use for data analysis and sharing. Electronic storage of such reports makes data more accessible for review, analysis, and sharing. Electronic reporting also eliminates paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors and providing data quickly and accurately to affected facilities, air agencies, the EPA, and the public.

In 2011, in response to Executive Order 13563, the EPA developed a plan[21] to periodically review its regulations to determine if they should be modified, streamlined, expanded, or repealed to make regulations more effective and less burdensome. The plan includes replacing outdated paper reporting with electronic reporting. In keeping with this plan and the White House's Digital Government Strategy,[22] in 2013 the EPA issued an agency-wide policy specifying that new regulations will require reports to be electronic to the maximum extent possible.[23] By requiring electronic submission of specified reports in this proposed rule,

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[21] *Improving Our Regulations: Final Plan for Periodic Retrospective Reviews of Existing Regulations,* August 2011. Available at: *https://www.regulations.gov,* Document ID No. EPA–HQ–OA–2011–0156–0154.

[22] *Digital Government: Building a 21st Century Platform to Better Serve the American People,* May 2012. Available at: *https://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government-strategy.pdf*

[23] E-Reporting Policy Statement for EPA Regulations, September 2013. Available at: *https://www.epa.gov/sites/production/files/2016-03/documents/epa-ereporting-policy-statement-2013-09-30.pdf.*

the EPA is taking steps to implement this policy.

The EPA website that stores the submitted electronic data, WebFIRE, is easily accessible to everyone and provides a user-friendly interface that any stakeholder can access. By making data readily available, electronic reporting increases the amount of data that can be used for many purposes. One example is the development of emissions factors. An emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant (*e.g.,* kilograms of particulate emitted per megagram of coal burned). Such factors facilitate the estimation of emissions from various sources of air pollution and are an important tool in developing emissions inventories, which in turn are the basis for numerous efforts, including trends analysis, regional- and local-scale air quality modeling, regulatory impact assessments, and human exposure modeling. Emissions factors are also widely used in regulatory applicability determinations and in permitting decisions.

The EPA has received feedback from stakeholders asserting that many of the EPA's emissions factors are outdated or not representative of a particular industry emission source. While the EPA believes that the emissions factors are suitable for their intended purpose, we recognize that the quality of emissions factors varies based on the extent and quality of underlying data. We also recognize that emissions profiles on different pieces of equipment can change over time due to a number of factors (fuel changes, equipment improvements, industry work practices), and it is important for emissions factors to be updated to keep up with these changes. The EPA is currently pursuing emissions factor development improvements that include procedures to incorporate the source test data that we are proposing be submitted electronically. By requiring the electronic submission of the reports identified in this proposed action, the EPA would be able to access and use the submitted data to update emissions factors more quickly and efficiently, creating factors that are characteristic of what is currently representative of the relevant industry sector. Likewise, an increase in the number of test reports used to develop the emissions factors will provide more confidence that the factor is of higher quality and representative of the whole industry sector.

Additionally, by making the records, data, and reports addressed in this proposed rulemaking readily available, the EPA, the regulated community, and the public will benefit when the EPA conducts its CAA-required technology and risk-based reviews. As a result of having performance test reports and air emission data readily accessible, our ability to carry out comprehensive reviews will be increased and achieved within a shorter period of time. These data will provide useful information on control efficiencies being achieved and maintained in practice within a source category and across source categories for regulated sources and pollutants. These reports can also be used to inform the technology-review process by providing information on improvements to add-on control technology and new control technology.

Under an electronic reporting system, the EPA's Office of Air Quality Planning and Standards (OAQPS) would have air emissions and performance test data in hand; OAQPS would not have to collect these data from the EPA Regional offices or from delegated authorities or industry sources in cases where these reports are not submitted to the EPA Regional offices. Thus, we anticipate fewer or less substantial information collection requests (ICRs) may be needed in conjunction with prospective CAA-required technology and risk-based reviews. We expect this to result in a decrease in time spent by industry to respond to data collection requests. We also expect the ICRs to contain less extensive stack testing provisions, as we will already have stack test data electronically. Reduced testing requirements would be a cost savings to industry. The EPA should also be able to conduct these required reviews more quickly, as OAQPS will not have to include the ICR collection time in the process or spend time collecting reports from the EPA Regional offices. While the regulated community may benefit from a reduced burden of ICRs, the general public benefits from the Agency's ability to provide these required reviews more quickly, resulting in increased public health and environmental protection.

Electronic reporting minimizes submission of unnecessary or duplicative reports in cases where facilities report to multiple government agencies and the agencies opt to rely on the EPA's electronic reporting system to view report submissions. Where delegated authorities continue to require a paper copy of these reports and will accept a hard copy of the electronic report, facilities will have the option to print paper copies of the electronic reporting forms to submit to the delegated authorities, and, thus, minimize the time spent reporting to multiple agencies. Additionally, maintenance and storage costs associated with retaining paper records could likewise be minimized by replacing those records with electronic records of electronically submitted data and reports.

Delegated authorities could benefit from more streamlined and automated review of the electronically submitted data. For example, because performance test data would be readily-available in a standard electronic format, delegated authorities would be able to review reports and data electronically rather than having to conduct a review of the reports and data manually. Having reports and associated data in electronic format facilitates review through the use of software ''search'' options, as well as the downloading and analyzing of data in spreadsheet format. Additionally, delegated authorities would benefit from the reported data being accessible to them through the EPA's electronic reporting system wherever and whenever they want or need access, as long as they have access to the Internet. The ability to access and review reports electronically assists delegated authorities in determining compliance with applicable regulations more quickly and accurately, potentially allowing a faster response to violations, which could minimize harmful air emissions. This change benefits both delegated authorities and the public.

The proposed electronic reporting of data is consistent with electronic data trends (*e.g.,* electronic banking and income tax filing). Electronic reporting of environmental data is already common practice in many media offices at the EPA. The changes being proposed in this rulemaking are needed to continue the EPA's transition to electronic reporting.

As noted above, we are proposing that 40 CFR part 63, subpart QQQQ performance test reports be submitted through the EPA's ERT. With the exception of the method proposed in conjunction with this rulemaking, all test methods listed under 40 CFR part 63, subpart QQQQ are currently supported by the ERT. The proposal would require that performance test results collected using test methods that are not supported by the ERT as listed on the EPA's ERT Web site at the time of the test be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13, unless the Administrator agrees to or specifies an alternate reporting method.

In addition to electronically reporting the results of performance tests, we are proposing the requirement to electronically submit notifications and the semiannual compliance report required in 40 CFR 63.4720. The proposal would require the owner or operator use the appropriate spreadsheet template in CEDRI for the subpart. If the reporting template specific to the subpart is not available at the time that the report is due, the owner or operator would submit the report to the Administrator at the appropriate addresses listed in the General Provisions. The owner or operator would begin submitting reports electronically with the next report that is due, once the electronic template has been available for at least 1 year. The EPA is currently working to develop the templates for 40 CFR part 63, subpart QQQQ. We are specifically taking comment on the content, layout, and overall design of the spreadsheet templates, which are presented as an Excel spreadsheet in the docket titled *Electronic Reporting for Subpart QQQQ Semiannual Reports.*[24] We plan to finalize a required reporting format with the final rule.

As stated in 40 CFR 63.4720(d)(2), the proposal also requires that notifications be reported electronically though CEDRI. Currently, there are no templates for notifications in CEDRI for this subpart. Therefore, the owner or operator must submit these notifications in portable document format (PDF).

Additionally, we have identified two broad circumstances in which electronic reporting extensions may be provided. In both circumstances, the decision to accept your claim of needing additional time to report is within the discretion of the Administrator, and reporting should occur as soon as possible.

In 40 CFR 63.4720(d)(3), we address the situation where an extension may be warranted due to outages of the EPA's CDX or CEDRI which preclude you from accessing the system and submitting required reports. If either the CDX or CEDRI is unavailable at any time beginning 5 business days prior to the date that the submission is due, and the unavailability prevents the submission of a report by the required date, the facility may assert a claim of EPA system outage. We consider 5 business days prior to the reporting deadline to be an appropriate timeframe because if the system is down prior to this time, facilities will have 1 week to complete reporting once the system is back online. However, if the CDX or CEDRI is down during the week a report is due, we realize that this could greatly impact the ability to submit a required report on time. We will notify facilities about known outages as far in advance as possible by CHIEF Listserv notice, posting on the CEDRI Web site and posting on the CDX Web site so that facilities can plan accordingly and still meet the reporting deadline. However, if a planned or unplanned outage occurs and a facility believes that it will affect or it has affected compliance with an electronic reporting requirement, we have provided a process to assert such a claim.

In 40 CFR 63.4720(d)(4), we address the situation where an extension may be warranted due to a force majeure event, which is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents compliance with the requirement to submit a report electronically as required by this rule. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazards beyond the control of the facility. If such an event occurs or is still occurring or if there are still linger effects of the event in the 5 business days prior to a submission deadline, we have provided a process to assert a claim of force majeure.

We are providing these potential extensions to protect facilities from noncompliance in cases when a facility cannot successfully submit a report by the reporting deadline for reasons outside of its control as described above. We are not providing an extension for other instances. Facility representatives should register for CEDRI far in advance of the initial compliance date in order to make sure that they can complete the identity proofing process prior to the initial compliance date. Additionally, we recommend developing reports early, in case any questions arise during the reporting process.

4. New EPA Test Method 326

We are proposing EPA Method 326 to address technical issues related to VOHAP content measured in certain surface coatings containing isocyanates. Because there is currently no EPA test method for isocyanate emissions, as part of this action, we are proposing specific isocyanate compound sample collection and analytical requirements as Method 326 of 40 CFR part 63, Appendix A. Method 326 is based on ''A Method for Measuring Isocyanates in Stationary Source Emissions'' which was proposed on December 8, 1997 (62 FR 64532) as Method 207, but was never promulgated. Method 326 does not significantly modify the sampling and analytical techniques of the previously proposed method, but includes additional QC procedures and associated performance criteria to ensure the overall quality of the measurement.

Method 326 is based on the EPA Method 5 sampling train employing a derivatizing reagent [1-(2-pyridyl) piperazine in toluene] in the impingers to immediately stabilize the isocyanate compounds upon collection. Collected samples are analyzed using high performance liquid chromatography and an appropriate detector under laboratory conditions sufficient to separate and quantify the isocyanate compounds.

The sampling and analytical techniques were validated at three sources according to EPA Method 301 (40 CFR 63, Appendix A) and the report of this validation, titled *Laboratory Development and Field Evaluation of a Generic Method for Sampling and Analysis of Isocyanates,* can be found in the docket. Under the proposed rule, this validated technique would be used to reliably collect and analyze gaseous isocyanate emissions from Surface Coatings of Wood Building Products for methylene diphenyl diisocyanate (MDI), methyl isocyanate (MI), hex methylene 1,6 diisocyanate (HDI), and 2,4 toluene diisocyanate (TDI). This method will also provide a tool for state and local governments, industry, and the EPA to reliably measure emissions of MDI, MI, HDI, and/or TDI from other types of stationary sources, such as pressed board, flexible foam, and spray booths.

5. Incorporation by Reference Under 1 CFR Part 51

The EPA is proposing regulatory text that includes IBR. In accordance with requirements of 1 CFR 51.5, the EPA is proposing to incorporate by reference the following voluntary consensus standards (VCS) described in the amendments to 40 CFR 63.14:

- ANSI A135.4–2012, Basic Hardboard, IBR approved for 40 CFR 63.4781.
- ASTM D1475–90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for 40 CFR 63.4741(b) and (c) and 63.4751(c).
- ASTM D1963–85 (1996), Standard Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25°C, IBR approved for 40 CFR 63.4741(a) and 63.4761(j).
- ASTM D2111–95 (2000), Standard Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures, IBR approved for 40 CFR 63.4741(a) and 63.4761(j).

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[24] *Electronic Reporting for Subpart QQQQ Semiannual Reports;* see Docket ID No. EPA–HQ–OAR–2016–0678.

- ASTM D2369–01, Test Method for Volatile Content of Coatings, IBR approved for 40 CFR 63.4741(a) and 63.4761(j).
- ASTM D2697–86 (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for 40 CFR 63.4741(a) and (b) and 63.4761(j).
- ASTM D4840–99, Standard Guide for Sampling Chain-of-Custody Procedures, IBR approved for Method 326 in appendix A to part 63.
- ASTM D6093–97 (Reapproved 2003), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for 40 CFR 63.4741(a) and (b) and 63.4761(j).
- ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2010, IBR approved for 40 CFR 63.4751(i) and 63.4766(b).

While the ASTM methods D2697–86 and D6093–97 were incorporated by reference when 40 CFR part 63, subpart QQQQ was originally promulgated (68 FR 31760), the methods are being cited in additional paragraphs in the proposed rule, requiring a revision to their IBR. The ANSI method and the other ASTM methods are being incorporated by reference for 40 CFR part 63, subpart QQQQ for the first time under this rulemaking.

6. Technical and Editorial Changes

The following are additional proposed changes that address technical and editorial corrections:

- Revised the monitoring requirements section in 40 CFR 63.4764 to clarify ongoing compliance provisions to address startup and shutdown periods when certain parameters cannot be met;
- Revised the recordkeeping requirements section in 40 CFR 63.4730 to include the requirement to record information on failures to meet the applicable standard;
- Revised the terminology in the delegation of authority section in 40 CFR 63.4780 to match the definitions in 40 CFR 63.90;
- Revised the references to several test method appendices; and
- Revised the General Provisions applicability table (Table 4 to 40 CFR part 63, subpart QQQQ) to align with those sections of the General Provisions that have been amended or reserved over time.

E. What compliance dates are we proposing?

The EPA is proposing that existing affected sources must comply with the amendments in this rulemaking no later than 180 days after the effective date of the final rule. The EPA is also proposing that affected sources that commence construction or reconstruction after May 16, 2018 must comply with all requirements of the subpart, including the amendments being proposed, no later than the effective date of the final rule or upon startup, whichever is later. All affected existing facilities would have to continue to meet the current requirements of 40 CFR part 63, subpart QQQQ until the applicable compliance date of the amended rule. The final action is not expected to be a ''major rule'' as defined by 5 U.S.C. 804(2), so the effective date of the final rule will be the promulgation date as specified in CAA section 112(d)(10). For existing sources, we are proposing two changes that would impact ongoing compliance requirements for 40 CFR part 63, subpart QQQQ. As discussed elsewhere in this preamble, we are proposing to add a requirement that notifications, performance test results, and the semiannual reports using the new template be submitted electronically. We are also proposing to change the requirements for SSM by removing the exemption from the requirements to meet the standard during SSM periods and by removing the requirement to develop and implement an SSM plan. Additionally, we are proposing to add a new compliance demonstration equation that adds flexibility to meeting the standard, but this change does not affect ongoing compliance. Our experience with similar industries that are required to convert reporting mechanisms, install necessary hardware, install necessary software, become familiar with the process of submitting performance test results electronically through the EPA's CEDRI, test these new electronic submission capabilities, reliably employ electronic reporting, and convert logistics of reporting processes to different time-reporting parameters, shows that a time period of a minimum of 90 days, and more typically 180 days, is generally necessary to successfully complete these changes. Our experience with similar industries further shows that this sort of regulated facility generally requires a time period of 180 days to read and understand the amended rule requirements; evaluate their operations to ensure that they can meet the standards during periods of startup and shutdown as defined in the rule and make any necessary adjustments; adjust parameter monitoring and recording systems to accommodate revisions; and update their operations to reflect the revised requirements. The EPA recognizes the confusion that multiple different compliance dates for individual requirements would create and the additional burden such an assortment of dates would impose. From our assessment of the timeframe needed for compliance with the entirety of the revised requirements, the EPA considers a period of 180 days to be the most expeditious compliance period practicable, and, thus, is proposing that existing affected sources be in compliance with all of this regulation's revised requirements within 180 days of the regulation's effective date. We solicit comment on this proposed compliance period, and we specifically request submission of information from sources in this source category regarding specific actions that would need to be undertaken to comply with the proposed amended requirements and the time needed to make the adjustments for compliance with any of the revised requirements. We note that information provided may result in changes to the proposed compliance date.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

There are currently 55 wood building product manufacturing facilities operating in the United States that conduct surface coating operations and are subject to the Surface Coating of Wood Building Products NESHAP. The 40 CFR part 63, subpart QQQQ affected source is the collection of all the items listed in 40 CFR 63.4682(b)(1) through (4) that are used for surface coating of wood building products. A new affected source is a completely new wood building products surface coating source where previously no wood building products surface coating source had existed.

B. What are the air quality impacts?

At the current level of control, emissions of total HAP are approximately 260 tpy. Compared to pre-MACT levels, this represents a significant reduction of HAP for the category. Prior to the development of the Surface Coating of Wood Building Products NESHAP, the EPA estimated HAP emissions to be 14,311 tons annually.[25] The proposed amendments will require all 55 major sources with equipment subject to the Wood Building Products Coating NESHAP to operate

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[25] *National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Wood Building Products (Surface Coating) Industry—Background Information for Proposed Standards;* EPA–453/R–00–003; May 2001.

without the SSM exemption. We were unable to quantify the specific emissions reductions associated with eliminating the SSM exemption. However, eliminating the SSM exemption will reduce emissions by requiring facilities to meet the applicable standard during SSM periods.

Indirect or secondary air emissions impacts are impacts that would result from the increased electricity usage associated with the operation of control devices (*i.e.,* increased secondary emissions of criteria pollutants from power plants). Energy impacts consist of the electricity and steam needed to operate control devices and other equipment that would be required under this proposed rule. The EPA expects no secondary air emissions impacts or energy impacts from this rulemaking.

For further information, see the memorandum titled *Cost Impacts of the Subpart QQQQ Residual Risk and Technology Review,* in the docket for this action.

C. What are the cost impacts?

We estimate that each facility in the source category will experience costs as a result of these proposed amendments that are estimated as part of the reporting and recordkeeping costs. Each facility will experience costs to read and understand the rule amendments. Costs associated with the elimination of the SSM exemption were estimated as part of the reporting and recordkeeping costs and include time for re-evaluating previously developed SSM record systems. Costs associated with the requirement to electronically submit notifications and semi-annual compliance reports using CEDRI were estimated as part of the reporting and recordkeeping costs and include time for becoming familiar with CEDRI and the reporting template for semi-annual compliance reports. The recordkeeping and reporting costs are presented in section V.III.C of this preamble.

The EPA estimates that one facility will be impacted from this proposed regulatory action. This facility will conduct an initial performance test to demonstrate compliance with the proposed alternative compliance equation, as proposed in their request for an alternative monitoring method. This initial performance test has a one-time cost of $22,000. The total estimated labor costs for the rule are summarized in the Supporting Statement for the ICR in the docket for this action. The estimated labor cost includes an estimated labor cost of $36,618 for all 55 affected facilities to become familiar with the proposed rule requirements. For further information, see the memorandum titled *Cost Impacts of the Subpart QQQQ Residual Risk and Technology Review,* in the docket for this action.

D. What are the economic impacts?

Economic impact analyses focus on changes in market prices and output levels. If changes in market prices and output levels in the primary markets are significant enough, impacts on other markets may also be examined. Both the magnitude of costs needed to comply with a proposed rule and the distribution of these costs among affected facilities can have a role in determining how the market will change in response to a proposed rule.

For the one facility expected to conduct an initial performance test and become familiar with the proposed rule requirements, the costs associated with 40 CFR part 63, subpart QQQQ's proposed requirements are less than 0.001 percent of annual sales revenues. For the remaining 54 facilities, the costs associated with becoming familiar with the proposed rule requirements are also less than 0.001 percent of annual sales revenues. These costs are not expected to result in a significant market impact, regardless of whether they are passed on to the purchaser or absorbed by the firms.

E. What are the benefits?

The EPA did not propose changes to the emission limit requirements and estimates the proposed changes to SSM, recordkeeping, reporting, and monitoring are not economically significant. Because these proposed amendments are not considered economically significant, as defined by Executive Order 12866 and because no emission reductions were estimated, we did not estimate any benefits from reducing emissions.

VI. Request for Comments

We solicit comments on all aspects of this proposed action. In addition to general comments on this proposed action, we are also interested in additional data that may improve the risk assessments and other analyses. We are specifically interested in receiving any improvements to the data used in the site-specific emissions profiles used for risk modeling. Such data should include supporting documentation in sufficient detail to allow characterization of the quality and representativeness of the data or information. Section VII of this preamble provides more information on submitting data.

VII. Submitting Data Corrections

The site-specific emissions profiles used in the source category risk and demographic analyses and instructions are available for download on the RTR website at *http://www3.epa.gov/ttn/atw/rrisk/rtrpg.html.* The data files include detailed information for each HAP emissions release point for the facilities in the source category.

If you believe that the data are not representative or are inaccurate, please identify the data in question, provide your reason for concern, and provide any ''improved'' data that you have, if available. When you submit data, we request that you provide documentation of the basis for the revised values to support your suggested changes. To submit comments on the data downloaded from the RTR website, complete the following steps:

1. Within this downloaded file, enter suggested revisions to the data fields appropriate for that information.
2. Fill in the commenter information fields for each suggested revision (*i.e.,* commenter name, commenter organization, commenter email address, commenter phone number, and revision comments).
3. Gather documentation for any suggested emissions revisions (*e.g.,* performance test reports, material balance calculations, *etc.*).
4. Send the entire downloaded file with suggested revisions in Microsoft® Access format and all accompanying documentation to Docket ID No. EPA–HQ–OAR–2016–0678 (through the method described in the **ADDRESSES** section of this preamble).
5. If you are providing comments on a single facility or multiple facilities, you need only submit one file for all facilities. The file should contain all suggested changes for all sources at that facility (or facilities). We request that all data revision comments be submitted in the form of updated Microsoft® Excel files that are generated by the Microsoft® Access file. These files are provided on the RTR website at *http://www3.epa.gov/ttn/atw/rrisk/rtrpg.html.*

VIII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the OMB for review.

B. Executive Order 13771: Reducing Regulation and Controlling Regulatory Costs

This action is not expected to be an Executive Order 13771 regulatory action because this action is not significant under Executive Order 12866.

C. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to the OMB under the PRA. The ICR document that the EPA prepared has been assigned EPA ICR number 2034.07. You can find a copy of the ICR in the docket for this rule (Docket ID No. EPA–HQ–OAR–2016–0678), and it is briefly summarized here.

We are proposing changes to the paperwork requirements for the Surface Coating of Wood Building Products NESHAP in the form of eliminating the SSM reporting and SSM plan requirements, and requiring electronic submittal of all compliance reports (including performance test reports), and some notifications.

Respondents/affected entities: Respondents include wood building product manufacturing facilities with surface coating operations subject to the Surface Coating of Wood Building Products NESHAP.

Respondent's obligation to respond: Mandatory (authorized by section 114 of the CAA).

Estimated number of respondents: 55.

Frequency of response: The frequency of responses varies depending on the burden item. Responses include initial notifications, notification of compliance status, reports of periodic performance tests, and semiannual compliance reports.

Total estimated burden: The annual recordkeeping and reporting burden for this information collection, averaged over the first 3 years of this ICR, is estimated to total 19,600 labor hours per year. Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $1,418,000 per year in labor costs and an additional one-time cost of $22,000 for an initial performance test at one facility. Included in the $1,418,000 per year in labor cost estimate is a labor cost of $36,618 for all 55 facilities to become familiar with the proposed rule requirements.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden to the EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to *OIRA_submission@omb.eop.gov,* Attention: Desk Officer for the EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than June 15, 2018. The EPA will respond to any ICR-related comments in the final rule.

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. In making this determination, the impact of concern is any significant adverse economic impact on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden or otherwise has a positive economic effect on the small entities subject to the rule. We conducted an Economic Impact analysis which is available in the docket for this proposal, EPA–HQ–OAR–2016–0678. For all the facilities affected by the proposal, including the small businesses, the costs associated with the proposed rule requirements are less than 0.001 percent of annual sales revenues. Our conclusion is that there are no significant economic impacts on a substantial number of small entities from these proposed amendments. We have, therefore, concluded that this action will have no net regulatory burden for all directly regulated small entities.

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

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. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. This proposed rule imposes requirements on owners and operators of wood building product surface coating facilities and not tribal governments. The EPA does not know of any wood building product surface coating facilities owned or operated by Indian tribal governments. However, if there are any, the effect of this rule on communities of tribal governments would not be unique or disproportionate to the effect on other communities. Thus, Executive Order 13175 does not apply to this action.

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

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in sections III and IV of this preamble and further documented in the risk report titled *Residual Risk Assessment for the Surface Coating of Wood Building Products Source Category in Support of the March 2018 Risk and Technology Review Proposed Rule,* in the docket for this action.

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) and 1 CFR Part 51

This action involves technical standards. The EPA proposes to use ASTM D6348–03 (Reapproved 2010), ''Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy'' as an alternative to using

Method 320 under certain conditions and incorporate this alternative method by reference. Method 320 is proposed to be added for the measurement of organic HAP emissions if formaldehyde is a major organic HAP component of the surface coating exhaust stream. Also, instead of the current ASTM D 6348–12e1 standard, the ASTM D6348–03 (Reapproved 2010) standard is referenced in the Surface Coating of Wood Building Products NESHAP. The QC criteria in ASTM D6348–03 (Reapproved 2010) are more closely matched to the testing requirements in this NESHAP. Use of ASTM D6348–03 (Reapproved 2010) is defined in 40 CFR 63.4751(i)(4). ASTM D6348–03 (Reapproved 2010) is an extractive Fourier Transform Infrared Spectroscopy based field test method and is used to quantify gas phase concentrations of multiple target compounds in emission streams from stationary sources.

ANSI A135.4–2012 is reasonably available from the Composite Panel Association, 19465 Deerfield Avenue, Suite 306, Leesburg, VA 20176. The standard specifies requirements and test methods for water absorption, thickness swelling, modulus of rupture, tensile strength, surface finish, dimensions, squareness, edge straightness, and moisture content for five classes of hardboard, including tileboard, part of a subcategory in the standard.

The EPA also proposes to use ASTM D4840–99, ''Standard Guide for Sampling Chain-of-Custody Procedures,'' in Method 326 for its chain of custody procedures and incorporate this alternative method by reference. The ASTM D4840–99 guide contains a comprehensive discussion of potential requirements for a sample chain-of-custody program and describes the procedures involved in sample chain-of-custody. The purpose of ASTM D4840–99 procedures is to provide accountability for and documentation of sample integrity from the time samples are collected until the time samples are disposed. Method 326 is proposed to be added for the measurement of organic HAP emissions if isocyanate is a major organic HAP component of the surface coating exhaust stream.

The EPA proposes to use the following five VCS as alternatives to Method 24 for the determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings and incorporate these VCS by reference:

- ASTM D1963–85 (1996), ''Standard Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25°C.'' This test method is used for the determination of the specific gravity of drying oils, varnishes, alkyd resins, fatty acids, and related materials.
- ASTM D2111–95 (2000), ''Standard Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures.'' These test methods are used for the determination of the specific gravity of halogenated organic solvents and solvent admixtures.
- ASTM D2369–01, ''Test Method for Volatile Content of Coatings.'' This test method describes a procedure used for the determination of the weight percent volatile content of solvent-borne and waterborne coatings.
- ASTM D2697–86 (Reapproved 1998), ''Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings.'' This test method is applicable to the determination of the volume of nonvolatile matter in coatings.
- ASTM D6093–97 (Reapproved 2003), ''Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer.'' This test method is used for the determination of the percent volume nonvolatile matter in clear and pigmented coatings.

The ASTM standards are reasonably available from the American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959. See *http://www.astm.org/.*

While the EPA has identified another 18 VCS as being potentially applicable to this proposed rule, we have decided not to use these VCS in this rulemaking. The use of these VCS would not be practical due to lack of equivalency, documentation, validation date, and other import technical and policy considerations. See the memorandum titled *Voluntary Consensus Standard Results for National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products,* in the docket for this proposed rule for the reasons for these determinations.

Under 40 CFR 63.7(f) and 40 CFR 63.8(f) of subpart A of the General Provisions, a source may apply to the EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures in the final rule or any amendments.

The EPA welcomes comments on this aspect of the proposed rulemaking and, specifically, invites the public to identify potentially applicable VCS and to explain why such standards should be used in this regulation.

K. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994).

The documentation for this decision is contained in section IV.B of this preamble and the technical report titled *Risk and Technology Review—Analysis of Demographic Factors for Populations Living Near Wood Building Products Surface Coating Sources,* which is located in the public docket for this action.

We examined the potential for any EJ issues that might be associated with the source category, by performing a demographic analysis of the population close to the facilities. In this analysis, we evaluated the distribution of HAP-related cancer and noncancer risks from the Surface Coating of Wood Building Products NESHAP source category across different social, demographic, and economic groups within the populations living near facilities identified as having the highest risks. The methodology and the results of the demographic analyses are included in a technical report, *Risk and Technology Review—Analysis of Demographic Factors for Populations Living Near Wood Building Product Surface Coating Facilities,* available in the docket for this action.

The results of the Surface Coating of Wood Building Products NESHAP source category demographic analysis indicate that emissions from the source category expose approximately 800 people to a cancer risk at or above 1-in-1 million and no one exposed to a chronic noncancer TOSHI greater than 1. The specific demographic results indicate that the percentage of the population potentially impacted by emissions is greater than its corresponding national percentage for the minority population (84 percent for the source category compared to 38 percent nationwide), the African American population (75 percent for the source category compared to 12 percent nationwide) and for the population over age 25 without a high school diploma (25 percent for the source category compared to 14 percent nationwide). The proximity results (irrespective of risk) indicate that the population percentages for certain demographic categories within 5 km of source category emissions are greater than the corresponding national percentage for those same demographics. The following demographic percentages for populations residing within close proximity to facilities with Surface Coating of Wood Building Products source category facilities are higher than the corresponding nationwide percentage: African American, ages 65 and up, over age 25 without a high school diploma, and below the poverty level.

The risks due to HAP emissions from this source category are low for all populations (*e.g.,* inhalation cancer risks are less than 6-in-1 million for all populations and noncancer HIs are less than 1). We do not expect this proposal to achieve significant reductions in HAP emissions. We have concluded that this proposal will not have unacceptable adverse human health or environmental effects on minority or low-income populations. The proposal does not affect the level of protection provided to human health or the environment. However, this proposal, if finalized, will provide additional benefits to these demographic groups by improving the compliance, monitoring, and implementation of the NESHAP.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Surface Coating of Wood Building Products, Reporting and recordkeeping requirements.

Dated: April 23, 2018.

E. Scott Pruitt,

Administrator.

For the reasons set out in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is proposed to be amended as follows:

PART 63—[AMENDED]

■ 1. The authority citation for part 63 continues to read as follows:

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

Subpart A—[Amended]

■ 2. Section 63.14 is amended by:

■ a. Redesignating paragraphs (i) through (s) as (j) through (t);

■ b. Redesignating paragraph (d) as (i);

■ c. Redesignating paragraphs (e) through (h) as (d) through (g);

■ d. Redesignating paragraph (c) as (h);

■ e. Adding new paragraph (c).;

■ f. Revising newly redesignated paragraph (g)(11);

■ g. Redesignating newly redesignated paragraphs (g)(60) through (g)(105) as (g)(64) through (g)(109);

■ h. Redesignating newly redesignated paragraphs (g)(24) through (g)(59) as (g)(27) through (g)(62);

■ i. Redesignating newly redesignated paragraphs (g)(20) through (g)(23) as (g)(22) through (g)(25);

■ j. Redesignating newly redesignated paragraphs (g)(18) through (g)(19) as (g)(19) through (g)(20);

■ k. Adding new paragraphs (g)(18), (21), (26) and (63); and

■ l. Revising newly redesignated paragraphs (g)(29), (77), and (82).

The revisions and additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(c) American National Standards Institute (ANSI), 25 W. 43rd Street, 4th Floor, New York, NY 10036, Telephone (212) 642–4980, and *http://www.ansi.org.*

(1) ANSI A135.4–2012, Basic Hardboard, approved June 8, 2012, IBR approved for § 63.4781.

(2) [Reserved]

* * * * *

(g) * * *

(11) ASTM D1475–90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for appendix A to subpart II and §§ 63.4741(b) and (c) and 63.4751(c).

* * * * *

(18) ASTM D1963–85 (1996), Standard Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25 °C, approved 1996, IBR approved for §§ 63.4741(a) and 63.4761(j).

* * * * *

(21) ASTM D2111–95 (2000), Standard Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures, approved 2000, IBR approved for §§ 63.4741(a) and 63.4761(j).

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(26) ASTM D2369–01, Test Method for Volatile Content of Coatings, approved 2001, IBR approved for §§ 63.4741(a) and 63.4761(j).

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(29) ASTM D2697–86 (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §§ 63.3161(f), 63.3521(b), 63.3941(b), 63.4141(b), 63.4741(a) and (b), 63.4761(j), 63.4941(b), and 63.5160(c).

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(63) ASTM D4840–99, Standard Guide for Sampling Chain-of-Custody Procedures, approved 1999, IBR approved for Method 326 in appendix A to part 63.

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(77) ASTM D6093–97 (Reapproved 2003), Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §§ 63.3161, 63.3521, 63.3941, 63.4141, 63.4741(a) and (b), 63.4761(j), 63.4941(b), and 63.5160(c).

* * * * *

(82) ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, Approved October 1, 2010, IBR approved for §§ 63.1571(a), 63.4651(i), 63.4766(b), Tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, tables 1, 2, and 5 to subpart UUUUU and appendix B to subpart UUUUU.

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Subpart QQQQ—[Amended]

■ 3. Section 63.4683 is amended by revising paragraphs (a) and (b) to read as follows:

§ 63.4683 When do I have to comply with this subpart?

* * * * *

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1), (2) or (3) of this section:

(1) If the initial startup of your new or reconstructed affected source is before May 28, 2003, the compliance date is May 28, 2003; except that the compliance date for the revised requirements promulgated at §§ 63.4683, 63.4700, 63.4710, 63.4720, 63.4730, 63.4741, 63.4751, 63.4761, 63.4763, 63.4764, 63.4766, 63.4781, Table 4 of this subpart QQQQ, and Appendix A of this subpart QQQQ published on [DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] is [DATE 180 DAYS AFTER THE DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**].

(2) If the initial startup of your new or reconstructed affected source occurs after May 28, 2003, the compliance date is the date of initial startup of your affected source; except that if the initial startup of your new or reconstructed affected source occurs after May 28, 2003, but on or before May 16, 2018, the compliance date for the revised requirements promulgated at §§ 63.4683, 63.4700, 63.4710, 63.4720, 63.4730, 63.4741, 63.4751, 63.4761, 63.4763, 63.4764, 63.4766, 63.4781,

Table 4 of this subpart QQQQ, and Appendix A of this subpart QQQQ published on [DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] is [DATE 180 DAYS AFTER THE DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**].

(3) If the initial startup of your new or reconstructed affected source occurs after May 16, 2018, the compliance date is [DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] or the date of startup, whichever is later.

(b) For an existing affected source, the compliance date is the date 3 years after May 28, 2003, except that the compliance date for the revised requirements promulgated at §§ 63.4683, 63.4700, 63.4710, 63.4720, 63.4730, 63.4741, 63.4751, 63.4761, 63.4763, 63.4764, 63.4766, 63.4781, Table 4 of this subpart QQQQ, and Appendix A of this subpart QQQQ published on [DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] is [DATE 180 DAYS AFTER THE DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**].

■ 4. Section 63.4700 is amended by:

■ a. Revising the introductory text of paragraph (a)(2), paragraphs (a)(2)(i) and (ii);

■ b. Adding paragraph (a)(3); and

■ c. Revising paragraphs (b) and (d).

The revisions and addition read as follows:

§ 63.4700 What are my general requirements for complying with this subpart?

(a) * * *

(2) Any coating operation(s) at existing sources for which you use the emission rate with add-on controls option, as specified in § 63.4691(c), must be in compliance with the applicable emission limitations as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) Prior to [DATE 181 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], the coating operation(s) must be in compliance with the applicable emission limit in § 63.4690 at all times, except during periods of startup, shutdown, and malfunction (SSM). After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], the coating operation(s) must be in compliance with the applicable emission limit in § 63.4690 at all times.

(ii) Prior to [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], the coating operation(s) must be in compliance with the applicable operating limits for emission capture systems and add-on control devices required by § 63.4692 at all times, except during periods of SSM, and except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4761(j). After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], the coating operation(s) must be in compliance with the operating limits for emission capture systems and add-on control devices required by § 63.4692 at all times, except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4761(j).

* * * * *

(3) For new or reconstructed sources with initial startup after May 16, 2018, any coating operation(s) for which you use the emission rate with add-on controls option, as specified in § 63.4691(c), must be in compliance with the applicable emission limitations and work practice standards as specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) The coating operation(s) must be in compliance with the applicable emission limit in § 63.4690 at all times.

(ii) The coating operation(s) must be in compliance with the operating limits for emission capture systems and add-on control devices required by § 63.4692 at all times, except for solvent recovery systems for which you conduct liquid-liquid material balances according to § 63.4761(j).

(iii) The coating operation(s) must be in compliance with the work practice standards in § 63.4693 at all times.

(b) For existing sources as of May 16, 2018, prior to [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], you must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart, according to the provisions in § 63.6(e)(1)(i). After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] for such existing sources and after [DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] for new or reconstructed sources, you must always operate and maintain your affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

* * * * *

(d) For existing sources until [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], if your affected source uses an emission capture system and add-on control device, you must develop a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3). The SSMP must address startup, shutdown, and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The SSMP must also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.

■ 5. Section 63.4710 is amended by revising paragraph (c)(8)(ii) to read as follows:

§ 63.4710 What notifications must I submit?

* * * * *

(c) * * *

(8) * * *

(ii) For the emission rate without add-on controls option, provide the calculation of the total mass of organic HAP emissions for each month; the calculation of the total volume of coating solids used each month; and the calculation of the 12-month organic HAP emission rate, using Equations 1 and 1A (or 1A-alt) through 1C, 2, and 3, respectively, of § 63.4751.

* * * * *

■ 6. Section 63.4720 is amended by:

■ a. Revising paragraph (a)(6)(ii) and the introductory text of paragraph (a)(7);

■ b. Redesignating paragraphs (a)(7)(i) through (a)(7)(xiv) as paragraphs (a)(7)(i)(A) through (a)(7)(i)(N);

■ c. Adding new paragraph (a)(7)(i) introductory text;

■ d. Revising paragraph (a)(7)(ii) and the introductory text of paragraph (c); and

■ e. Adding paragraph (d).

The revisions and additions read as follows:

§ 63.4720 What reports must I submit?

(a) * * *

(6) * * *

(ii) The calculations used to determine the 12-month organic HAP emission rate for the compliance period in which the deviation occurred. You must provide the calculations for Equations 1, 1A (or 1A-alt) through 1C, 2, and 3 in § 63.4751; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to § 63.4751(e)(4). You do not need to submit background data supporting these calculations (*e.g.,* information provided by materials suppliers or manufacturers, or test reports).

* * * * *

(7) *Deviations: emission rate with add-on controls option.* You must be in compliance with the emission limitations in this subpart as specified in paragraphs (7)(i) and (ii) of this section.

(i) For existing sources until [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], if you used the emission rate with add-on controls option and there was a deviation from an emission limitation (including any periods when emissions bypassed the add-on control device and were diverted to the atmosphere), the semiannual compliance report must contain the information in paragraphs (a)(7)(i)(A) through (N) of this section. This includes periods of SSM during which deviations occurred.

* * * * *

(ii) After [DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] for new and reconstructed sources and after [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] for existing sources, if you used the emission rate with add-on controls option and there was a deviation from an emission limitation (including any periods when emissions bypassed the add-on control device and were diverted to the atmosphere), the semiannual compliance report must contain the information in paragraphs (a)(7)(ii)(A) through (M) of this section.

(A) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in § 63.4690.

(B) The calculations used to determine the 12-month organic HAP emission rate for each compliance period in which a deviation occurred. You must provide the calculation of the total mass of organic HAP emissions for the coatings, thinners, and cleaning materials used each month, using Equations 1 and 1A through 1C of § 63.4751; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to § 63.4751(e)(4); the calculation of the total volume of coating solids used each month, using Equation 2 of § 63.4751; the calculation of the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices, using Equations 1 and 1A through 1D of § 63.4761, and Equations 2, 3, and 3A through 3C of § 63.4761, as applicable; the calculation of the total mass of organic HAP emissions each month, using Equation 4 of § 63.4761; and the calculation of the 12-month organic HAP emission rate, using Equation 5 of § 63.4761. You do not need to submit the background data supporting these calculations (*e.g.,* information provided by materials suppliers or manufacturers, or test reports).

(C) A brief description of the CPMS.

(D) The date of the latest CPMS certification or audit.

(E) The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks.

(F) The date, time, and duration that each CPMS was out-of-control, including the information in § 63.8(c)(8).

(G) The date and time period of each deviation from an operating limit in Table 3 to this subpart, date and time period of any bypass of the add-on control device.

(H) A summary of the total duration of each deviation from an operating limit in Table 3 to this subpart, each bypass of the add-on control device during the semiannual reporting period, and the total duration as a percent of the total source operating time during that semiannual reporting period.

(I) A breakdown of the total duration of the deviations from the operating limits in Table 3 to this subpart and bypasses of the add-on control device during the semiannual reporting period by identifying deviations due to control equipment problems, process problems, other known causes, and other unknown causes; a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(J) A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.

(K) A description of any changes in the CPMS, coating operation, emission capture system, or add-on control device since the last semiannual reporting period.

(L) For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation, and the actions you took to correct the deviation.

(M) A statement of the cause of each deviation.

* * * * *

(c) *SSM reports.* For existing sources until [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], if you used the emission rate with add-on controls option and you had an SSM during the semiannual reporting period, you must submit the reports specified in paragraphs (c)(1) and (2) of this section.

* * * * *

(d) *Electronic reporting.* (1) Within 60 days after the date of completing each performance test (as defined in § 63.2) required by this subpart, the owner or operator must submit the results of the performance test following the procedure specified in either paragraph (d)(1)(i) or (ii) of this section.

(i) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT website (*https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert*) at the time of the test, the owner or operator must submit the results of the performance test to the EPA via CEDRI. (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated using the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT website. If the owner or operator claims that some of the performance test information being submitted is confidential business information (CBI), the owner or operator must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(ii) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT website at the time of the test, the owner or operator must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13 unless the Administrator agrees to or specifies an alternative reporting method.

(2) You must submit notifications and semiannual compliance reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX (*https://cdx.epa.gov/).*) You must use the appropriate electronic report in CEDRI for this subpart or an alternative electronic file format consistent with the XML schema listed on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*). If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at all the appropriate addresses listed in § 63.13. Once the reporting template has been available in CEDRI for 1 year, you must begin submitting all subsequent reports via CEDRI. The reports must be submitted by the deadlines specified in this subpart, regardless of the method in which the reports are submitted.

(3) If you are required to electronically submit a report through CEDRI in the EPA's CDX, and due to a planned or actual outage of either the EPA's CEDRI or CDX systems within the period of time beginning 5 business days prior to the date that the submission is due, you will be or are precluded from accessing CEDRI or CDX and submitting a required report within the time prescribed, you may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. You must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or caused a delay in reporting. You must provide to the Administrator a written description identifying the date, time and length of the outage; a rationale for attributing the delay in reporting beyond the regulatory deadline to the EPA system outage; describe the measures taken or to be taken to minimize the delay in reporting; and identify a date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported. In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved. The decision to accept the claim of EPA system outage and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

(4) If you are required to electronically submit a report through CEDRI in the EPA's CDX and a force majeure event is about to occur, occurs, or has occurred or there are lingering effects from such an event within the period of time beginning 5 business days prior to the date the submission is due, the owner or operator may assert a claim of force majeure for failure to timely comply with the reporting requirement. For the purposes of this section, a force majeure event is defined as an event that will be or has been caused by circumstances beyond the control of the affected facility, its contractors, or any entity controlled by the affected facility that prevents you from complying with the requirement to submit a report electronically within the time period prescribed. Examples of such events are acts of nature (*e.g.,* hurricanes, earthquakes, or floods), acts of war or terrorism, or equipment failure or safety hazard beyond the control of the affected facility (*e.g.,* large scale power outage). If you intend to assert a claim of force majeure, you must submit notification to the Administrator in writing as soon as possible following the date you first knew, or through due diligence should have known, that the event may cause or caused a delay in reporting. You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event; describe the measures taken or to be taken to minimize the delay in reporting; and identify a date by which you propose to report, or if you have already met the reporting requirement at the time of the notification, the date you reported. In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs. The decision to accept the claim of force majeure and allow an extension to the reporting deadline is solely within the discretion of the Administrator.

■ 7. Section 63.4730 is amended by:

■ a. Revising paragraph (c)(3) and the introductory text of paragraph (k);

■ b. Redesignating paragraphs (k)(1) through (4) as paragraphs (k)(1)(i) through (iv);

■ c. Adding new introductory text of paragraph (k)(1) and new paragraph (k)(2);

■ d. Redesignating paragraphs (k)(5)(i) through (iii) as paragraphs (k)(1)(v)(A) through (C);

■ e. Redesignating introductory text of paragraph (k)(5) as introductory text of paragraph (k)(1)(v) and revising the newly redesignated paragraph;

■ f. Redesignating paragraphs (k)(6)(i) and (ii) as paragraphs (k)(1)(vi)(A) and (B);

■ g. Redesignating introductory text of paragraph (k)(6) as introductory text of paragraph (k)(1)(vi) and revising the newly redesignated paragraph; and

■ h. Redesignating paragraphs (k)(7) and (8) as paragraphs (k)(1)(vii) and (viii).

The revisions and additions read as follows:

§ 63.4730 What records must I keep?

* * * * *

(c) * * *

(3) For the emission rate without add-on controls option, a record of the calculation of the total mass of organic HAP emissions for the coatings, thinners, and cleaning materials used each month, using Equations 1, 1A (or 1A-alt) through 1C, and 2 of § 63.4751; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to § 63.4751(e)(4); the calculation of the total volume of coating solids used each month, using Equation 2 of § 63.4751; and the calculation of each 12-month organic HAP emission rate, using Equation 3 of § 63.4751.

* * * * *

(k) If you use the emission rate with add-on controls option, you must keep the records specified in paragraphs (k)(1) through (2) of this section.

(1) For existing sources until [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**]:

* * * * *

(v) For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in §§ 63.4764 and 63.4765(b) through (e), including the records specified in paragraphs (k)(1)(v)(A) through (C) of this section that apply to you.

* * * * *

(vi) The records specified in paragraphs (k)(1)(vi)(A) and (B) of this section for each add-on control device organic HAP destruction or removal efficiency determination as specified in § 63.4766.

* * * * *

(2) After [DATE of PUBLICATION OF FINAL RULE IN THE **FEDERAL**

REGISTER] for new and reconstructed sources and after [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**] for existing sources:

(i) The records required to show continuous compliance with each operating limit specified in Table 3 to this subpart that applies to you.

(ii) For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and has a capture efficiency of 100 percent, as specified in § 63.4765(a).

(iii) For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in §§ 63.4764 and 63.4765(b) through (e), including the records specified in paragraphs (k)(2)(iii)(A) through (C) of this section that apply to you.

(A) *Records for a liquid-to-uncaptured-gas protocol using a temporary total enclosure or building enclosure.* Records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or F of appendix M to 40 CFR part 51 for each material used in the coating operation, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(B) *Records for a gas-to-gas protocol using a temporary total enclosure or a building enclosure.* Records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or C of appendix M to 40 CFR part 51 at the inlet to the add-on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(C) *Records for an alternative protocol.* Records needed to document a capture efficiency determination using an alternative method or protocol as specified in § 63.4765(e), if applicable.

(iv) The records specified in paragraphs (k)(2)(iv)(A) and (B) of this section for each add-on control device organic HAP destruction or removal efficiency determination as specified in § 63.4766.

(A) Records of each add-on control device performance test conducted according to §§ 63.4764 and 63.4766.

(B) Records of the coating operation conditions during the add-on control device performance test showing that the performance test was conducted under representative operating conditions.

(v) Records of the data and calculations you used to establish the emission capture and add-on control device operating limits as specified in § 63.4767 and to document compliance with the operating limits as specified in Table 3 to this subpart.

(vi) A record of the work practice plan required by § 63.4693, and documentation that you are implementing the plan on a continuous basis.

■ 8. Section 63.4741 is amended by revising paragraph (a)(2), the defined terms "$m_{volatiles}$" and "D_{avg}" in Equation 1 in the introductory text of paragraph (b)(3), and paragraph (c) to read as follows:

§ 63.4741 How do I demonstrate initial compliance with the emission limitations?

* * * * *

(a) * * *

(2) *Method 24 (appendix A–7 to 40 CFR part 60).* For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. (Note: Method 24 is not appropriate for those coatings with a water content that would result in an effective detection limit greater than the applicable emission limit.) One of the voluntary consensus standards in paragraphs (a)(2)(i) through (v) may be used as an alternative to using Method 24.

(i) ASTM Method D1963–85 (1996), "Standard Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25°C," (incorporated by reference, see § 63.14);

(ii) ASTM Method D2111–95 (2000), "Standard Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures," (incorporated by reference, see § 63.14);

(iii) ASTM Method D2369–01, "Test Method for Volatile Content of Coatings," (incorporated by reference, see § 63.14);

(iv) ASTM Method D2697–86 (1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings," (incorporated by reference, see § 63.14); and

(v) ASTM Method D6093–97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer," (incorporated by reference, see § 63.14).

* * * * *

(b) * * *

(3) * * *

$m_{volatiles}$ = Total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to Method 24 in appendix A–7 of 40 CFR part 60, grams volatile matter per liter coating.

D_{avg} = Average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475–90, "Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products," (incorporated by reference, see § 63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475–90 test results and other information sources, the test results will take precedence.

(c) *Determine the density of each coating.* Determine the density of each coating used during the compliance period from test results using ASTM Method D1475–90, "Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products," (incorporated by reference, see § 63.14), or information from the supplier or manufacturer of the material. If there is disagreement between ASTM Method D1475–90 test results and the supplier's or manufacturer's information, the test results will take precedence.

* * * * *

■ 9. Section 63.4751 is amended by revising paragraph (c) and the defined term "A" in Equation 1 in the introductory text of paragraph (e) and adding paragraph (i) to read as follows:

§ 63.4751 How do I demonstrate initial compliance with the emission limitations?

* * * * *

(c) *Determine the density of each material.* Determine the density of each coating, thinner, and cleaning material used during each month from test results using ASTM Method D1475–90, ‘‘Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products,’’ (incorporated by reference, see § 63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475–90 test results and such other information sources, the test results will take precedence.

* * * * *

(e) * * *

A = Total mass of organic HAP in the coatings used during the month, grams, as calculated in Equation 1A (or 1A-alt) of this section.

* * * * *

(i) *Alternative compliance demonstration.* As an alternative to paragraph (h) of this section, you may demonstrate initial compliance by conducting a performance test using Method 25A of appendix A–7 to 40 CFR part 60 or Method 320 or 326 of appendix A to 40 CFR part 63 for formaldehyde or isocyanates respectively to obtain an organic HAP emission factor (EF). The voluntary consensus standard ASTM D6348–03 (incorporated by reference, see § 63.14) may be used as an alternative to using Method 320 under the conditions specified in paragraphs (i)(4)(A) and (B) of this section.

(1) You must also calculate the mass of organic HAP emitted from the coatings used during the month using Equation 1A-alt of this section:

$$A = \sum_{i=1}^{m}(Vol_{c,i})(D_{c,i})(W_{c,i})(EF_{c,i}) \qquad (Eq. 1A - alt)$$

Where:

A = Total mass of organic HAP in the coatings used during the month, grams.

$Vol_{c,i}$ = Total volume of coating, i, used during the month, liters.

$D_{c,j}$ = Density of coating, i, grams coating per liter of coatings.

$W_{c,i}$ = Mass fraction of organic HAP in coating, i, grams organic HAP per gram coating.

$EF_{c,i}$ = Organic HAP emission factor (three run average from performance testing, evaluated as proportion of mass organic HAP emitted to mass of organic HAP in the coatings used during the performance test).

m = Number of different coatings used during the month.

(2) Calculate the organic HAP emission rate for the 12-month compliance period, grams organic HAP per liter coating solids used, using Equation 3 of this section.

(3) The organic HAP emission rate for the initial 12-month compliance period, calculated using Equation 3 of this section, must be less than or equal to the applicable emission limit in § 63.4690. You must keep all records as required by §§ 63.4730 and 63.4731. As part of the Notification of Compliance Status required by § 63.4710, you must identify the coating operation(s) for which you used the emission rate without add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in § 63.4690, determined according to this section.

(4) If ASTM D6348–03 is used, the conditions specified in paragraphs (i)(4)(i) and (ii) must be met.

(i) Test plan preparation and implementation in the Annexes to ASTM D6348–03, sections A1 through A8 are mandatory.

(ii) In ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5 of ASTM D6348–03). In order for the test data to be acceptable for a compound, %R must be between 70 and 130 percent. If the %R value does not meet this criterion for a target compound, the test data are not acceptable for that compound, and the test must be repeated for that analyte following adjustment of the sampling and/or analytical procedure before the retest. The %R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated %R value for that compound using the following equation: Reported Result = (Measured Concentration in the Stack × 100)/%R.

■ 10. Section 63.4761 is amended by revising paragraph (j)(3) to read as follows:

§ 63.4761 How do I demonstrate initial compliance?

* * * * *

(j) * * *

(3) Determine the mass fraction of volatile organic matter for each coating, thinner, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, grams volatile organic matter per gram coating. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, appendix A–7, one of the voluntary consensus standards specified in § 63.4741(a)(2)(i) through (v) (incorporated by reference, see § 63.14), or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 of 40 CFR part 60, appendix A–7, or an approved alternative method, the test method results will take precedence unless after consultation, a regulated source could demonstrate to the satisfaction of the enforcement agency that the formulation data were correct.

* * * * *

■ 11. Section 63.4763 is amended by revising paragraph (h) to read as follows:

§ 63.4763 How do I demonstrate continuous compliance with the emission limitations?

(h) For existing sources until [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of SSM of the emission capture system, add-on control device, or coating operation that may affect emission capture or control device efficiency are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with § 63.6(e)(1). The Administrator will determine whether deviations that occur during a period you identify as an SSM are violations, according to the provisions in § 63.6(e).

■ 12. Section 63.4764 is amended by revising paragraphs (a)(1) and (2) to read as follows:

§ 63.4764 What are the general requirements for performance tests?

(a) * * *

(1) *Representative coating operation operating conditions.* You must conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown, and nonoperation do not constitute representative conditions. You may not

conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) *Representative emission capture system and add-on control device operating conditions.* You must conduct the performance test when the emission capture system and add-on control device are operating at a representative flow rate, and the add-on control device is operating at a representative inlet concentration. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record information that is necessary to document emission capture system and add-on control device operating conditions during the test and explain why the conditions represent normal operation.

* * * * *

■ 13. Section 63.4766 is amended by:

■ a. Revising paragraphs (a)(1) through (4) and (b);

■ b. Adding paragraphs (b)(4) and (5); and

■ c. Revising paragraphs (d) and (f).

The revisions and additions read as follows:

§ 63.4766 How do I determine the add-on control device emission destruction or removal efficiency?

* * * * *

(a) * * *

(1) Use Method 1 or 1A of appendix A–1 to 40 CFR part 60, as appropriate, to select sampling sites and velocity traverse points.

(2) Use Method 2, 2A, 2C, 2D, or 2F of appendix A–1 to 40 CFR part 60, or Method 2G of appendix A–2 to 40 CFR part 60, as appropriate, to measure gas volumetric flow rate.

(3) Use Method 3, 3A, or 3B of appendix A–2 to 40 CFR part 60, as appropriate, for gas analysis to determine dry molecular weight. You may also use as an alternative to Method 3B, the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas in ANSI/ASME PTC 19.10–1981, ‘‘Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]’’ (incorporated by reference, see § 63.14).

(4) Use Method 4 of appendix A–3 to 40 CFR part 60 to determine stack gas moisture.

* * * * *

(b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add-on control device simultaneously, using Method 25 or 25A of appendix A–7 to 40 CFR part 60, and Method 320 or 326 of appendix A to 40 CFR part 63, as specified in paragraphs (b)(1) through (5) of this section. The voluntary consensus standard ASTM D6348–03 (incorporated by reference in § 63.14) may be used as an alternative to using Method 320 if the conditions specified in § 63.4751(i)(4)(A) and (B) are met. You must use the same method for both the inlet and outlet measurements.

(1) Use Method 25 of appendix A–7 to 40 CFR part 60 if the add-on control device is an oxidizer, and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

(2) Use Method 25A of appendix A–7 to 40 CFR part 60 if the add-on control device is an oxidizer, and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet.

(3) Use Method 25A of appendix A–7 to 40 CFR part 60 if the add-on control device is not an oxidizer.

(4) If Method 25A is used, and if formaldehyde is a major organic HAP component of the surface coating exhaust stream, use Method 320 of appendix A to 40 CFR part 63 or ASTM D6348–03 (incorporated by reference in § 63.14) to determine formaldehyde concentration.

(5) In addition to Method 25 or 25A, use Method 326 of appendix A to 40 CFR part 63 if isocyanate is a major organic HAP component of the surface coating exhaust stream.

* * * * *

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add-on control device, using Equation 1 of this section. If there is more than one inlet or outlet to the add-on control device, you must calculate the total gaseous organic mass flow rate using Equation 1 of this section for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions. The mass emission rates for formaldehyde and individual isocyanate must be determined separately.

$$M_f = Q_{sd} C_c MW (41.6)(10^{-6}) \qquad (Eq. 1)$$

Where:

M_f = Total gaseous organic emissions mass flow rate, grams per hour (h).

MW = Molecular weight of analyte of interest (12 for Method 25 and 25A results).

C_c = Concentration of organic compounds in the vent gas (as carbon if determined by Method 25 or Method 25A), parts per million by volume (ppmv), dry basis.

Q_{sd} = Volumetric flow rate of gases entering or exiting the add-on control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters/hour (dscm/h).

41.6 = Conversion factor for molar volume, gram-moles per cubic meter (mol/m^3) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

* * * * *

(f) Determine the emission destruction or removal efficiency of the add-on control device as the average of the efficiencies determined in the three test runs and calculated in Equation 2 of this section. Destruction and removal efficiency must be determined independently for formaldehyde and isocyanates.

■ 14. Section 63.4781 is amended by revising paragraph (3) under the definition of ‘‘deviation’’ and revising the definition of ‘‘tileboard’’ to read as follows:

§ 63.4781 What definitions apply to this subpart?

* * * * *

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

* * * * *

(3) For existing sources until [DATE 180 DAYS AFTER DATE OF PUBLICATION OF FINAL RULE IN THE **FEDERAL REGISTER**], if your affected source fails to meet any emission limit, or operating limit, or work practice standard in this subpart during SSM, regardless of whether or not such failure is permitted by this subpart.

* * * * *

Tileboard means hardboard that meets the specifications for Class I given by the standard ANSI A135.4–2012 (incorporated by reference, see § 63.14) as approved by the American National

Standards Institute. The standard specifies requirements and test methods for water absorption, thickness swelling, modulus of rupture, tensile strength, surface finish, dimensions, squareness, edge straightness, and moisture content for five classes of hardboard. Tileboard is also known as Class I hardboard or tempered hardboard.

■ 15. Table 4 to subpart QQQQ is amended to read as follows:

You must comply with the applicable General Provisions requirements according to the following table:

TABLE 4 TO SUBPART QQQQ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART QQQQ OF PART 63

Citation	Subject	Applicable to subpart QQQQ	Explanation
§ 63.1(a)(1)–(14)	General Applicability	Yes.	
§ 63.1(b)(1)–(3)	Initial Applicability Determination	Yes	Applicability to subpart QQQQ is also specified in § 63.4681.
§ 63.1(c)(1)	Applicability After Standard Established	Yes.	
§ 63.1(c)(2)	Applicability of Permit Program for Area Sources	No	Area sources are not subject to subpart QQQQ.
§ 63.1(c)(3)	[Reserved]	No.	
§ 63.1(c)(4)–(5)	Extensions and Notifications	Yes.	
§ 63.1(d)	[Reserved]	No.	
§ 63.1(e)	Applicability of Permit Program Before Relevant Standard is Set.	Yes.	
§ 63.2	Definitions	Yes	Additional definitions are specified in § 63.4781.
§ 63.3(a)–(c)	Units and Abbreviations	Yes.	
§ 63.4(a)(1)–(5)	Prohibited Activities	Yes.	
§ 63.4(b)–(c)	Circumvention/Severability	Yes.	
§ 63.5(a)	Construction/Reconstruction	Yes.	
§ 63.5(b)(1)–(6)	Requirements for Existing, Newly Constructed, and Reconstructed Sources.	Yes.	
§ 63.5(c)	[Reserved]	No.	
§ 63.5(d)	Application for Approval of Construction/Reconstruction.	Yes.	
§ 63.5(e)	Approval of Construction/Reconstruction	Yes.	
§ 63.5(f)	Approval of Construction/Reconstruction Based on Prior State Review.	Yes.	
§ 63.6(a)	Compliance With Standards and Maintenance Requirements—Applicability.	Yes.	
§ 63.6(b)(1)–(7)	Compliance Dates for New and Reconstructed Sources.	Yes	§ 63.4683 specifies compliance dates.
§ 63.6(c)(1)–(5)	Compliance Dates for Existing Sources	Yes	§ 63.4683 specifies compliance dates.
§ 63.6(d)	[Reserved]	No.	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No	See § 63.4700(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions ASAP	No.	
§ 63.6(e)(1)(iii)	Operation and Maintenance Requirements Enforceable Independent of Emissions Limitations.	Yes.	
§ 63.6(e)(2)	[Reserved]	No.	
§ 63.6(e)(3)	SSMP	No.	
§ 63.6(f)(1)	Compliance Except During SSM	No.	
§ 63.6(f)(2)–(3)	Methods for Determining Compliance	Yes.	
§ 63.6(g)(1)–(3)	Use of an Alternative Standard	Yes.	
§ 63.6(h)	Compliance with Opacity/Visible Emissions Standards.	No	Subpart QQQQ does not establish opacity standards and does not require continuous opacity monitoring systems (COMS).
§ 63.6(i)(1)–(16)	Extension of Compliance	Yes.	
§ 63.6(j)	Presidential Compliance Exemption	Yes.	
§ 63.7(a)(1)	Performance Test Requirements—Applicability	Yes	Applies to all affected sources. Additional requirements for performance testing are specified in §§ 63.4764, 63.4765, and 63.4766.
§ 63.7(a)(2)	Performance Test Requirements—Dates	Yes	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standard. § 63.4760 specifies the schedule for performance test requirements that are earlier than those specified in § 63.7(a)(2).
§ 63.7(a)(3)	Performance Tests Required By the Administrator	Yes.	
§ 63.7(a)(4)	Notification of Delay in Performance Testing Due to Force Majeure.	Yes.	
§ 63.7(b)–(e)	Performance Test Requirements—Notification, Quality Assurance, Facilities Necessary for Safe Testing, Conditions During Test.	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standard.
§ 63.7(e)(1)	Performance Testing	Yes.	
§ 63.7(f)	Performance Test Requirements—Use of Alternative Test Method.	Yes	Applies to all test methods except those used to determine capture system efficiency.

TABLE 4 TO SUBPART QQQQ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART QQQQ OF PART 63—Continued

Citation	Subject	Applicable to subpart QQQQ	Explanation
§ 63.7(g)–(h)	Performance Test Requirements—Data Analysis, Recordkeeping, Reporting, Waiver of Test.	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standard.
§ 63.8(a)(1)–(2)	Monitoring Requirements—Applicability	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for monitoring are specified in § 63.4768.
§ 63.8(a)(3)	[Reserved]	No.	
§ 63.8(a)(4)	Additional Monitoring Requirements	No	Subpart QQQQ does not have monitoring requirements for flares.
§ 63.8(b)	Conduct of Monitoring	Yes.	
§ 63.8(c)(1)	Continuous Monitoring System (CMS) Operation and Maintenance.	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for CMS operations and maintenance are specified in § 63.4768.
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No.	
§ 63.8(c)(1)(ii)	Operation and Maintenance of CMS	Yes.	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No.	
§ 63.8(c)(2)–(3)	Monitoring System Installation	Yes.	
§ 63.8(c)(4)	CMSs	No	§ 63.4768 specifies the requirements for the operation of CMS for capture systems and add-on control devices at sources using these to comply.
§ 63.8(c)(5)	COMS	No	Subpart QQQQ does not have opacity for visible emission standards.
§ 63.8(c)(6)	CMS Requirements	Yes	§ 63.4768 specifies the requirements for monitoring systems for capture systems and add-on control devices at sources using these to comply.
§ 63.8(c)(7)	CMS Out-of-Control Periods	Yes.	
§ 63.8(c)(8)	CMS Out-of-Control Periods Reporting	No	§ 63.4720 requires reporting of CMS out-of-control periods.
§ 63.8(d)–(e)	Quality Control Program and CMS Performance Evaluation.	No	Subpart QQQQ does not require the use of continuous emissions monitoring systems.
§ 63.8(f)(1)–(5)	Use of an Alternative Monitoring Method	Yes.	
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	No	Subpart QQQQ does not require the use of continuous emissions monitoring systems.
§ 63.8(g)(1)–(5)	Data Reduction	No	§§ 63.4767 and 63.4768 specify monitoring data reduction.
§ 63.9(a)–(d)	Notification Requirements	Yes.	
§ 63.9(e)	Notification of Performance Test	Yes	Applies only to capture system and add-on control device performance tests at sources using these to comply with the standard.
§ 63.9(f)	Notification of Visible Emissions/Opacity Test	No	Subpart QQQQ does not have opacity or visible emission standards.
§ 63.9(g)(1)–(3)	Additional Notifications When Using CMS	No	Subpart QQQQ does not require the use of continuous emissions monitoring systems.
§ 63.9(h)	Notification of Compliance Status	Yes	§ 63.4710 specifies the dates for submitting the notification of compliance status.
§ 63.9(i)	Adjustment of Submittal Deadlines	Yes.	
§ 63.9(j)	Change in Previous Information	Yes.	
§ 63.10(a)	Recordkeeping/Reporting—Applicability and General Information.	Yes.	
§ 63.10(b)(1)	General Recordkeeping Requirements	Yes	Additional requirements are specified in §§ 63.4730 and 63.4731.
§ 63.10(b)(2)(i)–(ii)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns.	No.	
§ 63.10(b)(2)(iii)	Recordkeeping Relevant to CMS	Yes.	
§ 63.10(b)(2)(iv)–(v)	Recordkeeping Relevant to SSM	No.	
§ 63.10(b)(2)(vi)–(xi)	Recordkeeping for CMS Malfunctions	Yes.	
§ 63.10(b)(2)(xii)	Records	Yes.	
§ 63.10(b)(2)(xiii)		No	Subpart QQQQ does not require the use of continuous emissions monitoring systems.
§ 63.10(b)(2)(xiv)		Yes.	
§ 63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations.	Yes.	

TABLE 4 TO SUBPART QQQQ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART QQQQ OF PART 63—Continued

Citation	Subject	Applicable to subpart QQQQ	Explanation
§ 63.10(c)(1)–(6)	Additional Recordkeeping Requirements for Sources with CMS.	Yes.	
§ 63.10(c)(7)–(8)		No	The same records are required in § 63.4720(a)(7).
§ 63.10(c)(9)–(14)		Yes.	
§ 63.10(c)(15)	Use of SSM Plan	No.	
§ 63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements are specified in § 63.4720.
§ 63.10(d)(2)	Report of Performance Test Results	Yes	Additional requirements are specified in § 63.4720(b).
§ 63.10(d)(3)	Reporting Opacity or Visible Emissions Observations.	No	Subpart QQQQ does not require opacity or visible emissions observations.
§ 63.10(d)(4)	Progress Reports for Sources With Compliance Extensions.	Yes.	
§ 63.10(d)(5)	SSM Reports	No	Malfunctions shall be reported based on compliance option under § 63.4720(a)(5–7).
§ 63.10(e)(1)–(2)	Additional CMS Reports	No	Subpart QQQQ does not require the use of continuous emissions monitoring systems.
§ 63.10(e)(3)	Excess Emissions/CMS Performance Reports	No	§ 63.4720(b) specifies the contents of periodic compliance reports.
§ 63.10(e)(4)	COMS Data Reports	No	Subpart QQQQ does not specify requirements for opacity or COMS.
§ 63.10(f)	Recordkeeping/Reporting Waiver	Yes.	
§ 63.11	Control Device Requirements/Flares	No	Subpart QQQQ does not specify use of flares for compliance.
§ 63.12	State Authority and Delegations	Yes.	
§ 63.13	Addresses	Yes.	
§ 63.14	Incorporation by Reference	Yes	Test Methods ANSI A135.4–2012, ANSI/ASME PTC 19.10–1981, Part 10, ASTM D1475–90, ASTM D1963–85, ASTM D2111–95 (2000), ASTM D2369–01, ASTM D2697–86 (Reapproved 1998), ASTM D4840–99, ASTM D6093–97 (Reapproved 2003), and ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14).
§ 63.15	Availability of Information/Confidentiality	Yes.	
§ 63.16	Requirements for Performance Track Member Facilities.	Yes.	

■ 16. Appendix A to Part 63 is amended to add Method 326 to read as follows:

Method 326—Method for Determination of Isocyanates in Stationary Source Emissions

1.0 Scope and Application

This method is applicable to the collection and analysis of isocyanate compounds from the emissions associated with manufacturing processes. This method is not inclusive with respect to specifications (*e.g.,* equipment and supplies) and sampling procedures essential to its performance. Some material is incorporated by reference from other EPA methods. Therefore, to obtain reliable results, persons using this method should have a thorough knowledge of at least Method 1, Method 2, Method 3, and Method 5 found in Appendices A–1, A–2, and A–3 in Part 60 of this title.

1.1 Analytes. This method is designed to determine the mass emission of isocyanates being emitted from manufacturing processes. The following is a table (Table 1–1) of the isocyanates and the manufacturing process at which the method has been evaluated:

TABLE 326–1—ANALYTES

Compound's name	CAS No.	Detection limit (ng/m^3) [a]	Manufacturing process
2,4-Toluene Diisocyanate (TDI)	584–84–9	106	Flexible Foam Production.
1,6-Hexamethylene Diisocyanate (HDI)	822–06–0	396	Paint Spray Booth.
Methylene Diphenyl Diisocyanate (MDI)	101–68–8	112	Pressed Board Production.
Methyl Isocyanate(MI)	624–83–0	228	Not used in production.

[a] Estimated detection limits are based on a sample volume of 1 m^3 and a 10-ml sample extraction volume.

1.2 Applicability. Method 326 is a method designed for determining compliance with National Emission Standards for Hazardous Air Pollutants (NESHAP). Method 326 may also be specified by New Source Performance

Standards (NSPS), State Implementation Plans (SIPs), and operating permits that require measurement of isocyanates in stationary source emissions, to determine compliance with an applicable emission standard or limit.

1.3 Data Quality Objectives (DQO). The principal objective is to ensure the accuracy of the data at the actual emissions levels and in the actual emissions matrix encountered. To meet this objective, method performance tests are required and NIST-traceable calibration standards must be used.

2.0 Summary of Method

2.1 Gaseous and/or aerosol isocyanates are withdrawn from an emission source at an isokinetic sampling rate and are collected in a multicomponent sampling train. The primary components of the train include a heated probe, three impingers containing derivatizing reagent in toluene, an empty impinger, an impinger containing charcoal, and an impinger containing silica gel.

2.2 The liquid impinger contents are recovered, concentrated to dryness under vacuum, brought to volume with acetonitrile (ACN) and analyzed with a high pressure liquid chromatograph (HPLC).

3.0 Definitions [Reserved]

4.0 Interferences

4.1 The greatest potential for interference comes from an impurity in the derivatizing reagent, 1-(2-pyridyl)piperazine (1,2-PP). This compound may interfere with the resolution of MI from the peak attributed to unreacted 1,2-PP.

4.2 Other interferences that could result in positive or negative bias are (1) alcohols that could compete with the 1,2-PP for reaction with an isocyanate and (2) other compounds that may co-elute with one or more of the derivatized isocyanates.

4.3 Method interferences may be caused by contaminants in solvents, reagents, glassware, and other sample processing hardware. All these materials must be routinely shown to be free from interferences under conditions of the analysis by preparing and analyzing laboratory method (or reagent) blanks.

4.3.1 Glassware must be cleaned thoroughly before using. The glassware should be washed with laboratory detergent in hot water followed by rinsing with tap water and distilled water. The glassware may be dried by baking in a glassware oven at 400 °C for at least one hour. After the glassware has cooled, it should be rinsed three times with methylene chloride and three times with acetonitrile. Volumetric glassware should not be heated to 400 °C. Instead, after washing and rinsing, volumetric glassware may be rinsed with acetonitrile followed by methylene chloride and allowed to dry in air.

4.3.2 The use of high purity reagents and solvents helps to reduce interference problems in sample analysis.

5.0 Safety

5.1 Organizations performing this method are responsible for maintaining a current awareness file of Occupational Safety and Health Administration (OSHA) regulations regarding safe handling of the chemicals specified in this method. A reference file of material safety data sheets should also be made available to all personnel involved in performing the method. Additional references to laboratory safety are available.

6.0 Equipment and Supplies

6.1 Sample Collection. A schematic of the sampling train used in this method is shown in Figure 207–1. This sampling train configuration is adapted from Method 5 procedures, and, as such, most of the required equipment is identical to that used in Method 5 determinations. The only new component required is a condenser.

6.1.1 Probe Nozzle. Borosilicate or quartz glass; constructed and calibrated according to Method 5, sections 6.1.1.1 and 10.1, and coupled to the probe liner using a Teflon union; a stainless steel nut is recommended for this union. When the stack temperature exceeds 210 °C (410 °F), a one-piece glass nozzle/liner assembly must be used.

6.1.2 Probe Liner. Same as Method 5, section 6.1.1.2, except metal liners shall not be used. Water-cooling of the stainless steel sheath is recommended at temperatures exceeding 500 °C (932 °F). Teflon may be used in limited applications where the minimum stack temperature exceeds 120 °C (250 °F) but never exceeds the temperature where Teflon is estimated to become unstable [approximately 210 °C (410 °F)].

6.1.3 Pitot Tube, Differential Pressure Gauge, Filter Heating System, Metering System, Barometer, Gas Density Determination Equipment. Same as Method 5, sections 6.1.1.3, 6.1.1.4, 6.1.1.6, 6.1.1.9, 6.1.2, and 6.1.3.

6.1.4 Impinger Train. Glass impingers are connected in series with leak-free ground-glass joints following immediately after the heated probe. The first impinger shall be of the Greenburg-Smith design with the standard tip. The remaining five impingers shall be of the modified Greenburg-Smith design, modified by replacing the tip with a 1.3-cm (1/2-in.) I.D. glass tube extending about 1.3 cm (1/2 in.) from the bottom of the outer cylinder. A water-jacketed condenser is placed between the outlet of the first impinger and the inlet to the second impinger to reduce the evaporation of toluene from the first impinger.

6.1.5 Moisture Measurement. For the purpose of calculating volumetric flow rate and isokinetic sampling, you must also collect either Method 4 in Appendix A–3 to this part or other moisture measurement methods approved by the Administrator concurrent with each Method 326 test run.

6.2 Sample Recovery

6.2.1 Probe and Nozzle Brushes; Polytetrafluoroethylene (PTFE) bristle brushes with stainless steel wire or PTFE handles are required. The probe brush shall have extensions constructed of stainless steel, PTFE, or inert material at least as long as the probe. The brushes shall be properly sized and shaped to brush out the probe liner and the probe nozzle.

6.2.2 Wash Bottles. Three. PTFE or glass wash bottles are recommended; polyethylene wash bottles must not be used because organic contaminants may be extracted by exposure to organic solvents used for sample recovery.

6.2.3 Glass Sample Storage Containers. Chemically resistant, borosilicate amber glass bottles, 500-mL or 1,000-mL. Bottles should be tinted to prevent the action of light on the sample. Screw-cap liners shall be either PTFE or constructed to be leak-free and resistant to chemical attack by organic recovery solvents. Narrow-mouth glass bottles have been found to leak less frequently.

6.2.4 Graduated Cylinder. To measure impinger contents to the nearest 1 ml or 1 g. Graduated cylinders shall have subdivisions not >2 mL.

6.2.5 Plastic Storage Containers. Screw-cap polypropylene or polyethylene containers to store silica gel and charcoal.

6.2.6 Funnel and Rubber Policeman. To aid in transfer of silica gel or charcoal to container (not necessary if silica gel is weighed in field).

6.2.7 Funnels. Glass, to aid in sample recovery.

6.3 Sample Preparation and Analysis.

The following items are required for sample analysis.

6.3.1 Rotary Evaporator. Buchii Model EL–130 or equivalent.

6.3.2 1000 ml Round Bottom Flask for use with a rotary evaporator.

6.3.3 Separatory Funnel. 500-ml or larger, with PTFE stopcock.

6.3.4 Glass Funnel. Short-stemmed or equivalent.

6.3.5 Vials. 15-ml capacity with PTFE lined caps.

6.3.6 Class A Volumetric Flasks. 10-ml for bringing samples to volume after concentration.

6.3.7 Filter Paper. Qualitative grade or equivalent.

6.3.8 Buchner Funnel. Porcelain with 100 mm ID or equivalent.

6.3.9 Erlenmeyer Flask. 500-ml with side arm and vacuum source.

6.3.10 HPLC with at least a binary pumping system capable of a programmed gradient.

6.3.11 Column Systems Column systems used to measure isocyanates must be capable of achieving separation of the target compounds from the nearest eluting compound or interferents with no more than 10 percent peak overlap.

6.3.12 Detector. UV detector at 254 nm. A fluoresence detector (FD) with an excitation of 240 nm and an emission at 370 nm may be also used to allow the detection of low concentrations of isocyanates in samples.

6.3.13 Data system for measuring peak areas and retention times.

7.0 Reagents and Standards

7.1 Sample Collection Reagents.

7.1.1 Charcoal. Activated, 6–16 mesh. Used to absorb toluene vapors and prevent them from entering the metering device. Use once with each train and discard.

7.1.2 Silica Gel and Crushed Ice. Same as Method 5, sections 7.1.2 and 7.1.4 respectively.

7.1.3 Impinger Solution. The impinger solution is prepared by mixing a known amount of 1-(2-pyridyl) piperazine (purity 99.5+ %) in toluene (HPLC grade or equivalent). The actual concentration of 1,2-PP should be approximately four times the amount needed to ensure that the capacity of the derivatizing solution is not exceeded. This amount shall be calculated from the stoichiometric relationship between 1,2-PP and the isocyanate of interest and preliminary information about the concentration of the isocyanate in the stack emissions. A concentration of 130 µg/ml of 1,2-PP in toluene can be used as a reference point. This solution shall be prepared, stored in a refrigerated area away from light, and used within ten days of preparation.

7.2 Sample Recovery Reagents.

7.2.1 Toluene. HPLC grade is required for sample recovery and cleanup (see **Note** to 7.2.2 below).

7.2.2 Acetonitrile. HPLC grade is required for sample recovery and cleanup. **Note:** Organic solvents stored in metal containers may have a high residue blank and should not be used. Sometimes suppliers transfer solvents from metal to glass bottles; thus blanks shall be run before field use and only solvents with a low blank value should be used.

7.3 Analysis Reagents. Reagent grade chemicals should be used in all tests. All reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available.

7.3.1 Toluene, $C_6H_5CH_3$. HPLC Grade or equivalent.

7.3.2 Acetonitrile, CH_3CN (ACN). HPLC Grade or equivalent.

7.3.3 Methylene Chloride, CH_2Cl_2. HPLC Grade or equivalent.

7.3.4 Hexane, C_6H_{14}. HPLC Grade or equivalent.

7.3.5 Water, H_2O. HPLC Grade or equivalent.

7.3.6 Ammonium Acetate, $CH_3CO_2NH_4$.

7.3.7 Acetic Acid (glacial), CH_3CO_2H.

7.3.8 1-(2-Pyridyl)piperazine, (1,2-PP), ≥99.5% or equivalent.

7.3.9 Absorption Solution. Prepare a solution of 1-(2-pyridyl)piperazine in toluene at a concentration of 40 mg/300 ml. This solution is used for method blanks and method spikes.

7.3.10 Ammonium Acetate Buffer Solution (AAB). Prepare a solution of ammonium acetate in water at a concentration of 0.1 M by transferring 7.705 g of ammonium acetate to a 1,000 ml volumetric flask and diluting to volume with HPLC Grade water. Adjust pH to 6.2 with glacial acetic acid.

8.0 Sample Collection, Storage and Transport

Note: Because of the complexity of this method, field personnel should be trained in and experienced with the test procedures in order to obtain reliable results.

8.1 Sampling

8.1.1 Preliminary Field Determinations. Same as Method 5, section 8.2.

8.1.2 Preparation of Sampling Train. Follow the general procedure given in Method 5, section 8.3.1, except for the following variations: Place 300 ml of the impinger absorbing solution in the first impinger and 200 ml each in the second and third impingers. The fourth impinger shall remain empty. The fifth and sixth impingers shall have 400 g of charcoal and 200–300 g of silica gel, respectively. Alternatively, the charcoal and silica gel may be combined in the fifth impinger. Set-up the train as in Figure 326–1. During assembly, do not use any silicone grease on ground-glass joints.

Note: During preparation and assembly of the sampling train, keep all openings where contamination can occur covered with PTFE film or aluminum foil until just before assembly or until sampling is about to begin.

8.1.3 Leak-Check Procedures. Follow the leak-check procedures given in Method 5, sections 8.4.2 (Pretest Leak-Check), 8.4.3 (Leak-Checks During the Sample Run), and 8.4.4 (Post-Test Leak-Check), with the exception that the pre-test leak-check is mandatory.

8.1.4 Sampling Train Operation. Follow the general procedures given in Method 5, section 8.5. Turn on the condenser coil coolant recirculating pump and monitor the gas entry temperature. Ensure proper gas entry temperature before proceeding and again before any sampling is initiated. It is important that the gas entry temperature not exceed 50° C (122 °F), thus reducing the loss of toluene from the first impinger. For each run, record the data required on a data sheet such as the one shown in Method 5, Figure 5–3.

8.2 Sample Recovery. Allow the probe to cool. When the probe can be handled safely, wipe off all external particulate matter near the tip of the probe nozzle and place a cap over the tip to prevent losing or gaining particulate matter. Do not cap the probe tip tightly while the sampling train is cooling down because this will create a vacuum in the train. Before moving the sample train to the cleanup site, remove the probe from the sample train and cap the opening to the probe, being careful not to lose any condensate that might be present. Cap the impingers and transfer the probe and the impinger/condenser assembly to the cleanup area. This area should be clean and protected from the weather to reduce sample contamination or loss. Inspect the train prior to and during disassembly and record any abnormal conditions. It is not necessary to measure the volume of the impingers for the purpose of moisture determination as the method is not validated for moisture determination. Treat samples as follows:

8.2.1 Container No. 1, Probe and Impinger Numbers 1 and 2. Rinse and brush the probe/nozzle first with toluene twice and then twice again with acetonitrile and place the wash into a glass container labeled with the test run identification and ‘‘Container No. 1.’’ When using these solvents ensure that proper ventilation is available. Quantitatively transfer the liquid from the first two impingers and the condenser into Container No. 1. Rinse the impingers and all connecting glassware twice with toluene and then twice again with acetonitrile and transfer the rinses into Container No. 1. After all components have been collected in the container, seal the container, and mark the liquid level on the bottle.

8.2.2 Container No. 2, Impingers 3 and 4. Quantitatively transfer the liquid from each impinger into a glass container labeled with the test run identification and ''Container No. 2.'' Rinse each impinger and all connecting glassware twice with toluene and twice again with acetonitrile and transfer the rinses into Container No. 2. After all components have been collected in the container, seal the container, and mark the liquid level on the bottle.

Note: The contents of the fifth and sixth impinger (silica gel) can be discarded.

8.2.3 Container No. 3, Reagent Blank. Save a portion of both washing solutions (toluene/acetonitrile) used for the cleanup as a blank. Transfer 200 ml of each solution directly from the wash bottle being used and combine in a glass sample container with the test identification and ''Container No. 3.'' Seal the container, and mark the liquid level on the bottle and add the proper label.

8.2.4 Field Train Proof Blanks. To demonstrate the cleanliness of sampling train glassware, you must prepare a full sampling train to serve as a field train proof blank just as it would be prepared for sampling. At a minimum, one complete sampling train will be assembled in the field staging area, taken to the sampling area, and leak-checked. The probe of the blank train shall be heated during and the train will be recovered as if it were an actual test sample. No gaseous sample will be passed through the sampling train. Field blanks are recovered in the same manner as described in sections 8.2.1 and 8.2.2 and must be submitted with the field samples collected at each sampling site.

8.2.5 Field Train Spike. To demonstrate the effectiveness of the sampling train, field handling, and recovery procedures you must prepare a full sampling train to serve as a field train spike just as it would be prepared for sampling. The field spike is performed in the same manner as the field train proof blank with the additional step of adding the Field Spike Standard to the first impinger after the initial leak check. The train will be recovered as if it were an actual test sample. No gaseous sample will be passed through the sampling train. Field train spikes are recovered in the same manner as described in sections 8.2.1 and 8.2.2 and must be submitted with the samples collected for each test program.

8.3 Sample Transport Procedures. Containers must remain in an upright position at all times during shipment. Samples must also be stored at <4°C between the time of sampling and concentration. Each sample should be extracted and concentrated within 30 days after collection and analyzed within 30 days after extraction. The extracted sample must be stored at 4°C.

8.4 Sample Custody. Proper procedures and documentation for sample chain of custody are critical to ensuring data integrity. The chain of custody procedures in ASTM D4840–99 ''Standard Guide for Sampling Chain-of-Custody Procedures'' (incorporated by reference, see § 63.14) shall be followed for all samples (including field samples and blanks).

9.0 Quality Control

9.1 Sampling. Sampling Operations. The sampling quality control procedures and acceptance criteria are listed in Table 326–2 below; see also section 9.0 of Method 5.

9.2 Analysis. The analytical quality control procedures required for this method includes the analysis of the field train proof blank, field train spike, and reagent and method blanks. Analytical quality control procedures and acceptance criteria are listed in Table 326–3 below.

9.2.1 Check for Breakthrough. Recover and determine the isocyanate(s) concentration of the last two impingers separately from the first two impingers.

9.2.2 Field Train Proof Blank. Field blanks must be submitted with the samples collected at each sampling site.

9.2.3 Reagent Blank and Field Train Spike. At least one reagent blank and a field train spike must be submitted with the samples collected for each test program.

9.2.4 Determination of Method Detection Limit. Based on your instrument's sensitivity and linearity, determine the calibration concentrations or masses that make up a representative low level calibration range. The MDL must be determined at least annually for the analytical system using an MDL study such as that found in section 15.0 to Method 301 of appendix A to part 63 of this chapter.

TABLE 326–2—SAMPLING QUALITY ASSURANCE AND QUALITY CONTROL

QA/QC Criteria	Acceptance criteria	Frequency	Consequence if not met
Sampling Equipment Leak Checks	≤0.00057 m3/min (0.020 cfm) or 4% of sampling rate, whichever is less.	Prior to, during (optional) and at the completion to sampling.	Prior to: Repair and repeat calibration. During/Completion: None, testing should be considered invalid.
Dry Gas Meter Calibration—Pre-Test (individual correction factor—Y_i).	within ±2% of average factor (individual).	Pre-test	Repeat calibration point
Dry Gas Meter Calibration—Pre-Test (average correction factor—Y_c).	1.00 ± 1%	Pre-test	Adjust the dry gas meter and recalibrate.
Dry Gas Meter Calibration—Post-test.	Average dry gas meter calibration factor agrees with ±5% Y_c.	Each Test	Adjust sample volumes using the factor that gives the smallest volume.
Temperature sensor calibration	Absolute temperature measures by sensor within ±1.5% of a reference sensor.	Prior to initial use and before each test thereafter.	Recalibrate; sensor may not be used until specification is met.
Barometer calibration	Absolute pressure measured by instrument within ±10 mm Hg of reading with a mercury barometer or NIST traceable barometer.	Prior to initial use and before each test thereafter.	Recalibrate; instrument may not be used until specification is met.

TABLE 326–3—ANALYTICAL QUALITY ASSURANCE AND QUALITY CONTROL

QA/QC Criteria	Acceptance criteria	Frequency	Consequence if not met
Calibration—Method Blanks	<5% level of expected analyte	Each analytical method blank	Locate source of contamination; reanalyze.
Calibration—Calibration Points	At least six calibration point bracketing the expected range of analysis.	Each analytical batch	Incorporate additional calibration points to meet criteria.
Calibration—Linearity	Correlation coefficient >0.995	Each analytical batch	Verify integration, reintegrate. If necessary, recalibrate.
Calibration—secondary standard verification.	Within ±10% of true value	After each calibration	Repeat secondary standard verification, recalibrate if necessary.
Calibration—continual calibration verification.	Within ±10% of true value	Daily and after every ten samples	Invalidate previous ten sample analysis, recalibrate and repeat calibration, reanalyze samples until successful.
Sample Analysis	Within the valid calibration range	Each sample	Invalidate the sample if greater than the calibration range and dilute the sample so that it is within the calibration range. Appropriately flag any value below the calibration range.
Replicate Samples	Within ±10% of RPD	Each sample	Evaluate integrations and repeat sample analysis as necessary.
Field Train Proof Blank	≤10% level of expected analyte	Each test program	Evaluate source of contamination.
Field Train Spike	Within ±30% of true value	Each test program	Evaluate performance of the method and consider invalidating results.
Breakthrough	Final two impingers Mass collected is >5% of the total mass or >20% of the total mass when the measured results are 20% of the applicable standard. Alternatively, there is no breakthrough requirement when the measured results are 10% of the applicable standard.	Each test run	Invalidate test run.

10.0 Calibration and Standardization

Note: Maintain a laboratory log of all calibrations.

10.1 Probe Nozzle, Pitot Tube Assembly, Dry Gas Metering System, Probe Heater, Temperature Sensors, Leak-Check of Metering System, and Barometer. Same as Method 5, sections 10.1, 10.2, 10.3, 10.4, 10.5, 8.4.1, and 10.6, respectively.

10.2 High Performance Liquid Chromatograph. Establish the retention times for the isocyanates of interest; retention times will depend on the chromatographic conditions. The retention times provided in Table 10–1 are provided as a guide to relative retention times when using a C18, 250 mm × 4.6 mm ID, 5µm particle size column, a 2 ml/min flow rate of a 1:9 to 6:4 Acetonitrile/Ammonium Acetate Buffer, a 50 µl sample loop, and a UV detector set at 254 nm.

TABLE 326–4—EXAMPLE RETENTION TIMES

Retention Times	
Compound	Retention time (minutes)
MI	10.0
1,6-HDI	19.9
2,4-TDI	27.1
MDI	27.3

10.3 Preparation of Isocyanate Derivatives.

10.3.1 HDI, TDI, MDI. Dissolve 500 mg of each isocyanate in individual 100 ml aliquots of methylene chloride ($MeCl_2$), except MDI which requires 250 ml of $MeCl_2$. Transfer a 5-ml aliquot of 1,2-PP (see section 7.3.8) to each solution, stir and allow to stand overnight at room temperature. Transfer 150 ml aliquots of hexane to each solution to precipitate the isocyanate-urea derivative. Using a Buchner funnel, vacuum filter the solid-isocyanate-urea derivative and rinse with 50 ml of hexane. Dissolve the precipitate in a minimum aliquot of $MeCl_2$. Repeat the hexane precipitation and filtration twice. After the third filtration, dry the crystals at 50 °C and transfer to bottles for storage. The crystals are stable for at least 21 months when stored at room temperature in a closed container.

10.3.2 MI. Prepare a 200 µg/ml stock solution of methyl isocyanate-urea, transfer 60 mg of 1,2-PP to a 100-ml volumetric flask containing 50 ml of $MeCl_2$. Carefully transfer 20 mg of methyl isocyanate to the volumetric flask and shake for 2 minutes. Dilute the solution to volume with $MeCl_2$ and transfer to a bottle for storage. Methyl isocyanate does not produce a solid derivative and standards must be prepared from this stock solution.

10.4 Preparation of calibration standards. Prepare a 100 µg/ml stock solution of the isocyanates of interest from the individual isocyanate-urea derivative as prepared in sections 10.3.1 and 10.3.2. This is accomplished by dissolving 1 mg of each isocyanate-urea derivative in 10 ml of Acetonitrile. Calibration standards are prepared from this stock solution by making appropriate dilutions of aliquots of the stock into Acetonitrile.

10.5 Preparation of Method Blanks. Prepare a method blank for each test program (up to twenty samples) by transferring 300 ml of the absorption solution to a 1,000-ml round bottom flask and concentrate as outlined in section 11.2.

10.6 Preparation of Field Spike Solution. Prepare a field spike solution for every test program in the same manner as calibration standards (see Section 10.4). The mass of the target isocyanate in the volume of the spike solution for the field spike train shall be equivalent to that estimated to be captured from the source concentration for each compound; alternatively, you may also prepare a solution that represents half the applicable standard.

10.7 HPLC Calibrations. See Section 11.1.

11.0 Analytical Procedure

11.1 Analytical Calibration. Perform a multipoint calibration of the instrument at six or more upscale points over the desired quantitative range (multiple calibration ranges shall be calibrated, if necessary). The field samples analyzed must fall within at least one of the calibrated quantitative ranges and meet the performance criteria specified below. The lowest point in your calibration curve must be at least 5, and preferably 10, times the MDL. For each calibration curve, the value of the square of the linear correlation coefficient, *i.e.,* r^2, must be ≥ 0.995, and the analyzer response must be within ±10 percent of the reference value at each upscale calibration point. Calibrations must be performed on each day of the analysis, before analyzing any of the samples. Following calibration, a secondary standard shall be analyzed. A continual calibration verification (CCV) must also be performed prior to any sample and after every ten samples. The measured value of this independently prepared standard must be within ±10 percent of the expected value. Report the results for each calibration standard secondary standard, and CCV as well as the conditions of the HPLC. The reports should include at least the peak area, height, and retention time for each isocyanate compound measured as well as a chromatogram for each standard.

11.2 Concentration of Samples. Transfer each sample to a 1,000-ml round bottom flask. Attach the flask to a rotary evaporator and gently evaporate to dryness under vacuum in a 65 °C water bath. Rinse the round bottom flask three times each with 2 ml of acetonitrile and transfer the rinse to a 10-ml volumetric flask. Dilute the sample to volume with acetonitrile and transfer to a 15-ml vial and seal with a PTFE lined lid. Store the vial ≤4 °C until analysis.

11.3 Analysis. Analyze replicative samples by HPLC, using the appropriate conditions established in section 10.2. The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of a retention time for a compound can be used to calculate a suggested window size; however, the experience of the analyst should weigh heavily in the interpretation of the chromatograms. If the peak area exceeds the linear range of the calibration curve, the sample must be diluted with acetonitrile and reanalyzed. Average the replicate results for each run. For each sample you must report the same information required for analytical calibrations (Section 11.1). For non-detect or values below the detection limit of the method, you shall report the value as "<" numerical detection limit.

12.0 Data Analysis and Calculations

Nomenclature and calculations, same as in Method 5, section 6, with the following additions below.

12.1 Nomenclature.

AS = Response of the sample, area counts.
b = Y-intercept of the linear regression line, area counts.
BR = Percent Breakthrough
C_A = Concentration of a specific isocyanate compound in the initial sample, µg/ml.
C_B = Concentration of a specific isocyanate compound in the replicate sample, µg/ml.
C_I = Concentration of a specific isocyanate compound in the sample, µg/ml.
C_{rec} = Concentration recovered from spike train, µg/ml.
C_S = Concentration of isocyanate compound in the stack gas, µg/dscm
C_T = Concentration of a specific isocyanate compound (Impingers 1–4), µg/dscm
C_{spike} = Concentration spiked, µg/ml.
C_4 = Concentration of a specific isocyanate compound (Impingers 14), µg/dscm
FI_m = Mass of Free Isocyanate
FTS_{rec} = Field Train Spike Recovery
I_m = Mass of the Isocyanate
I_{mw} = MW of the Isocyanate
IU_m = Mass of Isocyanate-urea derivative
IU_{mw} = MW of the isocyanate-urea
M= Slope of the linear regression line, area counts-ml/µg.
m_I = Mass of isocyanate in the total sample
MW = Molecular weight
RPD = Relative Percent Difference
VF = Final volume of concentrated sample, typically 10 ml.
Vm_{std} = Volume of gas sample measured by the dry-gas meter, corrected to standard conditions, dscm (dscf).

12.2 Conversion from Isocyanate to the Isocyanate-urea derivative. The equation for converting the amount of free isocyanate to the corresponding amount of isocyanate-urea derivative is as follows:

$$IU_m = I_m \frac{IU_{mw}}{I_{mw}} \qquad \text{Eq. 326-1}$$

The equation for converting the amount of IU derivative to the corresponding amount of FI_m is as follows:

$$I_m = IU_m \frac{I_{mw}}{IU_{mw}} \qquad \text{Eq. 326-2}$$

12.3 Calculate the correlation coefficient, slope, and intercepts for the calibration data using the least squares method for linear regression. Concentrations are expressed as the x-variable and response is expressed as the y-variable.

12.4 Calculate the concentration of isocyanate in the sample:

$$C_I = \frac{As\ -\ b}{M} \qquad \text{Eq. 326-3}$$

12.5 Calculate the total amount collected in the sample by multiplying the concentration (µg/ml) times the final volume of acetonitrile (10 ml).

$$m_I = CI \text{ x } V_f \qquad \text{Eq. 326-4}$$

12.6 Calculate the concentration of isocyanate (µg/dscm) in the stack gas.

$$C_s = \frac{M_I}{Vm_{std}} K \qquad \text{Eq. 326-5}$$

12.7 Calculate Relative Percent Difference (RPD) for each replicative sample

$$\%RPD = \left| \frac{(C_A - C_B)}{(C_A + C_B)/2} \right| x100 \ \text{Eq.326-6}$$

12.8 Calculate Field Train Spike Recovery

$$FTS_{rec} = \left[\frac{C_{rec}}{C_{spike}} \right] \text{ x } 100 \qquad \text{Eq. 326-7}$$

12.9 Calculate Percent Breakthrough

$$BR = \left[\frac{C_4}{C_T} \right] \text{ x } 100 \qquad \text{Eq. 326-8}$$

Where:

K = 35.314 ft^3/m^3 if Vm(std) is expressed in English units. = 1.00 m^3/m^3 if Vm(std) is expressed in metric units.

13.0 Method Performance

Evaluation of sampling and analytical procedures for a selected series of compounds must meet the quality control criteria (See Section 9) for each associated analytical determination. The sampling and analytical procedures must be challenged by the test compounds spiked at appropriate levels and carried through the procedures.

14.0 Pollution Prevention [Reserved]

15.0 Waste Management [Reserved]

16.0 Alternative Procedures [Reserved]

17.0 References

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3. Schlickenrieder, L.M., Adams, J.W., and Thrun, K.E., Modified Method 5 Train and Source Assessment Sampling System: Operator's Manual, U.S. Environmental Protection Agency, EPA/600/8–85/003/1985).
4. Shigehara, R.T., Adjustments in the EPA Nomograph for Different Pitot Tube Coefficients and Dry Molecular Weights, Stack SamplingNews, 2:4–11 (October 1974).
5. U.S. Environmental Protection Agency, 40 CFR part 60, Appendices A–1, A–2, and A–3, Methods 1–5.
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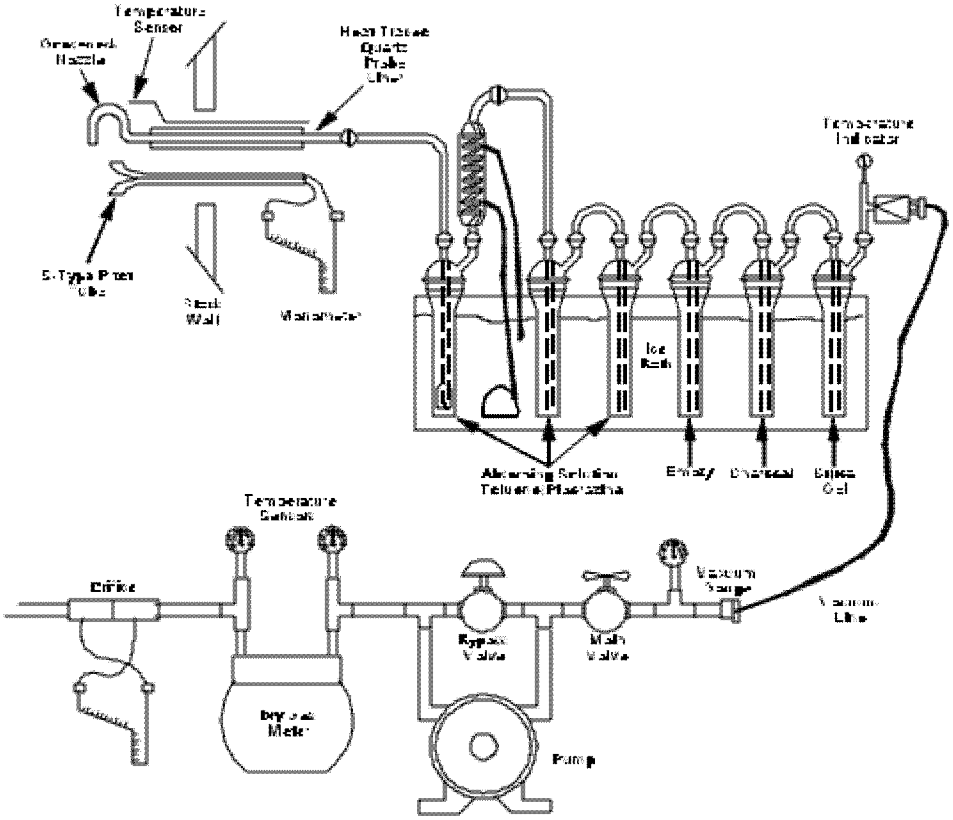

Figure 326-1—Method 326 Sampling Train

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