ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2017–0688; FRL–9991–97–OAR]

RIN 2060–AT00

National Emission Standards for Hazardous Air Pollutants: Stationary Combustion Turbines Residual Risk and Technology Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines to address the results of the residual risk and technology review (RTR) the EPA is required to conduct in accordance with the Clean Air Act (CAA). The EPA is proposing to find that the risks from this source category due to emissions of air toxics are acceptable and that the existing NESHAP provides an ample margin of safety to protect public health. The EPA identified no new cost-effective controls under the technology review that would achieve further emissions reductions from the source category. The EPA is also proposing to amend provisions addressing periods of startup, shutdown, and malfunction (SSM) and to require electronic reporting. In addition, the EPA is proposing to remove the stay of the effectiveness of the standards for new lean premix and diffusion flame gas-fired turbines that was promulgated in 2004.

DATES:

Comments. Comments must be received on or before May 28, 2019. 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 May 13, 2019.

Public Hearing. If anyone contacts us requesting a public hearing on or before April 17, 2019, we will hold a hearing. Additional information about the hearing, if requested, will be published in a subsequent **Federal Register** document and posted at *https://www.epa.gov/stationary-sources-air-pollution/stationary-combustion-turbines-national-emission-standards.* See **SUPPLEMENTARY INFORMATION** for information on requesting and registering for a public hearing.

ADDRESSES: *Comments.* Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2017–0688, at *https://www.regulations.gov.* Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from *Regulations.gov*. See **SUPPLEMENTARY INFORMATION** for detail about how the EPA treats submitted comments. *Regulations.gov* is our preferred method of receiving comments. However, the following other submission methods are also accepted:

- *Email: a-and-r-docket@epa.gov.* Include Docket ID No. EPA–HQ–OAR–2017–0688 in the subject line of the message.
- *Fax:* (202) 566–9744. Attention Docket ID No. EPA–HQ–OAR–2017–0688.
- *Mail:* 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–2017–0688, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- *Hand/Courier Delivery:* 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.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Melanie King, Sector Policies and Programs Division (D243–01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541–2469; fax number: (919) 541–4991; and email address: *king.melanie@epa.gov.* For specific information regarding the risk modeling methodology, contact Mark Morris, 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) 541–5416; email address: *morris.mark@epa.gov.* For information about the applicability of the NESHAP to a particular entity, contact Sara Ayres, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 77 West Jackson Boulevard (Mail Code E–19J), Chicago, Illinois 60604; telephone number: (312) 353–6266; and email address: *ayres.sara@epa.gov.*

SUPPLEMENTARY INFORMATION:

Public hearing. Please contact Adrian Gates at (919) 541–4860 or by email at *gates.adrian@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.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA–HQ–OAR–2017–0688. All documents in the docket are listed in *Regulations.gov.* Although listed, some information is not publicly available, *e.g.,* Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard copy. 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–2017–0688. 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 *https://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 *https://www.regulations.gov* or email. This type of information should be submitted by mail as discussed below.

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). 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 *https://www.regulations.gov* website allows you to submit your comment anonymously, 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 *https://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 digital storage media 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 *https://www.epa.gov/dockets.*

Submitting CBI. Do not submit information containing CBI to the EPA through *https://www.regulations.gov* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, mark the outside of the digital storage media as CBI and then identify electronically within the digital storage media 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 directly to the public docket through the procedures outlined in *Instructions* above. If you submit any digital storage media that does not contain CBI, mark the outside of the digital storage media 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 Code of Federal Regulations (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–2017–0688.

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
CAA Clean Air Act
CalEPA California EPA
CBI Confidential Business Information
CDX Central Data Exchange
CEDRI Compliance and Emissions Data Reporting Interface
CFR Code of Federal Regulations
EPA Environmental Protection Agency
ERPG Emergency Response Planning Guideline
ERT Electronic Reporting Tool
HAP hazardous air pollutant(s)
HCl hydrochloric acid
HEM–3 Human Exposure Model
HF hydrogen fluoride
HI hazard index
HQ hazard quotient
IRIS Integrated Risk Information System
km kilometer
MACT maximum achievable control technology
mg/m^3 milligrams per cubic meter
MIR maximum individual risk
NAAQS National Ambient Air Quality Standards
NAICS North American Industry Classification System
NATA National Air Toxics Assessment
NEI National Emissions Inventory
NESHAP national emission standards for hazardous air pollutants
NTTAA National Technology Transfer and Advancement Act
OAQPS Office of Air Quality Planning and Standards
OECA Office of Enforcement and Compliance Assurance
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
PM particulate matter
POM polycyclic organic matter
ppbvd parts per billion by volume, dry basis
ppm parts per million
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
TOSHI target organ-specific hazard index
tpy tons per year
TRIM.FaTE Total Risk Integrated Methodology.Fate, Transport, and Ecological Exposure model
UF uncertainty factor
µg/m^3 microgram per cubic meter
UMRA Unfunded Mandates Reform Act
URE unit risk estimate
VCS voluntary consensus standards

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 categories that are 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 be affected by this proposed action only if they own or operate stationary combustion turbines at major sources of hazardous air pollutants (HAP). 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) and *Documentation for Developing the Initial Source Category List, Final Report* (*see* EPA–450/3–91–030), the Stationary Turbines source category is any stationary combustion turbine used by electric and gas utilities, industrial establishments, and commercial/institutional operations to provide electricity, gas compression, or other functions. Included in the category are turbines fired by fuel oil, natural gas, and mixed or other fuel. The Stationary Turbine source category includes simple cycle and regenerative cycle turbines and the turbine portion of a combined cycle steam/electric generating system.

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

Source category	NESHAP	NAICS code [1]
Stationary Turbines	Stationary Combustion Turbines	2211, 486210, 211111, 211112, 221.

[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/stationary-combustion-turbines-national-emission-standards.* 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 *https://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–2017–0688).

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 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 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,* which is available 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)(2) 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). For source categories subject to MACT standards, section 112(f)(2) of the CAA requires the EPA to determine 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. Section 112(d)(5) of the CAA 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 Residual Risk Report to Congress 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 *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.'' 54 FR 38045, September 14, 1989. If risks are unacceptable, the EPA must determine the emissions standards necessary to reduce risk to an acceptable level without considering costs. In the second step of the approach, the EPA considers whether the emissions standards provide an ample margin of safety to protect public health ''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 often than every 8 years. In conducting this review, which we call the ''technology review,'' the EPA is not required to recalculate the MACT floor. *Natural Resources Defense Council (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 source category for Stationary Combustion Turbines is all equipment including, but not limited to, the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and subcomponents comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, or the combustion turbine portion of any stationary combined cycle steam/electric generating system. Stationary means that the combustion turbine is not self-propelled or intended to be propelled while performing its function. A stationary combustion turbine may, however, be mounted on a vehicle for portability or transportability. The source category does not include stationary combustion turbines located at a research or laboratory facility, if research is conducted on the turbine itself and the turbine is not being used to power other applications at the research or laboratory facility. This NESHAP, 40 CFR part 63, subpart YYYY, only applies to stationary combustion turbines located at major sources of HAP.

Stationary combustion turbines have been divided into the following eight subcategories: (1) Emergency stationary combustion turbines, (2) stationary combustion turbines which burn landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis or where gasified municipal solid waste is used to generate 10 percent or more of the gross heat input to the stationary combustion turbine on an annual basis, (3) stationary combustion turbines of less than 1 megawatt rated peak power output, (4) stationary lean premix combustion turbines when firing gas and when firing oil at sites where all turbines fire oil no more than an aggregate total of 1,000 hours annually (also referred to herein as ''lean premix gas-fired turbines''), (5) stationary lean premix combustion turbines when firing oil at sites where all turbines fire oil more than an aggregate total of 1,000 hours annually (also referred to herein as ''lean premix oil-fired turbines''), (6) stationary diffusion flame combustion turbines when firing gas and when firing oil at sites where all turbines fire oil no more than an aggregate total of 1,000 hours annually (also referred to herein as ''diffusion flame gas-fired turbines''), (7) stationary diffusion flame combustion turbines when firing oil at sites where all turbines fire oil more than an aggregate total of 1,000 hours annually (also referred to herein as ''diffusion flame oil-fired turbines''), and (8) stationary combustion turbines operated on the North Slope of Alaska (defined as the area north of the Arctic Circle (latitude 66.5° North)).

The sources of emissions are the exhaust gases from combustion of gaseous and liquid fuels in a stationary combustion turbine. The HAP that are present in the exhaust gases from stationary combustion turbines include formaldehyde, toluene, benzene, and acetaldehyde. Metallic HAP are present in the exhaust from distillate oil-fired turbines; these metallic HAP are generally carried over from the fuel constituents.

The NESHAP requires new or reconstructed stationary combustion turbines in the lean premix gas-fired, lean premix oil-fired, diffusion flame gas-fired, and diffusion flame oil-fired subcategories to meet a formaldehyde limit of 91 parts per billion by volume, dry basis (ppbvd) at 15-percent oxygen (O_2). Compliance is demonstrated through initial and annual performance testing and continuous monitoring of operating parameters.

During the original Stationary Combustion Turbine NESHAP rulemaking, the EPA received a petition from the Gas Turbine Association to delist two subcategories of stationary combustion turbines under CAA section 112(c)(9). The subcategories were lean premix firing natural gas with limited oil backup and a low-risk subcategory where facilities would make site-specific demonstrations regarding risk levels. On April 7, 2004, the EPA proposed to delist lean premix gas-fired turbines as well as three additional subcategories: Diffusion flame gas-fired, emergency, and turbines located on the North Slope of Alaska. At the same time, the EPA proposed to stay the effectiveness of the NESHAP for new lean premix gas-fired and diffusion flame gas-fired turbines. On August 18, 2004, the EPA finalized the stay of the effectiveness of the NESHAP for new lean premix gas-fired and diffusion flame gas-fired turbines, pending the outcome of the proposed delisting. As discussed further in section IV.D.3 of this preamble, the EPA is proposing to lift the stay as part of this action.

[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.

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

The EPA used several means to collect the information necessary to conduct the RTR for the Stationary Combustion Turbine source category. Where possible, the EPA used data from the 2014 National Emissions Inventory (NEI) to estimate HAP emissions from affected facilities and turbines. More information about the sources of data used to estimate HAP emissions is provided in section III.C.1 of this preamble. The list of facilities potentially subject to the NESHAP was initially developed using the EPA's Enforcement and Compliance History Online database.[2] To confirm whether facilities identified as potentially subject to the NESHAP were in fact subject to the standards, the EPA asked state and local air pollution control agencies and EPA Regional offices to review our draft list of affected facilities and turbines and revise it as necessary. The EPA also shared the draft list with a number of industry trade groups, including the American Petroleum Institute, Interstate Natural Gas Association of America, Council of Industrial Boiler Owners, National Waste & Recycling Association, American Public Power Association, National Rural Electric Cooperative Association, Utility Air Regulatory Group, Edison Electric Institute, and American Chemistry Council, and asked member companies to review and revise the list. The EPA also posted the draft list on the EPA website for the Stationary Combustion Turbine NESHAP so that other stakeholders could provide input on the list. The EPA also reviewed air permits for each facility to ensure the accuracy of our information. The facility-specific information from state and local agencies and companies with affected facilities provided support for this action's risk and technology reviews. No formal information collection request was performed.

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

In order to determine whether there have been any developments in practices, processes, or control technologies since promulgation of the original NESHAP, the EPA reviewed several sources of information, including the EPA's Reasonably Available Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate Clearinghouse,[3] construction and operating permits for stationary combustion turbines, information provided by industry trade groups representing owners and operators of stationary combustion turbines, and manufacturers of emission control technologies and emission testing equipment. Additional details of the technology review can be found in the *Technology Review for Stationary Combustion Turbines Risk and Technology Review (RTR)* memorandum, which is available in the docket for this action. The EPA also reviewed the stationary combustion turbine performance test data that were collected for the original NESHAP rulemaking, as well as new HAP emissions data from tests of stationary combustion turbines conducted in recent years that were primarily provided by state and local air pollution control agencies.

III. Analytical Procedures and Decision-Making

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.[4] The assessment also provides estimates of the distribution of cancer risk within the exposed populations, cancer incidence, and an evaluation of the potential for an adverse environmental effect. The scope of the EPA's risk analysis is consistent with the EPA's response to comments 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 non-cancer 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 risk. 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 an MIR less than the presumptively acceptable level is unacceptable in the light of other health risk factors.'' *Id.* at 38045.

[2] *https://echo.epa.gov/.*

[3] *https://cfpub.epa.gov/rblc/.*

[4] 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.

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 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 the HAP risk 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 risk, 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 an 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.'' [5]

[5] Recommendations of the SAB RTR Panel are provided in their report, which is available at: *https://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

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

Although we are interested in placing source category and facility-wide HAP risk in the context of total HAP risk from all sources combined in the vicinity of each source, we are concerned about the uncertainties of doing so. Estimates of total HAP risk from emission sources other than those that we have studied in depth during this RTR review 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, we analyze their technical feasibility, estimated costs, energy implications, and non-air environmental impacts. We also consider the emission reductions associated with applying each development. This analysis informs our decision of whether it is ''necessary'' to revise the emissions standards. 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 the NESHAP, we review a variety of data sources in our investigation of potential practices, processes, or controls to consider. See sections II.C and II.D of this preamble for information on the specific data sources that were reviewed as part of the technology review.

C. How do we estimate post-MACT risk posed by the source category?

In this section, we provide a complete description of the types of analyses that we generally perform during the risk assessment process. In some cases, we do not perform a specific analysis because it is not relevant. For example, in the absence of emissions of HAP known to be persistent and bioaccumulative in the environment (PB–HAP), we would not perform a multipathway exposure assessment. Where we do not perform an analysis, we state that we do not and provide the reason. While we present all of our risk assessment methods, we only present risk assessment results for the analyses actually conducted (see section IV.A).

The EPA conducts 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 risk within the exposed populations, cancer incidence, and an evaluation of the potential for an adverse environmental effect. 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

inputs and models: *Residual Risk Assessment for the Stationary Combustion Turbines Source Category in Support of the 2019 Risk and Technology Review Proposed Rule (risk document).* The methods used to assess risk (as described in the seven primary steps below) are consistent with those described by the EPA in the document reviewed by a panel of the EPA's SAB in 2009;[6] and described in the SAB review report issued in 2010. 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?

For each stationary combustion turbine that was determined to be subject to 40 CFR part 63, subpart YYYY, we gathered data for emissions of particulate matter (PM), volatile organic compounds (VOC), and HAP from Version 1 of the 2014 NEI. If a turbine had multiple processes reported in NEI, the emissions associated with each process were summed for a total emissions value for the turbine. The following HAP, which account for 98–99 percent of the HAP emissions from turbines subject to 40 CFR part 63, subpart YYYY, regardless of fuel type, were modeled with the available NEI data per the applicable fuel types.

TABLE 2—HAP MODELED FOR RESIDUAL RISK REVIEW

HAP	Natural gas	Distillate oil	Landfill gas	Jet fuel	Process gas
Formaldehyde	Yes	Yes	Yes	Yes	Yes
Toluene	Yes	Yes	Yes		
Xylenes (Mixed Isomers)	Yes	Yes	Yes		
Acetaldehyde	Yes	Yes			
Ethylbenzene	Yes	Yes	Yes		
Propylene Oxide	Yes	Yes			
Benzene	Yes	Yes	Yes		Yes
Hexane	Yes	Yes	Yes		
Hydrochloric Acid	Yes	Yes	Yes		
Acrolein	Yes	Yes			
Manganese Compounds		Yes		Yes	
Nickel Compounds		Yes		Yes	Yes
Lead Compounds		Yes		Yes	Yes
Arsenic Compounds		Yes			Yes
Chromium Compounds		Yes			Yes
Cadmium Compounds		Yes			Yes
Mercury Compounds		Yes		Yes	
Selenium Compounds		Yes			
Cobalt Compounds		Yes			
Beryllium Compounds		Yes		Yes	
Antimony Compounds		Yes			

Whenever possible, the 2014 NEI HAP emissions values were used for each turbine unit included in the inputs for the residual risk modeling documented in section III.C.3 of this preamble, hereafter referred to as the modeling file. However, many of the turbine units used in the modeling file either were not included in the 2014 NEI or did not have reported emissions values for one or more of the expected HAP (see Table 2). For units with emissions values that were missing, a three-tiered approach was developed for filling in emissions. In Tier 1, emissions were estimated using the NEI-reported VOC and/or PM of 10 micrometers or less (PM_{10}) emission values and the developed HAP emission factor speciation profiles per fuel type. For units that did not have a NEI-reported VOC and/or PM_{10} value available, or were not included in the 2014 NEI, the Tier 2 calculation methodology was used to estimate HAP emissions. In Tier 2, emissions were calculated using the design capacity (million British thermal units per hour) of each unit and developed HAP emission factor speciation profiles per fuel type. Tier 3 was used for estimating emissions for those units that did not have a design capacity value available. In Tier 3, emissions were conservatively estimated using the maximum HAP emission value reported to NEI for any turbine unit for the applicable fuel type. A more detailed discussion regarding the methodology for estimating actual emissions is provided in the *Emissions Data Used for Stationary Combustion Turbines Risk and Technology Review (RTR) Modeling Files* memorandum in the rulemaking docket.

Stack parameters (height, diameter, temperature, exit velocity, and flow rate) and stack locations (latitudes and longitudes) were taken from the 2014 NEI when reported. For those units that did not have 2014 NEI stack parameters, three sets of default stack parameters were developed based on the unit design capacity. The default parameters were created by averaging the NEI-reported values for each parameter in each data set.

The modeling file input values were reviewed for completeness and accuracy. Data quality checks included reviewing turbine latitudes and longitudes using mapping tools and correcting as needed, performing statistical analysis of modeling inputs to flag outliers for review, and identifying and correcting stack parameters that were missing or outside of standard industry range.

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 allowed under the MACT standards are referred to as the ''MACT-allowable'' emissions. We discussed the consideration of both

[6] U.S. EPA. *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,* June 2009. EPA–452/R–09–006. *https://www3.epa.gov/airtoxics/rrisk/rtrpg.html.*

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 RTR (71 FR 34428, June 14, 2006, and 71 FR 76609, December 21, 2006, respectively). In those actions, we noted that assessing the risk at the MACT-allowable level is inherently reasonable since that risk reflects 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.)

For this source category, allowable emissions were determined using the emission limitations currently included in 40 CFR part 63, subpart YYYY. There are no current emission limits for existing source stationary combustion turbines in the rule. As such, allowable emissions have been set equal to the actual emissions for existing sources. For new or reconstructed gas-fired and oil-fired stationary combustion turbines where construction/reconstruction commenced after January 14, 2003, a formaldehyde emission limit of 91 ppbvd at 15-percent O_2 is established in 40 CFR part 63, subpart YYYY. However, the emission limits for new or reconstructed stationary combustion turbines that are lean premix gas-fired or diffusion flame gas-fired were stayed by the EPA. Therefore, as no emissions limitations currently apply to gas-fired turbine units, the allowable emissions have been set equal to the actual emissions for natural gas units constructed after January 14, 2003. For all new oil-fired units subject to the current emission limitation in 40 CFR part 63, subpart YYYY, allowable annual emissions were estimated using the 91 ppbvd formaldehyde limit and the NEI-reported operating hours.

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

Both long-term and short-term inhalation exposure concentrations and health risk from the source category addressed in this proposal were estimated using the Human Exposure Model (HEM–3).[7] 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 risk 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.[8] 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[9] 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 risk. These are discussed below.

b. Risk From Chronic Exposure to HAP

In developing the risk assessment for chronic exposures, we use the estimated annual average ambient air concentrations of each HAP emitted by each source in the source category. The HAP air concentrations at each nearby census block centroid located within 50 km of the facility are a surrogate for the chronic inhalation exposure concentration for all the people who reside in that census block. 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.

For each facility, we calculate the MIR as the cancer risk associated with a continuous lifetime (24 hours per day, 7 days per week, 52 weeks per year, 70 years) exposure to the maximum concentration at the centroid of each inhabited census block. We calculate individual cancer risk 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 incremental risk 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 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. The pollutant-specific dose-response values used to estimate health risk are available at *https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants.*

To estimate individual lifetime cancer risks associated with exposure to HAP emissions from each facility in the source category, we sum the risks for each of the carcinogenic HAP[10] emitted by the modeled facility. We estimate cancer risk at every census block within 50 km of every facility in the source category. The MIR is the highest individual lifetime cancer risk estimated for any of those census blocks. In addition to calculating the MIR, we estimate the distribution of individual

[7] For more information about HEM–3, go to *https://www.epa.gov/fera/risk-assessment-and-modeling-human-exposure-model-hem.*

[8] 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).

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

[10] The EPA's 2005 *Guidelines for Carcinogen Risk Assessment* 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 risk of these individual compounds to obtain the cumulative cancer risk 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 *https://yosemite.epa.gov/sab/sabproduct.nsf/214C6E915BB04E14852570CA007A682C/$File/ecadv02001.pdf.*

cancer risks for the source category by summing the number of individuals within 50 km of the sources whose estimated risk falls within a specified risk range. We also estimate annual cancer incidence by multiplying the estimated lifetime cancer risk at each census block by the number of people residing in that block, summing results for all of the census blocks, and then dividing this result by a 70-year lifetime.

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 or 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, 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'' (*https://iaspub.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&vocabName=IRIS%20Glossary*). In cases where an RfC from the EPA's IRIS 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 define their dose-response values similarly to the EPA: (1) The Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Level (*https://www.atsdr.cdc.gov/mrls/index.asp*); (2) the CalEPA Chronic Reference Exposure Level (REL) (*https://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. The pollutant-specific dose-response values used to estimate health risks are available at *https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants.*

c. 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 screening-level risk assessments, the EPA makes conservative assumptions about emission rates, meteorology, and exposure location. We use the peak hourly emission rate,[11] 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.'' [12] 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.[13] 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.'' The document also notes that ''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.'' [14] *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

[11] 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 factor (either a category-specific factor or a default factor of 10) to account for variability. This is documented in the risk document 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.

[12] 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 *https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary.*

[13] 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 for Acute Exposure Guideline Levels for Hazardous Substances 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*).

[14] *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.*

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).

In our acute inhalation screening risk assessment, acute impacts are deemed negligible for HAP for which 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 often consider additional site-specific data if available to develop a more refined estimate of the potential for acute exposures of concern. For this source category, we did not have short-term emissions data; therefore, we used the default multiplication factor of 10. The acute assessment methods are discussed more fully in the risk document, which is available in the docket for this action.

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

The EPA conducts 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 determine whether any sources in the source category emit any HAP known to be PB–HAP, as identified in the EPA's Air Toxics Risk Assessment Library (See Volume 1, Appendix D, at *https://www.epa.gov/fera/risk-assessment-and-modeling-air-toxics-risk-assessment-reference-library.*

For the Stationary Combustion Turbine source category, we identified PB–HAP emissions of arsenic, cadmium, lead, and mercury, so we proceeded to the next step of the evaluation. In this step, we determine whether the facility-specific emission rates of the emitted PB–HAP are large enough to create the potential for significant human health risk through ingestion exposure under reasonable worst-case conditions. To facilitate this step, we use previously developed screening threshold emission rates for several PB–HAP that are based on a hypothetical upper-end screening exposure scenario developed for use in conjunction with the EPA's Total Risk Integrated Methodology.Fate, Transport, and Ecological Exposure (TRIM.FaTE) model. The PB–HAP with screening threshold emission rates are arsenic compounds, cadmium compounds, chlorinated dibenzodioxins and furans, mercury compounds, and polycyclic organic matter (POM). Based on EPA estimates of toxicity and bioaccumulation potential, the pollutants above represent a conservative list for inclusion in multipathway risk assessments for RTR rules. (See Volume 1, Appendix D at *https://www.epa.gov/sites/production/files/201308/documents/volume_1_reflibrary.pdf*). In this assessment, we compare the facility-specific emission rates of these PB–HAP to the screening threshold emission rates for each PB–HAP to assess the potential for significant human health risks via the ingestion pathway. We call this application of the TRIM.FaTE model the Tier 1 screening assessment. The ratio of a facility's actual emission rate to the Tier 1 screening threshold emission rate is a ''screening value.''

We derive the Tier 1 screening threshold emission rates for these PB–HAP (other than lead compounds) to correspond to a maximum excess lifetime cancer risk of 1-in-1 million (*i.e.,* for arsenic compounds, polychlorinated dibenzodioxins and furans and POM) or, for HAP that cause noncancer health effects (*i.e.,* cadmium compounds and mercury compounds), a maximum HQ of 1. If the emission rate of any one PB–HAP or combination of carcinogenic PB–HAP in the Tier 1 screening assessment exceeds the Tier 1 screening threshold emission rate for any facility (*i.e.,* the screening value is greater than 1), we conduct a second screening assessment, which we call the Tier 2 screening assessment.

In the Tier 2 screening assessment, the location of each facility that exceeds a Tier 1 screening threshold emission rate is used to refine the assumptions associated with the Tier 1 fisher and farmer exposure scenarios at that facility. A key assumption in the Tier 1 screening assessment is that a lake and/or farm is located near the facility. As part of the Tier 2 screening assessment, we use a U.S. Geological Survey (USGS) database to identify actual waterbodies within 50 km of each facility. We also examine the differences between local meteorology near the facility and the meteorology used in the Tier 1 screening assessment. We then adjust the previously-developed Tier 1 screening threshold emission rates for each PB–HAP for each facility based on an understanding of how exposure concentrations estimated for the screening scenario change with the use of local meteorology and USGS waterbody data. If the PB–HAP emission rates for a facility exceed the Tier 2 screening threshold emission rates and data are available, we may conduct a Tier 3 screening assessment. If PB–HAP emission rates do not exceed a Tier 2 screening value of 1, we consider those PB–HAP emissions to pose risks below a level of concern.

There are several analyses that can be included in a Tier 3 screening assessment, depending upon the extent of refinement warranted, including validating that the lakes are fishable, considering plume-rise to estimate emissions lost above the mixing layer, and considering hourly effects of meteorology and plume rise on chemical fate and transport. If the Tier 3 screening assessment indicates that risks above levels of concern cannot be ruled out, the EPA may further refine the screening assessment through a site-specific assessment.

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 to the level of the current National Ambient Air Quality Standard (NAAQS) for lead.[15] 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 risk document, which is available in the docket for this action.

[15] 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 to protect public health''). 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.

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

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

The EPA conducts a screening assessment to examine the potential for an adverse environmental effect 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, POM, 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).

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, are 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 risk document, 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 Stationary Combustion Turbine source category emitted any of the environmental HAP, and we identified emissions of arsenic, cadmium, mercury, lead, and HCl. 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.

c. PB–HAP Methodology

The environmental screening assessment includes six PB–HAP, arsenic compounds, cadmium compounds, dioxins/furans, POM, mercury (both inorganic mercury and methyl mercury), and lead compounds. With the exception of lead, the environmental risk screening assessment for PB–HAP consists of three tiers. The first tier of the environmental risk screening assessment uses the same health-protective conceptual model that is used for the Tier 1 human health screening assessment. TRIM.FaTE model simulations were used to back-calculate Tier 1 screening threshold emission rates. The screening threshold emission rates represent the emission rate in tpy that results in media concentrations at the facility that equal the relevant ecological benchmark. To assess emissions from each facility in the category, the reported emission rate for each PB–HAP was compared to the Tier 1 screening threshold emission rate for that PB–HAP for each assessment endpoint and effect level. If emissions from a facility do not exceed the Tier 1 screening threshold emission rate, the facility ''passes'' the screening assessment, and, therefore, is not evaluated further under the screening approach. If emissions from a facility exceed the Tier 1 screening threshold emission rate, we evaluate the facility further in Tier 2.

In Tier 2 of the environmental screening assessment, the screening threshold emission rates are adjusted to account for local meteorology and the actual location of lakes in the vicinity of facilities that did not pass the Tier 1 screening assessment. For soils, we evaluate the average soil concentration for all soil parcels within a 7.5-km radius for each facility and PB–HAP. For the water, sediment, and fish tissue concentrations, the highest value for each facility for each pollutant is used. If emission concentrations from a facility do not exceed the Tier 2 screening threshold emission rate, the facility ''passes'' the screening assessment and typically is not evaluated further. If emissions from a facility exceed the Tier 2 screening threshold emission rate, we evaluate the facility further in Tier 3.

As in the multipathway human health risk assessment, in Tier 3 of the environmental screening assessment, we examine the suitability of the lakes around the facilities to support life and remove those that are not suitable (*e.g.,* lakes that have been filled in or are industrial ponds), adjust emissions for plume-rise, and conduct hour-by-hour time-series assessments. If these Tier 3 adjustments to the screening threshold emission rates still indicate the potential for an adverse environmental effect (*i.e.,* facility emission rate exceeds the screening threshold emission rate), we may elect to conduct a more refined assessment using more site-specific information. If, after additional refinement, the facility emission rate still exceeds the screening threshold emission rate, the facility may have the potential to cause an adverse environmental effect.

To evaluate the potential for an adverse environmental effect 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 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.''

d. Acid Gas Environmental Risk Methodology

The environmental screening assessment for acid gases evaluates the

potential phytotoxicity and reduced productivity of plants due to chronic exposure to HF and HCl. The environmental risk screening methodology for acid gases is a single-tier screening assessment that compares modeled ambient air concentrations (from AERMOD) to the ecological benchmarks for each acid gas. To identify a potential adverse environmental effect (as defined in section 112(a)(7) of the CAA) from emissions of HF and HCl, we evaluate the following metrics: The size of the modeled area around each facility that exceeds the ecological benchmark for each acid gas, in acres and km^2; the percentage of the modeled area around each facility that exceeds the ecological benchmark for each acid gas; and the area-weighted average screening value around each facility (Calculated by dividing the area-weighted average concentration over the 50-km modeling domain by the ecological benchmark for each acid gas). For further information on the environmental screening assessment approach, see Appendix 9 of the risk document, which is available in the docket for this action.

6. How do 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 risk document, 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 do 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, 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 risk document, 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 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 risk 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 Guidelines for Carcinogen Risk Assessment;* 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'' (the EPA's *2005 Guidelines for Carcinogen Risk Assessment,* page 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.[16] 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). In some circumstances, the true risk could be as low as zero; however, in other circumstances the risk could be greater.[17] 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 [18] 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 we make every effort 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. 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.

f. Uncertainties in the Multipathway and Environmental Risk Screening Assessments

For each source category, we generally rely on site-specific levels of PB–HAP or environmental HAP emissions to determine whether a refined assessment of the impacts from multipathway exposures is necessary or whether it is necessary to perform an environmental screening assessment. This determination is based on the results of a three-tiered screening

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

[17] 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.

[18] See *A Review of the Reference Dose and Reference Concentration Processes,* U.S. EPA, December 2002, and *Methods for Derivation of Inhalation Reference Concentrations and Application of Inhalation Dosimetry,* U.S. EPA, 1994.

assessment that relies on the outputs from models—TRIM.FaTE and AERMOD—that estimate environmental pollutant concentrations and human exposures for five PB–HAP (dioxins, POM, mercury, cadmium, and arsenic) and two acid gases (HF and hydrogen chloride). For lead, we use AERMOD to determine ambient air concentrations, which are then compared to the secondary NAAQS standard for lead. Two important types of uncertainty associated with the use of these models in RTR risk assessments and inherent to any assessment that relies on environmental modeling are model uncertainty and input uncertainty.[19]

Model uncertainty concerns whether the model adequately represents the actual processes (*e.g.,* movement and accumulation) that might occur in the environment. For example, does the model adequately describe the movement of a pollutant through the soil? This type of uncertainty is difficult to quantify. However, based on feedback received from previous EPA SAB reviews and other reviews, we are confident that the models used in the screening assessments are appropriate and state-of-the-art for the multipathway and environmental screening risk assessments conducted in support of RTR.

Input uncertainty is concerned with how accurately the models have been configured and parameterized for the assessment at hand. For Tier 1 of the multipathway and environmental screening assessments, we configured the models to avoid underestimating exposure and risk. This was accomplished by selecting upper-end values from nationally representative datasets for the more influential parameters in the environmental model, including selection and spatial configuration of the area of interest, lake location and size, meteorology, surface water, soil characteristics, and structure of the aquatic food web. We also assume an ingestion exposure scenario and values for human exposure factors that represent reasonable maximum exposures.

In Tier 2 of the multipathway and environmental screening assessments, we refine the model inputs to account for meteorological patterns in the vicinity of the facility versus using upper-end national values, and we identify the actual location of lakes near the facility rather than the default lake location that we apply in Tier 1. By refining the screening approach in Tier 2 to account for local geographical and meteorological data, we decrease the likelihood that concentrations in environmental media are overestimated, thereby increasing the usefulness of the screening assessment. In Tier 3 of the screening assessments, we refine the model inputs again to account for hour-by-hour plume rise and the height of the mixing layer. We can also use those hour-by-hour meteorological data in a TRIM.FaTE run using the screening configuration corresponding to the lake location. These refinements produce a more accurate estimate of chemical concentrations in the media of interest, thereby reducing the uncertainty with those estimates. The assumptions and the associated uncertainties regarding the selected ingestion exposure scenario are the same for all three tiers.

For the environmental screening assessment for acid gases, we employ a single-tiered approach. We use the modeled air concentrations and compare those with ecological benchmarks.

For all tiers of the multipathway and environmental screening assessments, our approach to addressing model input uncertainty is generally cautious. We choose model inputs from the upper end of the range of possible values for the influential parameters used in the models, and we assume that the exposed individual exhibits ingestion behavior that would lead to a high total exposure. This approach reduces the likelihood of not identifying high risks for adverse impacts.

Despite the uncertainties, when individual pollutants or facilities do not exceed screening threshold emission rates (*i.e.,* screen out), we are confident that the potential for adverse multipathway impacts on human health is very low. On the other hand, when individual pollutants or facilities do exceed screening threshold emission rates, it does not mean that impacts are significant, only that we cannot rule out that possibility and that a refined assessment for the site might be necessary to obtain a more accurate risk characterization for the source category.

The EPA evaluates the following HAP in the multipathway and/or environmental risk screening assessments, where applicable: Arsenic, cadmium, dioxins/furans, lead, mercury (both inorganic and methyl mercury), POM, HCl, and HF. These HAP represent pollutants that can cause adverse impacts either through direct exposure to HAP in the air or through exposure to HAP that are deposited from the air onto soils and surface waters and then through the environment into the food web. These HAP represent those HAP for which we can conduct a meaningful multipathway or environmental screening risk assessment. For other HAP not included in our screening assessments, the model has not been parameterized such that it can be used for that purpose. In some cases, depending on the HAP, we may not have appropriate multipathway models that allow us to predict the concentration of that pollutant. The EPA acknowledges that other HAP beyond these that we are evaluating may have the potential to cause adverse effects and, therefore, the EPA may evaluate other relevant HAP in the future, as modeling science and resources allow.

IV. Analytical Results and Proposed Decisions

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

As described above, for the Stationary Combustion Turbines source category, we conducted an inhalation risk assessment for all HAP emitted and we also conducted multipathway and environmental risk screening assessments on the PB–HAP emitted. We present results of the risk assessment briefly below and in more detail in the risk document. Note that risk modeling was conducted for 253 facilities. Additional information obtained after the risk modeling was completed was used to refine our estimate of facilities in the source category to 242. The risk assessment results presented in this preamble and in the risk document are shown for the 253 facilities modeled.

1. Inhalation Risk Assessment Results

Table 3 of this preamble provides a summary of the results of the inhalation risk assessment for the source category. More detailed information on the risk assessment can be found in the risk document, available in the docket for this action.

[19] In the context of this discussion, the term ''uncertainty'' as it pertains to exposure and risk encompasses both *variability* in the range of expected inputs and screening results due to existing spatial, temporal, and other factors, as well as *uncertainty* in being able to accurately estimate the true result.

TABLE 3—STATIONARY COMBUSTION TURBINES INHALATION RISK ASSESSMENT RESULTS

Number of facilities [1]	Maximum individual cancer risk (in 1 million) [2]		Population at increased risk of cancer ≥1-in-1 million		Annual cancer incidence (cases per year)		Maximum chronic noncancer TOSHI [3]		Maximum screening acute noncancer HQ [4]
	Based on . . .		Based on . . .		Based on . . .		Based on . . .		
	Actual emissions level	Allowable emissions level	Actual emissions level	Allowable emissions level	Actual emissions level	Allowable emissions level	Actual emissions level	Allowable emissions level	Based on actual emissions level
253	3	3	42,000	42,000	0.04	0.04	0.04	0.04	HQ_{REL} = 2 (acrolein), HQ_{AEGL-1} = 0.07.

[1] Number of facilities evaluated in the risk analysis.
[2] Maximum individual excess lifetime cancer risk due to HAP emissions from the source category.
[3] Maximum TOSHI. The target organ system with the highest TOSHI for the source category is respiratory. The respiratory TOSHI was calculated using the CalEPA chronic REL for acrolein. The EPA is in the process of updating the IRIS RfC for acrolein. If the RfC is updated prior to signature of the final rule, we will use it in the assessment.
[4] 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.

As shown in Table 3, based on actual and allowable emissions, the estimated cancer MIR is 3-in-1 million, and formaldehyde emissions are the major contributor to the risk. The total estimated cancer incidence from this source category is 0.04 excess cancer cases per year, or one excess case in every 25 years. Approximately 42,000 people are estimated to have cancer risks at or above 1-in-1 million from HAP emitted from the facilities in this source category. The estimated maximum chronic noncancer TOSHI for the source category is 0.04 (respiratory), which is driven by emissions of formaldehyde. No individuals are exposed to TOSHI levels above 1.

2. Acute Risk Results

Table 3 provides the worst-case acute HQ (based on the REL) of 2, driven by actual emissions of acrolein. Only one facility has an HQ (REL) that exceeds 1. To better characterize the potential health risks associated with estimated worst-case acute exposures to HAP, and in response to a key recommendation from the SAB's peer review of the EPA's RTR risk assessment methodologies, we examine a wider range of available acute health metrics than we do for our chronic risk assessments. This is in acknowledgement that there are generally more data gaps and uncertainties in acute reference values than there are in chronic reference values. By definition, the acute REL represents a health-protective level of exposure, with effects not anticipated below those levels, even for repeated exposures; however, the level of exposure that would cause health effects is not specifically known. Therefore, when an REL is exceeded and an AEGL–1 or ERPG–1 level is available (*i.e.,* levels at which mild, reversible effects are anticipated in the general public for a single exposure), we typically use them as an additional comparative measure, as they provide an upper bound for exposure levels above which exposed individuals could experience effects. As the exposure concentration increases above the acute REL, the potential for effects increases.

The worst-case maximum estimated 1-hour exposure to acrolein outside the facility fence line is 0.004 mg/m^3. This estimated worst-case exposure exceeds the 1-hour REL by a factor of 2 (HQ=2) and is less than 10 percent of the 1-hour AEGL–1 and ERPG–1. For more detailed acute risk results, refer to the risk document.

3. Multipathway Risk Screening Results

Potential multipathway health risks under a fisher and gardener scenario were evaluated using a three-tier screening assessment of the PB–HAP emitted by facilities in this source category. Of the 253 facilities modeled, 35 facilities have reported emissions of carcinogenic PB–HAP (arsenic) that exceed a Tier 1 cancer screening value of 1, and 15 facilities have reported emissions of non-carcinogenic PB–HAP (mercury and/or cadmium) that exceed a Tier 1 noncancer screening value of 1. For facilities that exceeded a Tier 1 multipathway screening value of 1, we used additional facility-specific information to perform an assessment through Tiers 2 and 3, as necessary, to determine the maximum chronic cancer and noncancer multipathway health risks for the source category. For cancer, the highest Tier 2 screening value was 20 and there were 17 facilities with Tier 2 screening values greater than 1. This highest screening value was reduced to 4 after Tier 3. For noncancer, the highest Tier 2 screening value was 4 (for mercury), and there were 3 facilities with Tier 2 screening values greater than 1. After Tier 3, the highest screening value was 1.

An exceedance of a screening value in any of the tiers cannot be equated with a risk value or an HQ (or HI). Rather, it represents a high-end estimate of what the risk or hazard may be. For example, a screening value of 2 for a non-carcinogen can be interpreted to mean that we are confident that the HQ would be lower than 2. Similarly, a screening value of 30 for a carcinogen means that we are confident that the risk is lower than 30-in-1 million. Our confidence comes from the conservative, or health-protective, assumptions encompassed in the screening tiers: We choose inputs from the upper end of the range of possible values for the influential parameters used in the screening tiers; and we assume that the exposed individual exhibits ingestion behavior that would lead to a high total exposure.

In evaluating the potential for multipathway effects from emissions of lead, we compared modeled annual lead concentrations to the primary NAAQS for lead (0.15 μg/m^3). The highest annual lead concentration of 0.0003 μg/m^3 is well below the NAAQS for lead, indicating a low potential for multipathway impacts of concern due to lead.

4. Environmental Risk Screening Results

As described in section III.C.5 of this document, we conducted an environmental risk screening assessment for the Stationary Combustion Turbine source category for the following pollutants: Arsenic, cadmium, mercury, lead, and HCl.

In the Tier 1 screening analysis for PB–HAP (other than lead, which was evaluated differently), arsenic had no exceedances of any of the ecological benchmarks evaluated. Divalent mercury and methyl mercury emissions had Tier 1 exceedances for surface soil benchmarks. Cadmium emissions had Tier 1 exceedances for surface soil and fish benchmarks.

A Tier 2 screening analysis was performed for cadmium, divalent mercury, and methyl mercury emissions. In the Tier 2 screening analysis, there were no exceedances of

any of the ecological benchmarks evaluated for any of the pollutants.

For lead, we did not estimate any exceedances of the secondary lead NAAQS. For HCl, the average modeled concentration around each facility (*i.e.,* the average concentration of all off-site data points in the modeling domain) did not exceed any ecological benchmark. In addition, each individual modeled concentration of HCl (*i.e.,* each off-site data point in the modeling domain) was below the ecological benchmarks for all facilities.

Based on the results of the environmental risk screening analysis, we do not expect an adverse environmental effect as a result of HAP emissions from this source category.

5. Facility-Wide Risk Results

Based on facility-wide emissions, the estimated cancer MIR is 2,000-in-1 million, and ethylene oxide from chemical manufacturing is the major contributor to the risk. The total estimated cancer incidence based on facility-wide emissions is 0.7 excess cancer cases per year, or one excess case in every 1 to 2 years. Approximately 2.8 million people are estimated to have cancer risks at or above 1-in-1 million. The estimated maximum chronic noncancer TOSHI based on facility-wide emissions is 4 (respiratory), driven by emissions of chlorine from chemical manufacturing, and approximately 360 people are exposed to a TOSHI above 1.

6. What demographic groups might benefit from this regulation?

To examine the potential for any environmental justice issues that might be associated with the source category, we performed a demographic analysis, which is an assessment of risk 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 risk from the Stationary Combustion Turbines source category across different demographic groups within the populations living near facilities.[20]

The results of the demographic analysis are summarized in Table 4 below. These results, for various demographic groups, are based on the estimated risk from actual emissions levels for the population living within 50 km of the facilities.

TABLE 4—STATIONARY COMBUSTION TURBINES DEMOGRAPHIC RISK ANALYSIS RESULTS

	Nationwide	Source category	
		Population with cancer risk greater than or equal to 1-in-1 million	Population with hazard index greater than 1
Stationary Combustion Turbines Source Category: Demographic Assessment Results—50 km Study Area Radius			
Total Population	317,746,049	42,191	0
White and Minority by Percent			
White	62	52	0
Minority	38	48	0
Minority by Percent			
African American	12	11	0
Native American	0.8	0.1	0
Hispanic or Latino (includes white and nonwhite)	18	31	0
Other and Multiracial	7	6	0
Income by Percent			
Below Poverty Level	14	19	0
Above Poverty Level	86	81	0
Education by Percent			
Over 25 and without a High School Diploma	14	13	0
Over 25 and with a High School Diploma	86	87	0
Linguistically Isolated by Percent			
Linguistically Isolated	6	9	0

The results of the Stationary Combustion Turbines source category demographic analysis indicate that emissions from the source category expose approximately 42,000 people to a cancer risk at or above 1-in-1 million and no people to a chronic noncancer TOSHI greater than 1. Regarding cancer risk, the specific demographic results indicate that the percentage of the population potentially impacted by Stationary Combustion Turbine emissions is greater than its corresponding nationwide percentage for the following demographics: Hispanic or Latino (31 percent for the source category compared to 18 percent nationwide), minority (48 percent for

[20] 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.

the source category compared to 38 percent nationwide), age 18 to 64 (69 percent for the source category compared to 63 percent nationwide), below the poverty level (19 percent for the source category compared to 14 percent nationwide), and linguistically isolated (9 percent for the source category compared to 6 percent nationwide). The remaining demographic group percentages are the same as or less 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 Stationary Combustion Turbines Source Category Operations,* available in the docket for this action.

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

1. Risk Acceptability

As noted in section III 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). In this proposal, the EPA estimated risks based on actual and allowable emissions from stationary combustion turbines located at major sources of HAP, and we considered these in determining acceptability.

The estimated inhalation cancer risk to the individual most exposed to actual or allowable emissions from the source category is 3-in-1 million. The estimated incidence of cancer due to inhalation exposures is 0.04 excess cancer cases per year, or one excess case every 25 years. Approximately 42,000 people face an increased cancer risk at or above 1-in-1 million due to inhalation exposure to actual or allowable HAP emissions from this source category. The estimated maximum chronic noncancer TOSHI from inhalation exposure for this source category is 0.04. The screening assessment of worst-case inhalation impacts indicates a worst-case maximum acute HQ of 2 for acrolein based on the 1-hour REL and concentrations that are less than 10 percent of the 1-hour AEGL–1 and ERPG–1. Only one facility has an HQ (REL) that exceeds 1.

Potential multipathway human health risks were estimated using a three-tier screening assessment of the PB–HAP emitted by facilities in this source category. The only pollutants with elevated Tier 1 and Tier 2 screening values are arsenic (cancer), cadmium (noncancer), and mercury (noncancer). The Tier 3 screening values for these pollutants are low. For cancer, the Tier 3 screening value for arsenic is 4. For noncancer, the Tier 3 screening value for cadmium is less than 1, and the screening value for mercury is 1.

In determining whether risks are acceptable for this source category, the EPA considered all available health information and risk estimation uncertainty as described above. The risk results indicate that both the actual and allowable inhalation cancer risks to the individual most exposed are well below 100-in-1 million, which is the presumptive limit of acceptability. In addition, the highest chronic noncancer TOSHI is well below 1, indicating low likelihood of adverse noncancer effects from inhalation exposures. There are also low estimated risks associated with ingestion, with the highest cancer risk being 4-in-1 million and the highest noncancer HI being 1, based on a Tier 3 multipathway screening assessment.

The acute screening analysis results in a maximum acute noncancer HQ of 2 based on the acute REL for acrolein. This occurs at only one facility of the 253 that were modeled. For acute screening analyses, to better characterize the potential health risks associated with estimated worst-case acute exposures to HAP, we examine a wider range of available acute health metrics than we do for our chronic risk assessments. This is in acknowledgement that there are generally more data gaps and uncertainties in acute reference values than there are in chronic reference values. By definition, the acute REL represents a health-protective level of exposure, with effects not anticipated below those levels, even for repeated exposures; however, the level of exposure that would cause health effects is not specifically known. As the exposure concentration increases above the acute REL, the potential for effects increases. Therefore, when an REL is exceeded and an AEGL–1 or ERPG–1 level is available (*i.e.,* levels at which mild, reversible effects are anticipated in the general population for a single exposure), we typically use them as an additional comparative measure, as they provide an upper bound for exposure levels above which exposed individuals could experience effects.

The highest estimated 1-hour concentration is less than 10 percent of the AEGL–1 and ERPG–1, well below the level at which mild, reversible effects would be anticipated. As stated previously, only one facility has an HQ (REL) that exceeds 1. In addition, the acute screening assessment includes the conservative (health protective) assumptions that every process releases its peak hourly emissions at the same hour, that the worst-case dispersion conditions occur at that same hour, and that an individual is present at the location of maximum concentration for that hour. As discussed previously in section III.C.3, we used a default multiplication factor of 10. A review of stack test data from turbines that were tested at different times shows that formaldehyde emissions during individual test runs generally vary by much less than a factor of 10 from the turbine's overall average emissions. Emissions of both acrolein and formaldehyde from stationary combustion turbines are primarily the result of incomplete combustion, so we expect acrolein emissions would not vary more significantly than formaldehyde emissions. Together, these factors lead us to conclude that adverse effects from acute exposure to emissions from this category are not anticipated.

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 are acceptable for this source category.

2. Ample Margin of Safety Analysis

As directed by CAA section 112(f)(2), we conducted an analysis to determine whether 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 emission reduction measures necessary to provide an ample margin of safety with respect to the risks associated with these emissions.

Our risk analysis indicated the risks from the source category are low for both cancer and noncancer health effects, and, therefore, any risk reductions from further available control options would result in minimal health benefits. Moreover, as noted in our discussion of the technology review in section IV.C of this preamble, no additional cost-effective measures were identified for reducing HAP emissions from affected sources in the Stationary Combustion Turbine source category. Thus, we are proposing that the current Stationary Combustion Turbine NESHAP provides an ample margin of safety to protect public health.

Regarding the facility-wide risks due to ethylene oxide (described above), which are due to emission sources that are not part of the Stationary Combustion Turbines source category, we intend to evaluate those facility-wide estimated emissions and risks further and may address these in a separate future action, as appropriate. In particular, the EPA is addressing ethylene oxide based on the results of the latest NATA released in August 2018, which identified the chemical as a potential concern in several areas across the country (NATA is the Agency's nationwide air toxics screening tool, designed to help the EPA and state, local, and tribal air agencies identify areas, pollutants, or types of sources for further examination). The latest NATA estimates that ethylene oxide significantly contributes to potential elevated cancer risks in some census tracts across the U.S. (less than 1 percent of the total number of tracts). These elevated risks are largely driven by an EPA risk value that was updated in late 2016. The EPA will work with industry and state, local, and tribal air agencies as the EPA takes a two-pronged approach to address ethylene oxide emissions: (1) Reviewing and, as appropriate, revising CAA regulations for facilities that emit ethylene oxide—starting with air toxics emissions standards for miscellaneous organic chemical manufacturing facilities and commercial sterilizers; and (2) conducting site-specific risk assessments and, as necessary, implementing emission control strategies for targeted high-risk facilities. The EPA will post updates on its work to address ethylene oxide on its website at: *https://www.epa.gov/ethylene-oxide.*

3. Adverse Environmental Effect

Based on the results of our environmental risk screening assessment, we conclude that there is not an adverse environmental effect from the Stationary Combustion Turbine source category. We are proposing that it is not necessary to set a more stringent standard to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect.

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

As described in section III.B of this preamble, our technology review focused on identifying developments in practices, processes, and control technologies that have occurred since the Stationary Combustion Turbine NESHAP was originally promulgated in 2004. Our review of the developments in technology for the Stationary Combustion Turbine source category did not reveal any changes that require revisions to the emission standards. The only add-on HAP emission control technology identified in the original NESHAP rulemaking was an oxidation catalyst. No new or improved add-on control technologies that reduce HAP emissions from turbines were identified during the technology review. Our review also did not identify any new or improved operation and maintenance practices, process changes, pollution prevention approaches, or testing and monitoring techniques for stationary combustion turbines. Therefore, we propose that no revisions to the Stationary Combustion Turbine NESHAP are necessary pursuant to CAA section 112(d)(6). Additional details of our technology review can be found in the *Technology Review for Stationary Combustion Turbines Risk and Technology Review (RTR)* memorandum, which is available in the docket for this action.

D. What other actions are we proposing?

In addition to the proposed actions described above, we are proposing additional revisions to the NESHAP. 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 to require electronic submittal of performance test results and semiannual compliance reports, and to remove the stay of standards for new lean premix and diffusion flame gas-fired stationary combustion turbines. Our analyses and proposed changes related to these issues are discussed below.

1. SSM

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 63.6105(a). 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 7 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. In proposing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained below, has proposed alternate standards for startup and has not proposed alternate standards for shutdown.

The EPA has determined that emissions from stationary combustion turbines during startup are significantly different than emissions during normal operation. The Gas Turbine Association provided the following information regarding the differences in turbine operation during startup that lead to changes in emissions: ''During startup the gas turbine combustor(s) transition through a variety of operational modes to ensure stable combustion and to minimize transient stresses on the gas turbine equipment. The equipment experiences extreme temperature transients during a startup event. The various operating modes result in low combustion efficiencies and incomplete combustion of the fuel which causes variations in the pollutant concentrations and fluctuations in the flow rate of the exhaust gas. Other

exhaust parameters/characteristics including temperature, molecular weight, water concentration, oxygen concentration, etc. change rapidly as the gas turbine is loaded from idle to a higher, steady state operating load.'' [21] In addition, oxidation catalysts may not be fully effective until sufficient exhaust gas temperatures are reached.

The EPA has determined that it is not feasible to prescribe or enforce a numerical emission limit during periods of startup for stationary combustion turbines because the application of measurement methodology during startup is not practicable. Test methods were developed for sampling stable operations. Changes in turbine operations during startup create rapid variations in exhaust gas flow rate, as well as pollutant and diluent gas concentrations. A concentration average over the startup period does not accurately reflect emissions over such a dynamically shifting concentration and flow scenario. Determining representative average emissions concentrations would require correlating the exhaust gas flow rates and the gas components concentration data for each fraction of time over the entire period of startup operation in order to apportion the values appropriately. The rapidly changing temperature (from ambient to approximately 1,800 degrees Fahrenheit for a simple cycle unit), concentration, and flow profile would make it practically impossible to employ the proportional sampling technique that would be necessary to properly account for the effect of the variability in emissions. Additionally, the stratification of the gas stream with respect to both flow and concentration would be in flux over the startup period until steady state conditions are achieved. With existing methodologies, the ability to perform replicate testing within the normal bounds of variability of the test methods (typically 15–20 percent) under the conditions present at startup is not practicable, and work practice or operational standards are appropriate.

The EPA is, therefore, proposing an operational standard in lieu of a numeric emission limit during periods of startup, in accordance with CAA section 112(h). The EPA is proposing that during turbine startup, owners and operators must minimize the turbine's time spent at idle or holding at low load levels and minimize the turbine's startup time to a period needed for appropriate and safe loading of the turbine, not to exceed 1 hour for simple cycle stationary combustion turbines and 3 hours for combined cycle stationary combustion turbines, after which time the formaldehyde emission limitation of 91 ppbvd or less at 15-percent O_2 applies. Minimizing the time spent at idle or low load operation will minimize the time the turbine's combustion system is not at peak efficiency and the emission controls are not at minimum operating temperatures.

For shutdown, the EPA does not have any information to show that emissions from stationary combustion turbines would be higher during shutdown than during normal operation. Therefore, the EPA is not proposing a different standard that applies during shutdown.

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.'' *Nat'l Ass'n 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 a ''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 Corp,* 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

[21] Email from Leslie Witherspoon, Solar Turbines to Melanie King, U.S. EPA. October 9, 2018. Available in the rulemaking docket.

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 devises or emergency flaring events because the EPA had information to determine that such work practices reflected the level of control that applies to the best performers. 80 FR 75178, 75211–14 (December 1, 2015). The EPA will consider whether circumstances warrant setting 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 Corp.* v. *EPA,* 830 F.3d 579, 606–610 (2016).

a. 40 CFR 63.6105 General Duty

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.6(e)(1)(i) by 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 in light of the elimination of the SSM exemption. We are proposing instead to add general duty regulatory text at 40 CFR 63.6105 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, startup and shutdown, and malfunction events in describing the general duty. Therefore, the language the EPA is proposing for 40 CFR 63.6105 does not include that language from 40 CFR 63.6(e)(1).

We are also proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.6(e)(1)(ii) by changing the ''yes'' in column 3 to a ''no.'' 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 63.6105. We are also proposing to revise the General Provisions table (Table 7) to add an entry for 40 CFR 63.6(e)(1)(iii) and include a ''yes'' in column 3.

b. SSM Plan

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.6(e)(3) by changing the ''yes'' in column 3 to a ''no.'' 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 7) entry for 40 CFR 63.6(f)(1) by changing the ''yes'' in column 3 to a ''no.'' The current language of 40 CFR 63.6(f)(1) exempts sources from non-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. 40 CFR 63.6120 Performance Testing

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.7(e)(1) by changing the ''yes'' in column 3 to a ''no.'' Section 63.7(e)(1) describes performance testing requirements. The EPA is instead proposing to add a performance testing requirement at 40 CFR 63.6120(c). The performance testing requirements we are proposing to add differ from the General Provisions performance testing provisions in several respects. The regulatory text does not include the language in 40 CFR 63.7(e)(1) that restated the SSM exemption and language that precluded startup and shutdown periods from being considered ''representative'' for purposes of performance testing. The proposed performance testing provisions specify that representative conditions exclude periods of startup and shutdown. 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 operation. 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 7) entry for 40 CFR 63.8(c)(1)(i) and (iii) by changing the ''yes'' in column 3 to a ''no.'' The cross-references to the general duty and SSM plan requirements in those subparagraphs are not necessary in light of 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 quality control program for monitoring equipment (40 CFR 63.8(d)).

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.8(d)(3) by changing the ''yes'' in column 3 to a ''no.'' The final sentence in 40 CFR 63.8(d)(3) refers to the General Provisions' SSM plan requirement which is no longer applicable. The EPA is proposing to add to the rule at 40 CFR 63.6125(e) text that is identical to 40 CFR 63.8(d)(3) except that the final sentence is replaced with the following sentence: ''The program of corrective action should be included in the plan required under § 63.8(d)(2).''

f. 40 CFR 63.6155 Recordkeeping

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.10(b)(2)(i) by changing the ''yes'' in column 3 to a ''no.'' Section 63.10(b)(2)(i) describes the recordkeeping requirements during startup and shutdown. We are instead proposing to add recordkeeping requirements to 40 CFR 63.6155. When a source is subject to a different standard during startup, it will be important to know when such startup periods begin and end in order to determine compliance with the appropriate standard. Thus, the EPA is proposing to add language to 40 CFR 63.6155 requiring that sources subject to an emission standard during startup that differs from the emission standard that applies at all other times must report the date, time, and duration of such periods.

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.10(b)(2)(ii) by changing the ''yes'' in column 3 to a ''no.'' Section 63.10(b)(2)(ii) describes the recordkeeping requirements during a malfunction. The EPA is proposing to add such requirements to 40 CFR 63.6155. The regulatory text we are proposing to add differs from the General Provisions it is replacing in that the General Provisions requires the creation and retention of a record of the occurrence and duration of each malfunction of process, air pollution control, and monitoring equipment. The EPA is proposing that this requirement apply to any failure to meet an applicable standard and is requiring that the source record the date, time, and duration of the failure rather than the ''occurrence.'' The EPA is also proposing to add to 40 CFR 63.6155 a requirement that sources keep records that include a list of the affected source or equipment and actions taken to minimize emissions, an estimate of the quantity of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions. Examples of such methods would include product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The EPA is proposing to require that sources keep records of this information to ensure that there is adequate information to allow the EPA to determine the severity of any failure to meet a standard, and to provide data that may document how the source met the general duty to minimize emissions when the source has failed to meet an applicable standard.

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.10(b)(2)(iv) by changing the ''yes'' in column 3 to a ''no.'' 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. The requirement previously applicable under 40 CFR 63.10(b)(2)(iv)(B) to record actions to minimize emissions and record corrective actions is now applicable by reference to 40 CFR 63.6155(a)(7)(iii).

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.10(b)(2)(v) by changing the ''yes'' in column 3 to a ''no.'' When applicable, the provision requires sources to record actions taken during SSM events to show that actions taken were consistent with their SSM plan. The requirement is no longer appropriate because SSM plans will no longer be required.

We are proposing to revise the General Provisions table (Table 7) entry for 40 CFR 63.10(c)(15) by changing the ''yes'' in column 3 to a ''no.'' The EPA is proposing that 40 CFR 63.10(c)(15) no longer apply. 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. 40 CFR 63.6150 Reporting

Section 63.10(d)(5) describes the reporting requirements for startups, shutdowns, and malfunctions. Currently the General Provisions table (Table 7) entry for 40 CFR 63.10(d)(5) in 40 CFR part 63, subpart YYYY, states that 40 CFR 63.10(d)(5) does not apply because reporting of SSM is not required. To replace the General Provisions reporting requirement, the EPA is proposing to add reporting requirements to 40 CFR 63.6150. 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 compliance report already required under this 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 product-loss calculations, 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.

2. Electronic Reporting

Through this proposal, the EPA is proposing that owners and operators of stationary combustion turbine facilities submit electronic copies of required performance test results and semiannual compliance reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). A description of the electronic data submission process is provided in the memorandum, *Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules,* available in Docket ID No. EPA–HQ–OAR–2017–0688. The proposed rule requires that performance test results collected using test methods that are supported by the EPA's Electronic Reporting Tool (ERT) as listed on the ERT website [22] at the time of the test be submitted in the format generated through the use of the ERT and that other performance test results be submitted in portable document format (PDF) using the attachment module of the ERT. The test methods required by 40 CFR part 63, subpart YYYY that are currently supported by the ERT are EPA Methods 3A and 4 of 40 CFR part 60, appendix A.

For periodic compliance reports the proposed rule requires that owners and operators use the appropriate spreadsheet template to submit information to CEDRI. A draft version of the proposed template for these reports is included in the docket for this rulemaking.[23] The EPA specifically requests comment on the content, layout, and overall design of the template.

Additionally, the EPA has identified two broad circumstances in which electronic reporting extensions may be provided. In both circumstances, the decision to accept the claim of needing additional time to report is within the discretion of the Administrator, and reporting should occur as soon as possible. The EPA is providing these potential extensions to protect owners and operators from noncompliance in cases where they cannot successfully submit a report by the reporting deadline for reasons outside of their control. The situation where an extension may be warranted due to outages of the EPA's CDX or CEDRI which precludes an owner or operator from accessing the system and submitting required reports is addressed in 40 CFR 63.6150(h). 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 an owner or operator from complying with the requirement to submit a report electronically as required by this rule is addressed in 40 CFR 63.6150(i). 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.

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 and transparency, will further assist in the protection of public health and the environment, will improve compliance by facilitating the ability of regulated facilities to demonstrate compliance with requirements and by facilitating the ability of delegated state, local, tribal, and territorial air agencies and the EPA to assess and determine compliance, and will ultimately reduce burden on regulated facilities, delegated air agencies, and the EPA. 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 the affected facilities, air agencies, the EPA, and the public. Moreover, electronic reporting is consistent with the EPA's plan [24] to implement Executive Order 13563 and is in keeping with the EPA's Agency-wide policy [25] developed in response to the White House's Digital Government Strategy.[26] For more information on the benefits of electronic reporting, see the memorandum, *Electronic Reporting Requirements for New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) Rules,* available in Docket ID No. EPA–HQ–OAR–2017–0688.

3. Stay of Standards for Certain New Turbines

In August 2002, the Gas Turbine Association submitted a petition to delist two subcategories of stationary combustion turbines under CAA section 112(c)(9)(B). The subcategories were lean premix firing natural gas with limited oil backup and a low-risk subcategory where facilities would make site-specific demonstrations regarding risk levels. Additional information supporting the petition was provided in February 2003. On April 7, 2004, the EPA proposed to delist lean premix gas-fired turbines as well as three additional subcategories that were determined to meet the criteria for delisting in CAA section 112(c)(9)(B): Diffusion flame gas-fired, emergency, and turbines located on the North Slope of Alaska. At the same time, the EPA proposed to stay the effectiveness of the NESHAP for new lean premix gas-fired and diffusion flame gas-fired turbines to ''avoid wasteful and unwarranted expenditures on installation of emission controls which will not be required if the subcategories are delisted.'' The standards for new oil-fired turbines were not stayed and have been in effect.

On August 18, 2004, the EPA finalized the stay of the effectiveness of the NESHAP for new lean premix gas-fired and diffusion flame gas-fired turbines, pending the outcome of the proposed delisting. The EPA stated that it would lift the stay if the subcategories were not ultimately delisted, and turbines constructed after January 14, 2003, would then be subject to the final standards. Those turbines would be given the same time to demonstrate compliance as they would have if there had been no stay.

In 2007, the Court held in *NRDC* v. *EPA,* 489 F.3d 1364 (D.C. Cir. 2007) that the EPA had no authority to delist subcategories under CAA section 112(c)(9)(B). According to the court decision, only entire source categories can be delisted under CAA section 112(c)(9)(B). Based on the proposed results of the residual risk analysis, we do not at this time have information to support a conclusion that the entire Stationary Combustion Turbines source category currently meets the criteria for delisting in CAA section 112(c)(9)(B). The results of the inhalation risk assessment show that the maximum individual cancer risk for this source category is above 1-in-1 million. Consequently, the EPA is proposing to remove the stay of the standards for new

[22] *https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert.*

[23] See *Draft_Stationary_Combustion_Turbine_Semiannual_and_Annual_Report.xlsm,* available at Docket ID. No. EPA–HQ–OAR–2017–0688.

[24] EPA's *Final Plan for Periodic Retrospective Reviews,* August 2011. Available at: *https://www.regulations.gov/document?D=EPA-HQ-OA-2011-0156-0154.*

[25] *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.*

[26] *Digital Government: Building a 21st Century Platform to Better Serve the American People,* May 2012. Available at: *https://obamawhitehouse.archives.gov/sites/default/files/omb/egov/digital-government/digital-government.html.*

lean premix and diffusion flame gas-fired turbines.

E. What compliance dates are we proposing?

The EPA is proposing that affected sources must comply with the proposed amendments for SSM and electronic reporting no later than 180 days after the effective date of the final 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 affected sources, we are proposing changes that would impact ongoing compliance requirements for 40 CFR part 63, subpart YYYY. As discussed elsewhere in this preamble, we are proposing to add a requirement that performance test results and semiannual compliance reports be submitted electronically, and we are proposing to change the requirements for periods of SSM by removing the exemption from the requirement to meet the emission standards during periods of SSM and proposing a work practice standard for startup. Our experience with similar industries that are required to convert reporting mechanisms to install necessary hardware and software, become familiar with the process of submitting performance test results and compliance reports electronically through the EPA's CEDRI, test these new electronic submission capabilities, and reliably employ electronic reporting shows that a time period of a minimum of 90 days, and, more typically, 180 days is generally necessary to successfully accomplish these revisions. 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; to 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; and to update their operation, maintenance, and monitoring plans 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 affected sources must be in compliance with the 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. All affected facilities would have to continue to meet the current requirements of 40 CFR part 63, subpart YYYY, until the applicable compliance date of the amended rule.

As discussed previously, the EPA is proposing to lift the stay of the effectiveness of the standards for new lean premix and diffusion flame gas-fired turbines that was promulgated in 2004. Turbines that are subject to the stay would be required to comply with all applicable regulatory requirements of 40 CFR part 63, subpart YYYY, immediately upon a final action to remove the stay. Required initial performance tests must be conducted within 180 calendar days after the effective date of a final action to remove the stay.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

The EPA has identified 719 turbines at 242 facilities that are subject to the Stationary Combustion Turbine NESHAP. We are projecting 39 new stationary combustion turbines at 26 facilities will become subject over the next 3 years. The 39 turbines include 36 natural gas-fired units, 1 oil-fired unit, and 2 landfill gas or digester gas-fired units. More information about the number of projected turbines over the next 3 years can be found in the *Projected Number of Turbine Units and Facilities Subject to the Stationary Combustion Turbine National Emission Standards for Hazardous Air (NESHAP)* memorandum in the docket for this rulemaking.

B. What are the air quality impacts?

The baseline emissions of HAP for 719 stationary combustion turbines at 242 facilities subject to 40 CFR part 63, subpart YYYY, are estimated to be 5,331 tpy. The HAP that is emitted in the largest quantity is formaldehyde. The proposed amendments will require turbines subject to the Stationary Combustion Turbine NESHAP to operate without the SSM exemption. We were unable to quantify emission reductions associated with eliminating the SSM exemption. However, eliminating the SSM exemption will reduce emissions by requiring facilities to meet the applicable standard during periods of SSM. We are not proposing any other revisions to the emission limits, so there are no other air quality impacts as a result of the proposed amendments.

C. What are the cost impacts?

Owners and operators of stationary combustion turbines that are subject to the proposed amendments to 40 CFR part 63, subpart YYYY, will incur costs to review the final rule. Nationwide annual costs associated with reviewing the final rule are estimated to be a total of $77,437 for the first year after the final rule only, or approximately $320 per facility. We do not believe that the proposed amendments revising the SSM provisions and requiring electronic reporting will impose additional burden and may result in a cost savings.

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. The total costs associated with reviewing the final rule are estimated to be $77,437, or $320 per facility, for the first year after the final rule. 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 is not proposing changes to the emission limits and estimates that the proposed changes to the SSM requirements and requirements for electronic reporting 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 projected, we did not estimate any benefits from reducing emissions.

VI. Request for Comments

We solicit comments on 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 *https://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).

4. Send the entire downloaded file with suggested revisions in Microsoft® Access format and all accompanying documentation to Docket ID No. EPA–HQ–OAR–2017–0688 (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 *https://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 *https://www.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 Regulations 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 Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 1967.08. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

The information is being collected to assure compliance with 40 CFR part 63, subpart YYYY. The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emissions standards. The information collection activities also include paperwork requirements associated with initial and annual compliance testing and parameter monitoring. The proposed amendments to the rule would eliminate the paperwork requirements associated with the SSM plan and recordkeeping of SSM events and require electronic submittal of performance test results and semiannual compliance reports. The proposed amendments to the rule would also lift the stay on the performance testing and notification, recordkeeping, and reporting requirements for new lean premix gas-fired turbines and diffusion flame gas-fired turbines. These recordkeeping and reporting requirements are specifically authorized by CAA section 114 (42 U.S.C. 7414).

Respondents/affected entities: Owners and operators of stationary combustion turbines subject to 40 CFR part 63, subpart YYYY.

Respondent's obligation to respond: Mandatory (40 CFR part 63, subpart YYYY).

Estimated number of respondents: 90 per year.

Frequency of response: The frequency of responses varies depending on the burden item. Responses include one-time review of rule amendments, reports of annual performance tests, and semiannual compliance reports.

Total estimated burden: 3,751 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $1,983,088 (per year), includes $1,735,494 annualized capital or operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations 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 May 13, 2019. 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. The small entities subject to the requirements of this action are small energy companies or governmental jurisdictions. The Agency has determined that 11 small entities representing approximately 4 percent of the total number of entities subject to the proposal may experience an impact of less than 1 percent of revenues.

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. None of the stationary combustion turbines that have been identified as being affected by this proposed action are owned or operated by tribal governments or located within tribal lands. 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.A and C and sections IV.A and B of this preamble, and further documented in the risk document.

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 ANSI/ASME PTC 19–10–1981 Part 10 (2010), ''Flue and Exhaust Gas Analyses'' manual portion only as an alternative to EPA Method 3B and incorporate the alternative method by reference. The ANSI/ASME PTC 19–10–1981 Part 10 (2010) method incorporates both manual and instrumental methodologies for the determination of O_2 content. The manual method segment of the O_2 determination is performed through the absorption of O_2. The method is reasonably available from the American Society of Mechanical Engineers at *http://www.asme.org;* by mail at Three Park Avenue, New York, NY 10016–5990; or by telephone at (800) 843–2763. The EPA proposes to use ASTM D6522–11, ''Standard Test Method for the Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers and Process Heaters Using Portable Analyzers'' as an alternative to EPA Method 3A for turbines fueled by natural gas and incorporate the alternative method by reference. The ASTM D6522–11 method is an electrochemical cell based portable analyzer method which may be used for the determination of nitrogen oxides, carbon monoxide, and O_2 in emission streams form stationary sources. Also, instead of the current ASTM D6348–12e1 standard (''Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy''), the Stationary Combustion Turbine NESHAP references ASTM D6348–03 as an alternative to EPA Method 320. We are proposing to update the NESHAP to reference the most current version of the method. When using the method, the test plan preparation and implementation requirements in Annexes A1 through A8 to ASTM D6348–12e1 are mandatory. The ASTM D6348–12e1 method is an extractive FTIR Spectroscopy-based field test method and is used to quantify gas phase concentrations of multiple target compounds in emission streams from stationary sources. The ASTM standards are reasonably available from the American Society for Testing and Materials, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959. See *http://www.astm.org/.*

The EPA identified an additional seven voluntary consensus standards (VCS) as being potentially applicable to this proposed rule. After reviewing the available standards, the EPA determined that the seven VCS would not be practical due to lack of equivalency, documentation, validation data, and other important technical and policy considerations. For further information, see the memorandum titled *Voluntary Consensus Standard Results for National Emission Standards for Hazardous Air Pollutants: Stationary Combustion Turbines Risk and Technology,* in the docket for this proposed rule.

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.A of this preamble and the technical report, *Risk and Technology Review Analysis of Demographic Factors for Populations Living Near Stationary Combustion Turbines Source Category Operations.*

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Dated: April 2, 2019.

Andrew R. Wheeler,

Administrator.

For the reasons stated in the preamble, the EPA proposes to amend title 40, chapter I, part 63 of the Code of the Federal Regulations as follows:

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

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

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

Subpart A—General Provisions

■ 2. Section 63.14 is amended by revising paragraphs (e)(1) and (h)(85), redesignating paragraphs (h)(94) through (111) as (h)(95) through (112), and adding new paragraph (h)(94) to read as follows.

§ 63.14 Incorporations by reference.

* * * * *

(e) * * *

(1) ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], issued August 31, 1981, IBR approved for §§ 63.309(k), 63.457(k), 63.772(e) and (h), 63.865(b), 63.1282(d) and (g), 63.1625(b), 63.3166(a), 63.3360(e), 63.3545(a), 63.3555(a), 63.4166(a), 63.4362(a), 63.4766(a), 63.4965(a), 63.5160(d), table 4 to subpart UUUU, table 3 to subpart YYYY, 63.9307(c), 63.9323(a), 63.11148(e), 63.11155(e), 63.11162(f), 63.11163(g), 63.11410(j), 63.11551(a), 63.11646(a), and 63.11945, table 5 to subpart DDDDD, table 4 to subpart JJJJJ, table 4 to subpart KKKKK, tables 4 and 5 to subpart UUUUU, table 1 to subpart ZZZZZ, and table 4 to subpart JJJJJJ.

* * * * *

(h) * * *

(85) ASTM D6348–12e1, Standard Test Method for Determination of

Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, Approved February 1, 2012, IBR approved for § 63.1571(a) and table 3 to subpart YYYY.

* * * * *

(94) ASTM D6522–11, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for table 3 to subpart YYYY.

* * * * *

Subpart YYYY—National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

§ 63.6095 [Amended]

■ 3. Section 63.6095 is amended by removing paragraph (d).

■ 4. Section 63.6105 is amended by revising paragraphs (a) and (b) and adding paragraph (c) to read as follows:

§ 63.6105 What are my general requirements for complying with this subpart?

(a) Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], you must be in compliance with the emission limitations and operating limitations which apply to you at all times except during startup, shutdown, and malfunctions. After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], you must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart which apply to you at all times.

(b) Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], if you must comply with emission and operating limitations, you must operate and maintain your stationary combustion turbine, oxidation catalyst emission control device or other air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

(c) After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], at all times, the owner or operator must operate and maintain any 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 the owner or operator 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.

■ 5. Section 63.6110 is amended by revising paragraph (a) to read as follows:

§ 63.6110 By what date must I conduct the initial performance tests or other initial compliance demonstrations?

(a) You must conduct the initial performance tests or other initial compliance demonstrations in Table 4 of this subpart that apply to you within 180 calendar days after the compliance date that is specified for your stationary combustion turbine in § 63.6095 and according to the provisions in § 63.7(a)(2). New or reconstructed stationary combustion turbines that are lean premix gas-fired stationary combustion turbines or diffusion flame gas-fired stationary combustion turbines that commenced construction before April 12, 2019 and were subject to the stay of the standards for gas-fired subcategories in § 63.6095(d) that was finalized on August 18, 2004, must conduct the initial performance test within 180 calendar days after the date the stay in § 63.6095(d) is removed from this subpart.

* * * * *

■ 6. Section 63.6120 is amended by revising paragraphs (b) and (c) to read as follows:

§ 63.6120 What performance tests and other procedures must I use?

* * * * *

(b) Each performance test must be conducted according to the requirements in Table 3 of this subpart. Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], each performance test must be conducted according to the requirements of the General Provisions at § 63.7(e)(1).

(c) Performance tests must be conducted at high load, defined as 100 percent plus or minus 10 percent. Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], do not conduct performance tests or compliance evaluations during periods of startup, shutdown, or malfunction. After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], performance tests shall be conducted under such conditions based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. The owner or operator may not conduct performance tests during periods of malfunction. The owner or operator must 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 operation. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

* * * * *

■ 7. Section 63.6125 is amended by adding paragraph (e) to read as follows:

§ 63.6125 What are my monitor installation, operation, and maintenance requirements?

* * * * *

(e) After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], if you are required to use a continuous monitoring system (CMS), you must develop and implement a CMS quality control program that included written procedures for CMS according to § 63.8(d)(1)–(2). You must keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

■ 8. Section 63.6140 is amended by revising paragraph (c) to read as follows:

§ 63.6140 How do I demonstrate continuous compliance with the emission and operating limitations?

* * * * *

(c) Before [DATE 181 DAYS AFTER 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 startup, shutdown, and malfunction are not

violations if you have operated your stationary combustion turbine in accordance with § 63.6(e)(1)(i).

■ 9. Section 63.6150 is amended by:

■ a. Revising paragraph (a) introductory text, paragraph (a)(4) introductory text, paragraph (c) introductory text, and paragraph (e) introductory text, and

■ b. Adding paragraphs (a)(5), (f), (g), (h) and (i).

The revisions and additions read as follows:

§ 63.6150 What reports must I submit and when?

(a) *Compliance report.* Anyone who owns or operates a stationary combustion turbine which must meet the emission limitation for formaldehyde must submit a semiannual compliance report according to Table 6 of this subpart. The semiannual compliance report must contain the information described in paragraphs (a)(1) through (5) of this section. The semiannual compliance report must be submitted by the dates specified in paragraphs (b)(1) through (5) of this section, unless the Administrator has approved a different schedule. After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], you must submit all subsequent reports to the EPA following the procedure specified in paragraph (g) of this section.

* * * * *

(4) Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], for each deviation from an emission limitation, the compliance report must contain the information in paragraphs (a)(4)(i) through (iii) of this section.

* * * * *

(5) After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], if a source fails to meet an applicable standard, report such events in the semiannual compliance report. Report the information specified in paragraphs (a)(5)(i) through (iv) of this section.

(i) Report the number of failures to meet an applicable standard. For each instance, report the start date, start time, duration, and cause of each failure, and the corrective action taken.

(ii) For each failure, the report must include a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, a description of the method used to estimate the emissions.

(iii) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable), as applicable, and the corrective action taken.

(iv) Report the total operating time of the affected source during the reporting period.

* * * * *

(c) If you are operating as a stationary combustion turbine which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or a stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 6 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (d)(1) through (5) of this section. You must report the data specified in (c)(1) through (3) of this section. After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], you must submit all subsequent reports to the EPA following the procedure specified in paragraph (g) of this section.

* * * * *

(e) If you are operating a lean premix gas-fired stationary combustion turbine or a diffusion flame gas-fired stationary combustion turbine as defined by this subpart, and you use any quantity of distillate oil to fire any new or existing stationary combustion turbine which is located at the same major source, you must submit an annual report according to Table 6 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (d)(1) through (5) of this section. You must report the data specified in (e)(1) through (3) of this section. After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], you must submit all subsequent reports to the EPA following the procedure specified in paragraph (g) of this section.

* * * * *

(f) *Performance test report.* After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], within 60 days after the date of completing each performance test required by this subpart, you must submit the results of the performance test (as specified in § 63.6145(f)) following the procedures specified in paragraphs (f)(1) through (3) of this section.

(1) *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.* Submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA's Central Data Exchange (CDX) (*https://cdx.epa.gov/*). The data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit an electronic file consistent with the extensible markup language (XML) schema listed on the EPA's ERT website.

(2) *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 results of the performance test must be included as an attachment in the ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT website. Submit the ERT generated package or alternative file to the EPA via CEDRI.

(3) *Confidential business information.* If you claim some of the information submitted under paragraph (f)(1) of this section is CBI, you must submit a complete file, including information claimed to be CBI, to the EPA. The file must be 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. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described in paragraph (f)(1) of this section.

(g) If you are required to submit reports following the procedure specified in this paragraph, you must submit reports to the EPA via CEDRI, which can be accessed through the EPA's (CDX) (*https://cdx.epa.gov/*). You must use the appropriate electronic report template on the CEDRI website (*https://www.epa.gov/electronic-reporting-air-emissions/compliance-and-emissions-data-reporting-interface-cedri*) for this subpart. The date report templates become available will be listed on the CEDRI website. The report must be submitted by the deadline specified in this subpart, regardless of the method in which the report is submitted. If you claim some of the information required to be submitted via CEDRI is confidential business

information (CBI), submit a complete report, including information claimed to be CBI, to the EPA. The report must be generated using the appropriate form on the CEDRI website. Submit the file on a compact disc, flash drive, or other commonly used electronic storage medium and clearly mark the medium as CBI. Mail the electronic medium to U.S. EPA/OAQPS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(h) If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of EPA system outage for failure to timely comply with the reporting requirement. To assert a claim of EPA system outage, you must meet the requirements outlined in paragraphs (h)(1) through (7) of this section.

(1) You must have been or will be precluded from accessing CEDRI and submitting a required report within the time prescribed due to an outage of either the EPA's CEDRI or CDX systems.

(2) The outage must have occurred within the period of time beginning five business days prior to the date that the submission is due.

(3) The outage may be planned or unplanned.

(4) 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 has caused a delay in reporting.

(5) You must provide to the Administrator a written description identifying:

(i) The date(s) and time(s) when CDX or CEDRI was accessed and the system was unavailable;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to EPA system outage;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The 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.

(6) 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.

(7) In any circumstance, the report must be submitted electronically as soon as possible after the outage is resolved.

(i) If you are required to electronically submit a report through CEDRI in the EPA's CDX, you may assert a claim of force majeure for failure to timely comply with the reporting requirement. To assert a claim of force majeure, you must meet the requirements outlined in paragraphs (i)(1) through (5) of this section.

(1) You may submit a claim if 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 five business days prior to the date the submission is due. 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).

(2) 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 has caused a delay in reporting.

(3) You must provide to the Administrator:

(i) A written description of the force majeure event;

(ii) A rationale for attributing the delay in reporting beyond the regulatory deadline to the force majeure event;

(iii) Measures taken or to be taken to minimize the delay in reporting; and

(iv) The 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.

(4) 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.

(5) In any circumstance, the reporting must occur as soon as possible after the force majeure event occurs.

■ 10. Section 63.6155 is amended by revising paragraph (a) introductory text and paragraphs (a)(3) through (5) and adding paragraphs (a)(6), (a)(7), and (d) to read as follows:

§ 63.6155 What records must I keep?

(a) You must keep the records as described in paragraphs (a)(1) through (7) of this section.

* * * * *

(3) Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], records of the occurrence and duration of each startup, shutdown, or malfunction as required in § 63.10(b)(2)(i).

(4) Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], records of the occurrence and duration of each malfunction of the air pollution control equipment, if applicable, as required in § 63.10(b)(2)(ii).

(5) Records of all maintenance on the air pollution control equipment as required in § 63.10(b)(2)(iii).

(6) After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], records of the date, time, and duration of each startup period, recording the periods when the affected source was subject to the standard applicable to startup.

(7) After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], keep records as follows.

(i) In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time, cause, and duration of each failure.

(ii) For each failure to meet an applicable standard, record and retain a list of the affected sources 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.

(iii) Record actions taken to minimize emissions in accordance with § 63.6105(c), and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

* * * * *

(d) Any records required to be maintained by this part that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation.

■ 11. Section 63.6175 is amended by revising the definition for ''Deviation'' to read as follows:

§ 63.6175 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:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit;

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart;

(4) Before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i), or

(5) After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], fails to satisfy the general duty to minimize emissions established by § 63.6105.

* * * * *

■ 12. Table 1 to Subpart YYYY of Part 63 is revised to read as follows:

Table 1 to Subpart YYYY of Part 63—Emission Limitations

As stated in § 63.6100, you must comply with the following emission limitations.

For each new or reconstructed stationary combustion turbine described in § 63.6100 which is . . .	You must meet the following emission limitations . . .
1. a lean premix gas-fired stationary combustion turbine as defined in this subpart, 2. a lean premix oil-fired stationary combustion turbine as defined in this subpart, 3. a diffusion flame gas-fired stationary combustion turbine as defined in this subpart, or 4. a diffusion flame oil-fired stationary combustion turbine as defined in this subpart.	limit the concentration of formaldehyde to 91 ppbvd or less at 15 percent O_2, except during turbine startup. During turbine startup, you must minimize the turbine's time spent at idle or holding at low load levels and minimize the turbine's startup time to a period needed for appropriate and safe loading of the turbine, not to exceed 1 hour for simple cycle stationary combustion turbines and 3 hours for combined cycle stationary combustion turbines, after which time the formaldehyde emission limitation of 91 ppbvd or less at 15 percent O_2 applies.

■ 13. Table 3 to Subpart YYYY of Part 63 is revised to read as follows:

Table 3 to Subpart YYYY of Part 63—Requirements for Performance Tests and Initial Compliance Demonstrations

As stated in § 63.6120, you must comply with the following requirements for performance tests and initial compliance demonstrations.

You must . . .	Using . . .	According to the following requirements . . .
a. demonstrate formaldehyde emissions meet the emission limitations specified in Table 1 by a performance test initially and on an annual basis *and*.	Test Method 320 of 40 CFR part 63, appendix A; ASTM D6348–12e1 [1] provided that the test plan preparation and implementation provisions of Annexes A1 through A8 are followed and the %R as determined in Annex A5 is equal or greater than 70% and less than or equal to 130%; [2] or other methods approved by the Administrator.	formaldehyde concentration must be corrected to 15 percent O_2, dry basis. Results of this test consist of the average of the three 1 hour runs. Test must be conducted within 10 percent of 100 percent load.
b. select the sampling port location and the number of traverse points *and*.	Method 1 or 1A of 40 CFR part 60, appendix A.	if using an air pollution control device, the sampling site must be located at the outlet of the air pollution control device.
c. determine the O_2 concentration at the sampling port location *and*.	Method 3A or 3B of 40 CFR part 60, appendix A; ANSI/ASME PTC 19–10–1981 [1] (Part 10) manual portion only; ASTM D6522–11 [1] if the turbine is fueled by natural gas.	measurements to determine O_2 concentration must be made at the same time as the performance test.
d. determine the moisture content at the sampling port location for the purposes of correcting the formaldehyde concentration to a dry basis.	Method 4 of 40 CFR part 60, appendix A or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–12e1 [1].	measurements to determine moisture content must be made at the same time as the performance test.

[1] Incorporated by reference, see § 63.14.

[2] 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 Results = ((Measured Concentration in Stack)/(%R)) × 100.

■ 14. Table 7 to Subpart YYYY of Part 63 is revised to read as follows:

Table 7 to Subpart YYYY of Part 63—Applicability of General Provisions to Subpart YYYY

You must comply with the applicable General Provisions requirements:

Citation	Subject	Applies to subpart YYYY	Explanation
§ 63.1	General applicability of the General Provisions.	Yes	Additional terms defined in § 63.6175.
§ 63.2	Definitions	Yes	Additional terms defined in § 63.6175.
§ 63.3	Units and abbreviations	Yes.	

Citation	Subject	Applies to subpart YYYY	Explanation
§ 63.4	Prohibited activities	Yes.	
§ 63.5	Construction and reconstruction	Yes.	
§ 63.6(a)	Applicability	Yes.	
§ 63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources.	Yes.	
§ 63.6(b)(5)	Notification	Yes.	
§ 63.6(b)(6)	[Reserved].		
§ 63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major.	Yes.	
§ 63.6(c)(1)–(2)	Compliance dates for existing sources.	Yes.	
§ 63.6(c)(3)–(4)	[Reserved].		
§ 63.6(c)(5)	Compliance dates for existing area sources that become major.	Yes.	
§ 63.6(d)	[Reserved].		
§ 63.6(e)(1)(i)	General duty to minimize emissions.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. See § 63.6105 for general duty requirement.	
§ 63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.6(e)(1)(iii)	Operation and Maintenance Requirements.	Yes.	
§ 63.6(e)(2)	[Reserved].		
§ 63.6(e)(3)	SSMP	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.6(f)(1)	Applicability of standards except during startup, shutdown, or malfunction (SSM).	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.6(f)(2)	Methods for determining compliance.	Yes.	
§ 63.6(f)(3)	Finding of compliance	Yes.	
§ 63.6(g)(1)–(3)	Use of alternative standard	Yes.	
§ 63.6(h)	Opacity and visible emission standards.	No	Subpart YYYY does not contain opacity or visible emission standards.
§ 63.6(i)	Compliance extension procedures and criteria.	Yes.	
§ 63.6(j)	Presidential compliance exemption	Yes.	
§ 63.7(a)(1)–(2)	Performance test dates	Yes	Subpart YYYY contains performance test dates at § 63.6110.
§ 63.7(a)(3)	Section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes.	
§ 63.7(b)(2)	Notification of rescheduling	Yes.	
§ 63.7(c)	Quality assurance/test plan	Yes.	
§ 63.7(d)	Testing facilities	Yes.	
§ 63.7(e)(1)	Conditions for conducting performance tests.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.7(e)(2)	Conduct of performance tests and reduction of data.	Yes	Subpart YYYY specifies test methods at § 63.6120.
§ 63.7(e)(3)	Test run duration	Yes.	
§ 63.7(e)(4)	Administrator may require other testing under section 114 of the CAA.	Yes.	
§ 63.7(f)	Alternative test method provisions	Yes.	
§ 63.7(g)	Performance test data analysis, recordkeeping, and reporting.	Yes.	
§ 63.7(h)	Waiver of tests	Yes.	
§ 63.8(a)(1)	Applicability of monitoring requirements.	Yes	Subpart YYYY contains specific requirements for monitoring at § 63.6125.
§ 63.8(a)(2)	Performance specifications	Yes.	
§ 63.8(a)(3)	[Reserved].		
§ 63.8(a)(4)	Monitoring for control devices	No.	
§ 63.8(b)(1)	Monitoring	Yes.	
§ 63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems.	Yes.	
§ 63.8(c)(1)	Monitoring system operation and maintenance.	Yes.	
§ 63.8(c)(1)(i)	General duty to minimize emissions and CMS operation.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.8(c)(1)(ii)	Parts for repair of CMS readily available.	Yes.	

Citation	Subject	Applies to subpart YYYY	Explanation
§ 63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§ 63.8(c)(4)	Continuous monitoring system (CMS) requirements.	Yes	Except that subpart YYYY does not require continuous opacity monitoring systems (COMS).
§ 63.8(c)(5)	COMS minimum procedures	No.	
§ 63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart YYYY does not require COMS.
§ 63.8(d)(1)–(2)	CMS quality control	Yes.	
§ 63.8(d)(3)	Written procedures for CMS	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.8(e)	CMS performance evaluation	Yes	Except for § 63.8(e)(5)(ii), which applies to COMS.
§ 63.8(f)(1)–(5)	Alternative monitoring method	Yes.	
§ 63.8(f)(6)	Alternative to relative accuracy test.	Yes.	
§ 63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§ 63.6135 and 63.6140.
§ 63.9(a)	Applicability and State delegation of notification requirements.	Yes.	
§ 63.9(b)(1)–(5)	Initial notifications	Yes	Except that § 63.9(b)(3) is reserved.
§ 63.9(c)	Request for compliance extension	Yes.	
§ 63.9(d)	Notification of special compliance requirements for new sources.	Yes.	
§ 63.9(e)	Notification of performance test	Yes.	
§ 63.9(f)	Notification of visible emissions/opacity test.	No	Subpart YYYY does not contain opacity or VE standards.
§ 63.9(g)(1)	Notification of performance evaluation.	Yes.	
§ 63.9(g)(2)	Notification of use of COMS data	No	Subpart YYYY does not contain opacity or VE standards.
§ 63.9(g)(3)	Notification that criterion for alternative to relative accuracy test audit (RATA) is exceeded.	Yes.	
§ 63.9(h)	Notification of compliance status	Yes	Except that notifications for sources not conducting performance tests are due 30 days after completion of performance evaluations. § 63.9(h)(4) is reserved.
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in previous information	Yes.	
§ 63.10(a)	Administrative provisions for recordkeeping and reporting.	Yes.	
§ 63.10(b)(1)	Record retention	Yes.	
§ 63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.10(b)(2)(ii)	Recordkeeping of failures to meet a standard.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. See § 63.6155 for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the quantity of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.	
§ 63.10(b)(2)(iii)	Maintenance records	Yes.	
§ 63.10(b)(2)(iv)–(v)	Records related to actions during SSM.	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.10(b)(2)(vi)–(xi)	CMS records	Yes.	
§ 63.10(b)(2)(xii)	Record when under waiver	Yes.	
§ 63.10(b)(2)(xiii)	Records when using alternative to RATA.	Yes.	
§ 63.10(b)(2)(xiv)	Records of supporting documentation.	Yes.	
§ 63.10(b)(3)	Records of applicability determination.	Yes.	
§ 63.10(c)(1)–(14)	Additional records for sources using CMS.	Yes	Except that § 63.10(c)(2)–(4) and (9) are reserved.

Citation	Subject	Applies to subpart YYYY	Explanation
§ 63.10(c)(15)	Use of SSM Plan	Yes before [DATE 181 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**]. No after [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**].	
§ 63.10(d)(1)	General reporting requirements	Yes.	
§ 63.10(d)(2)	Report of performance test results	Yes.	
§ 63.10(d)(3)	Reporting opacity or VE observations.	No	Subpart YYYY does not contain opacity or VE standards.
§ 63.10(d)(4)	Progress reports	Yes.	
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports.	No. After [DATE 180 DAYS AFTER PUBLICATION OF FINAL RULE IN THE **Federal Register**], see 63.6150(a) for malfunction reporting requirements.	
§ 63.10(e)(1) and (2)(i).	Additional CMS reports	Yes.	
§ 63.10(e)(2)(ii)	COMS-related report	No	Subpart YYYY does not require COMS.
§ 63.10(e)(3)	Excess emissions and parameter exceedances reports.	Yes.	
§ 63.10(e)(4)	Reporting COMS data	No	Subpart YYYY does not require COMS.
§ 63.10(f)	Waiver for recordkeeping and reporting.	Yes.	
§ 63.11	Flares	No.	
§ 63.12	State authority and delegations	Yes.	
§ 63.13	Addresses	Yes.	
§ 63.14	Incorporation by reference	Yes.	
§ 63.15	Availability of information	Yes.	

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