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National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR–2002–0060; FRL–7554–2]

RIN 2060–AG–67

National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) for stationary combustion turbines. We have identified stationary combustion turbines as major sources of hazardous air pollutants (HAP) emissions such as formaldehyde, toluene, benzene, and acetaldehyde. The NESHAP will implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT) for combustion turbines. In the final NESHAP, we have divided the stationary combustion turbine category into eight subcategories, including lean premix gas-fired turbines, lean premix oil-fired turbines, diffusion flame gas-fired turbines, diffusion flame oil-fired turbines, emergency turbines, turbines with a rated peak power output of less than 1.0 megawatt (MW), turbines burning landfill or digester gas, and turbines located on the North Slope of Alaska. We have also adopted a final emission standard requiring control of formaldehyde emissions for all new or reconstructed stationary combustion turbines in the four lean premix and diffusion flame subcategories. We estimate that 20 percent of the stationary combustion turbines affected by the final rule will be located at major sources. As a result, the environmental, energy, and economic impacts presented in this preamble reflect these estimates. The final rule will protect public health by reducing exposure to air pollution, by reducing total national HAP emissions by an estimated 98 tons per year (tpy) in the 5th year after the rule is promulgated.

EFFECTIVE DATE: March 5, 2004.

ADDRESSES: *Docket.* Docket ID No. OAR–2002–0060 (paper docket No. A–95–51) contains supporting information used in developing the standards. The docket is located at the U.S. EPA, 1301 Constitution Avenue, NW., Washington, DC 20460 in room B102, and may be inspected from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: For further information concerning applicability and rule determinations, contact the appropriate State or local agency representative. For information concerning the analyses performed in developing the NESHAP, contact Mr. Sims Roy, Combustion Group, Emission Standards Division (MD-C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711; telephone number (919) 541–5263; facsimile number (919) 541–5450; electronic mail address ''*roy.sims@epa.gov*.''

SUPPLEMENTARY INFORMATION: *Regulated Entities.* Categories and entities potentially regulated by this action include:

Category	SIC	NAICS	Examples of regulated entities
Any industry using a stationary combustion turbine as defined in the regulation.	4911	2211	Electric power generation, transmission, or distribution
	4922	486210	Natural gas transmission
	1311	211111	Crude petroleum and natural gas production
	1321	211112	Natural gas liquids producers
	4931	221	Electric and other services combined

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in § 63.6085 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Docket. The EPA has established an official public docket for this action under Docket ID No. OAR–2002–0060 (A–95–51). The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Air and Radiation Docket in the EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC 20460. The EPA Docket Center 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 Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1742. A reasonable fee may be charged for copying docket materials.

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An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at *http://www.epa.gov/edocket/* to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified above. Once in the system, select ''search,'' then key in the appropriate docket identification number.

Judicial Review. Under section 307(b)(1) of the CAA, judicial review of the final NESHAP is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by May 4, 2004. Under section 307(d)(7)(B) of the CAA, only an objection to a rule or procedure raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by the final rule may not be challenged separately in any civil or criminal proceeding brought to enforce these requirements.

Background Information Document. The EPA proposed the NESHAP for stationary combustion turbines on January 14, 2003 (68 FR 1888), and

received 75 comment letters on the proposal. A background information document (BID) (''National Emission Standards for Stationary Combustion Turbines, Summary of Public Comments and Responses,'') containing EPA's responses to each public comment is available in Docket ID No. OAR–2002–0060 (A–95–51).

Outline. The information presented in this preamble is organized as follows:

I. Background

A. What is the Source of Authority for Development of NESHAP?

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The stationary turbine source category was listed on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit greater than 10 tpy of any one HAP or 25 tpy of any combination of HAP.

B. What Criteria are Used in the Development of NESHAP?

Section 112 of the CAA requires that we establish NESHAP for the control of HAP from both new and existing major sources. The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This level of control is commonly referred to as the MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standard is set at a level that assures that all major sources achieve the level of control at least as stringent as that already achieved by the better controlled and lower emitting sources in each source category or subcategory. For new sources, the MACT standards cannot be less stringent than the emission control that is achieved in practice by the best controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best performing 12 percent of existing sources in the category or subcategory (or the best performing five sources for categories or subcategories with fewer than 30 sources).

In developing MACT, we also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

C. What are the Health Effects Associated with HAP from Stationary Combustion Turbines?

Emission data collected during development of the NESHAP show that several HAP are emitted from stationary combustion turbines. These HAP emissions are formed during combustion or result from HAP compounds contained in the fuel burned.

Among the HAP which have been measured in emission tests that were conducted at natural gas fired and distillate oil fired combustion turbines are: 1,3 butadiene, acetaldehyde, acrolein, benzene, ethylbenzene, formaldehyde, naphthalene, poly aromatic hydrocarbons (PAH) propylene oxide, toluene, and xylenes. Metallic HAP from distillate oil fired stationary combustion turbines that have been measured are: arsenic, beryllium, cadmium, chromium, lead, manganese, mercury, nickel, and selenium. Natural gas fired stationary combustion turbines do not emit metallic HAP.

Although numerous HAP may be emitted from combustion turbines, only a few account for essentially all the mass of HAP emissions from stationary combustion turbines. These HAP are: formaldehyde, toluene, benzene, and acetaldehyde.

The HAP emitted in the largest quantity is formaldehyde. Formaldehyde is a probable human carcinogen and can cause irritation of the eyes and respiratory tract, coughing, dry throat, tightening of the chest, headache, and heart palpitations. Acute inhalation has caused bronchitis, pulmonary edema, pneumonitis, pneumonia, and death due to respiratory failure. Long-term exposure can cause dermatitis and sensitization of the skin and respiratory tract.

Other HAP emitted in significant quantities from stationary combustion turbines include toluene, benzene, and acetaldehyde. The health effect of primary concern for toluene is dysfunction of the central nervous system (CNS). Toluene vapor also

causes narcosis. Controlled exposure of human subjects produced mild fatigue, weakness, confusion, lacrimation, and paresthesia; at higher exposure levels there were also euphoria, headache, dizziness, dilated pupils, and nausea. After-effects included nervousness, muscular fatigue, and insomnia persisting for several days. Acute exposure may cause irritation of the eyes, respiratory tract, and skin. It may also cause fatigue, weakness, confusion, headache, and drowsiness. Very high concentrations may cause unconsciousness and death.

Benzene is a known human carcinogen. The health effects of benzene include nerve inflammation, CNS depression, and cardiac sensitization. Chronic exposure to benzene can cause fatigue, nervousness, irritability, blurred vision, and labored breathing and has produced anorexia and irreversible injury to the blood-forming organs; effects include aplastic anemia and leukemia. Acute exposure can cause dizziness, euphoria, giddiness, headache, nausea, staggering gait, weakness, drowsiness, respiratory irritation, pulmonary edema, pneumonia, gastrointestinal irritation, convulsions, and paralysis. Benzene can also cause irritation to the skin, eyes, and mucous membranes.

Acetaldehyde is a probable human carcinogen. The health effects for acetaldehyde are irritation of the eyes, mucous membranes, skin, and upper respiratory tract, and it is a CNS depressant in humans. Chronic exposure can cause conjunctivitis, coughing, difficult breathing, and dermatitis. Chronic exposure may cause heart and kidney damage, embryotoxicity, and teratogenic effects.

We do not have the type of current detailed data on each of the facilities covered by the final rule and the people living around the facilities that would be necessary to conduct an analysis to determine the actual population exposures to the HAP emitted from these facilities and potential for resultant health effects. Therefore, we do not know the extent to which the adverse health effects described above occur in the populations surrounding these facilities. However, to the extent the adverse effects do occur, the final rule will reduce emissions and subsequent exposures.

D. What is the Regulatory Development Background of the Source Category?

In September 1996, we chartered the Industrial Combustion Coordinated Rulemaking (ICCR) advisory committee under the Federal Advisory Committee Act (FACA). The committee's objective was to develop recommendations for regulations for several combustion source categories under sections 112 and 129 of the CAA. The ICCR advisory committee, also known as the Coordinating Committee, formed Source Work Groups for the various combustor types covered under the ICCR. One work group, the Combustion Turbine Work Group, was formed to research issues related to stationary combustion turbines. The Combustion Turbine Work Group submitted recommendations, information, and data analyses to the Coordinating Committee, which in turn considered them and submitted recommendations and information to us. The Committee's 2-year charter expired in September 1998. We considered the Committee's recommendations in developing the final rule for stationary combustion turbines.

We have received a petition from the Gas Turbine Association (GTA) requesting that we delist certain subcategories of combustion turbines. We have been working with GTA to improve and supplement the data supporting this petition. Once a final determination has been made concerning the delisting petition, we will promptly make any conforming amendments to the Stationary Combustion Turbine NESHAP which are warranted.

II. Summary of the Final Rule

A. What Sources are Subject to the Final Rule?

The final rule applies to you if you own or operate a stationary combustion turbine which is located at a major source of HAP emissions. A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tpy (9.07 megagrams per year (Mg/yr)) or more or any combination of HAP at a rate of 25 tpy (22.68 Mg/yr) or more.

Section 112(n)(4) of the CAA requires that the aggregation of HAP for purposes of determining whether an oil and gas production facility is major or nonmajor be done only with respect to particular sites within the source and not on a total aggregated site basis. We referenced the requirements of section 112(n)(4) of the CAA in our NESHAP for Oil and Natural Gas Production Facilities in subpart HH of 40 CFR part 63. As in subpart HH, we plan to aggregate HAP emissions for the purposes of determining a major HAP source for turbines only with respect to particular sites within an oil and gas production facility. The sites are called surface sites and may include a combination of any of the following equipment: glycol dehydrators, tanks which have potential for flash emissions, reciprocating internal combustion engines, and combustion turbines.

The EPA acknowledges that the definition of major source in the final rule may be different from those found in other rules, however, this does not alter the definition of major source in other rules and, therefore, does not affect the Oil and Natural Gas Production Facilities NESHAP (subpart HH of 40 CFR part 63) or any other rule applicability.

Eight subcategories have been defined within the stationary combustion turbine source category. While all stationary combustion turbines are subject to the final rule, each subcategory has distinct requirements. For example, existing combustion turbines and stationary combustion turbines with a rated peak power output of less than 1.0 MW (at International Organization for Standardization (ISO) standard day conditions) are not required to comply with emission limitations, recordkeeping or reporting requirements in the final rule. New or reconstructed combustion turbines must comply with emission limitations, recordkeeping and reporting requirements in the final rule. You must determine your source's subcategory to determine which requirements apply to your source.

The final rule does not apply to stationary combustion turbines located at an area source of HAP emissions. An area source of HAP emissions is a contiguous site under common control that is not a major source.

Stationary combustion turbines located at research or laboratory facilities are not subject to the final rule 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.

The final rule does not cover duct burners. They are part of the waste heat recovery unit in a combined cycle system. Waste heat recovery units, whether part of a cogeneration system or a combined cycle system, are steam generating units and are not covered by the final rule.

Finally, the final rule does not apply to stationary combustion engine test cells/stands since these facilities are already covered by another NESHAP, 40 CFR part 63, subpart PPPPP.

B. What Source Categories and Subcategories are Affected by the Final Rule?

The final rule covers stationary combustion turbines. A stationary combustion turbine includes 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 sub-components 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.

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 MSW 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 MW 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 1000 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 1000 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 1000 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 1000 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)).

Emergency stationary combustion turbine means any stationary combustion turbine that operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency stationary combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary sources.

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 stationary combustion turbines where gasified MSW is used to generate 10 percent or more of the gross heat input to the stationary combustion turbine on an annual basis qualify as a separate subcategory because the types of control available for these turbines are limited.

Stationary combustion turbines of less than 1 MW rated peak power output were also identified as a subcategory. These small stationary combustion turbines are few in number and, to our knowledge, none use emission control technology to reduce HAP. Therefore, it would be inappropriate to require HAP emission controls to be applied to them without further information on control technology performance.

Two subcategories of stationary lean premix combustion turbines were established: stationary lean premix combustion turbines when firing gas and when firing oil at sites where all turbines fire oil no more than 1000 hours annually (also referred to as ''lean premix gas-fired turbines''), and stationary lean premix combustion turbines when firing oil at sites where all turbines fire oil more than 1000 hours annually (also referred to as ''lean premix oil-fired turbines''). Lean premix technology, introduced in the 1990's, was developed to reduce nitrogen oxide (NO_X) emissions without the use of add-on controls. In a lean premix combustor, the air and fuel are thoroughly mixed to form a lean mixture for combustion. Mixing may occur before or in the combustion chamber. Lean premix combustors emit lower levels of NO_X, carbon monoxide (CO), formaldehyde and other HAP than diffusion flame combustion turbines.

Two subcategories of stationary diffusion flame combustion turbines were established: stationary diffusion flame combustion turbines when firing gas and when firing oil at sites where all turbines fire oil no more than 1000 hours annually (also referred to as ''diffusion flame gas-fired turbines''), and stationary diffusion flame combustion turbines when firing oil at sites where all turbines fire oil more than 1000 hours annually (also referred to as ''diffusion flame oil-fired turbines''). In a diffusion flame combustor, the fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition. Hazardous air pollutant emissions from these turbines can be significantly decreased with the addition of air pollution control equipment.

Stationary combustion turbines located on the North Slope of Alaska have been identified as a subcategory due to operating limitations and uncertainties regarding the application of controls to these units. There are very few of these units, and none have installed emission controls for the reduction of HAP.

C. What are the Primary Sources of HAP Emissions and What are the Emissions?

Combustion turbines are acknowledged as the cleanest and most efficient method of producing electrical power. The sources of emissions are the exhaust gases from combustion of gaseous and liquid fuels in a stationary combustion turbine. Hazardous air pollutants that are present in the exhaust gases from stationary combustion turbines include formaldehyde, toluene, benzene, and acetaldehyde.

D. What are the Emission Limitations and Operating Limitations?

As the owner or operator of a new or reconstructed lean premix gas-fired turbine, a new or reconstructed lean premix oil-fired turbine, a new or reconstructed diffusion flame gas-fired turbine, or a new or reconstructed diffusion flame oil-fired turbine, you must comply with the emission limitation to reduce the concentration of formaldehyde in the exhaust from the new or reconstructed stationary combustion turbine to 91 parts per billion by volume (ppbv) or less, dry basis (ppbvd), at 15 percent oxygen by the effective date of the standards (or upon startup if you start up your stationary combustion turbine after the effective date of the standards).

If you comply with the emission limitation for formaldehyde emissions and you use an oxidation catalyst emission control device, you must continuously monitor the oxidation catalyst inlet temperature and maintain the inlet temperature to the oxidation catalyst within the range recommended by the catalyst manufacturer.

If you comply with the emission limitation for formaldehyde emissions and you do not use an oxidation catalyst emission control device, you must petition the Administrator for approval of operating limitations or approval of no operating limitations.

E. What are the Initial Compliance Requirements?

If you operate a new or reconstructed lean premix gas-fired turbine, a new or reconstructed lean premix oil-fired turbine, a new or reconstructed diffusion flame gas-fired turbine, or a new or reconstructed diffusion flame oil-fired turbine, you must conduct an initial performance test using Test Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 to demonstrate that the outlet concentration of formaldehyde is 91 ppbvd or less (corrected to 15 percent oxygen). To correct to 15 percent oxygen, dry basis, you must measure oxygen using Method 3A or 3B of 40 CFR part 60, appendix A, and moisture using either Method 4 of 40 CFR part 60, appendix A, Test Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03. The initial performance test must be conducted at high load conditions, defined as 100 percent ±10 percent.

If you operate a new or reconstructed stationary combustion turbine in one of the subcategories required to comply with an emission limitation and use an oxidation catalyst emission control device, you must also install a continuous parameter monitoring system (CPMS) to continuously monitor the oxidation catalyst inlet temperature.

If you operate a new or reconstructed stationary combustion turbine in one of the subcategories required to comply with an emission limitation and you do not use an oxidation catalyst emission control device, you must petition the Administrator for approval of operating limitations or approval of no operating limitations.

If you petition the Administrator for approval of operating limitations, your petition must include the following: (1) Identification of the specific parameters you propose to use as operating limitations; (2) a discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions; (3) a discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations; (4) a discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and (5) a discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

If you petition the Administrator for approval of no operating limitations, your petition must include the following: (1) Identification of the parameters associated with operation of the stationary combustion turbine and any emission control device which could change intentionally (*e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.*, wear and tear, error, etc.) on a routine basis or over time; (2) a discussion of the relationship, if any, between changes in these parameters and changes in HAP emissions; (3) for those parameters with a relationship to HAP emissions, a discussion of whether establishing limitations on these parameters would serve to limit HAP emissions; (4) for those parameters with a relationship to HAP emissions, a discussion of how you could establish upper and/or lower values for these parameters which would establish limits on these parameters in operating limitations; (5) for those parameters with a relationship to HAP emissions, a discussion identifying the methods you could use to measure these parameters and the instruments you could use to monitor them, as well as the relative accuracy and precision of these methods and instruments; (6) for these parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and, (7) a discussion of why, from your point of view, it is infeasible, unreasonable, or unnecessary to adopt these parameters as operating limitations.

F. What are the Continuous Compliance Provisions?

Several general continuous compliance requirements apply to stationary combustion turbines required to comply with the emission limitations. You are required to comply with the emission limitations and the operating limitations (if applicable) at all times, except during startup, shutdown, and malfunction of your stationary combustion turbine. You must also operate and maintain your stationary combustion turbine, air pollution control equipment, and monitoring equipment according to good air pollution control practices at all times, including startup, shutdown, and malfunction. You must conduct monitoring at all times that the stationary combustion turbine is operating, except during periods of malfunction of the monitoring equipment or necessary repairs and quality assurance or control activities, such as calibration checks.

To demonstrate continuous compliance with the emission limitations, you must conduct annual performance tests for formaldehyde. You must conduct the annual performance tests using Test Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 to demonstrate that the outlet concentration of formaldehyde is at or below 91 ppbvd of formaldehyde (correct to 15 percent oxygen). The annual performance test must be conducted at high load conditions, defined as 100 percent ±10 percent.

If you operate a new or reconstructed stationary combustion turbine in one of the subcategories required to comply with an emission limitation and you use an oxidation catalyst emission control device, you must demonstrate continuous compliance with the operating limitations by continuously monitoring the oxidation catalyst inlet temperature. The 4-hour rolling average of the valid data must be within the range recommended by the catalyst manufacturer.

If you operate a new or reconstructed stationary combustion turbine in one of the subcategories required to comply with an emission limitation and you do not use an oxidation catalyst emission control device, you must demonstrate continuous compliance with the operating limitations by continuously monitoring parameters which have been approved by the Administrator (if any).

G. What are the Notification, Recordkeeping and Reporting Requirements?

You must submit all of the applicable notifications as listed in the NESHAP General Provisions (40 CFR part 63, subpart A), including an initial notification, notification of performance test or evaluation, and a notification of compliance, for each stationary combustion turbine which must comply with the emission limitations. If your new or reconstructed stationary

combustion turbine is located at a major source, has greater than 1 MW rated peak power output, and is an emergency stationary combustion turbine, a combustion turbine which burns landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis or where gasified MSW is used to generate 10 percent or more of the gross heat input to the stationary combustion turbine on an annual basis, or a stationary combustion turbine located on the North Slope of Alaska, you must submit only an initial notification.

For each combustion turbine in one of the subcategories which is subject to an emission limitation, you must record all of the data necessary to determine if you are in compliance with the emission limitation. Your records must be in a form suitable and readily available for review. You must also keep each record for 5 years following the date of each occurrence, measurement, maintenance, report, or record. Records must remain on site for at least 2 years and then can be maintained off site for the remaining 3 years.

III. Summary of Responses to Major Comments

A more detailed summary of comments and our responses can be found in the Summary of Public Comments and Responses document, which is available from several sources (see Addresses section).

A. Applicability

Comment: Several commenters said that the definition of affected source should be modified to be consistent with the definition found in § 63.2 of the General Provisions.

Response: Although 40 CFR 63.2 of the General Provisions provides that we will generally adopt a broad definition of affected source, which includes all emission units within each subcategory which are located within the same contiguous area, this section also provides that we may adopt a narrower definition of affected source in instances where we determine that the broader definition would ''create significant administrative, practical, or implementation problems'' and ''the different definition would resolve those problems.'' This is such an instance. Because of the way that the subcategories of combustion turbines are defined, individual turbines can switch between subcategories based on the fuel they are burning. We have taken some steps in the definition of subcategories to limit the frequency of such switching between subcategories, because we believe it could create confusion and complicate compliance determinations. However, fuel specific subcategories are necessary to derive a MACT floor which appropriately considers the difference in the composition of the HAP emitted based on the fuel used. Thus, we cannot eliminate the possibility that individual turbines will switch subcategories. Use of the broader definition of affected source specified by the General Provisions would require very complex aggregate compliance determinations, because an individual turbine could be part of one affected source at one time and part of a different affected source at another time. This would require that the contribution of each turbine to total emissions for all emission units within each subcategory be adjusted to reflect the proportionate time the unit was operating within that subcategory. We believe such complicated compliance determinations to be impractical and, therefore, have decided to adopt a definition which establishes each individual combustion turbine as the affected source.

Comment: One commenter said that the final rule should be explicit as to whether the 1 MW capacity level for inclusion in the less than 1 MW rated peak power subcategory applies to an individual combustion turbine or applies to the aggregate capacity of a group of combustion turbines.

Response: We intended for the 1 MW capacity level to apply to an individual combustion turbine, not the aggregate capacity of a group of combustion turbines. This clarification has been made in the final rule.

Comment: Several commenters stated that EPA should increase the 1 MW capacity threshold. Comments received included suggestions to exclude from the rule turbines rated less than 10 MW and recommendations to create a subcategory for units with a capacity of 25 MW or less. Some commenters said that the size applicability criteria should be adjusted to be consistent with the MACT floor.

Response: Although 3 MW is the smallest size unit that is known to have add-on HAP control, we feel it is appropriate to set the cutoff for inclusion in the less than 1 MW rated peak power subcategory at 1 MW because the control technology used for 3 MW units can be transferred to units as small as 1 MW.

Comment: Many commenters recommended that EPA provide an emission threshold as an alternative applicability cutoff. Eight commenters recommended that the emission threshold should be set at less than 1 tpy of formaldehyde emissions. One commenter suggested that EPA should include a greater than 2 tpy formaldehyde applicability requirement.

Response: The basis for this comment is the Oil and Natural Gas Production and Natural Gas Transmission and Storage NESHAP (promulgated on June 17, 1999). In that rule, HAP emissions from process vents at glycol dehydration units that are located at major HAP sources and from process vents at certain area source glycol dehydration units are required to be controlled unless the actual flowrate of natural gas in the unit is less than 85,000 cubic meters per day (3.0 million standard cubic feet per day), on an annual average basis, or the benzene emissions from the unit are less than 0.9 Mg/yr (1 tpy). The 1 tpy emission threshold in the Oil and Natural Gas Production and Natural Gas Transmission and Storage MACT is equivalent to the smallest size glycol dehydration unit with control of HAP emissions and is, therefore, based on equivalence, not risk.

Comment: Multiple commenters expressed that the emission factors presented in Table 1 of the preamble should be removed, or wording should be added to acknowledge the use of factors from other sources. Three commenters said that EPA should not dictate emission factors for major source determination; owners and operators should be allowed to determine appropriate emission factors for their facility.

Response: We agree with the commenter and have not included Table 1 from the proposal preamble in the final rule. Table 1 was intended to simplify major source determination, *e.g.*, facilities would not have to develop their own emission factors. We agree that all turbines may not fit the emissions mold as projected in Table 1. The use of the emission factors in Table 1 was intended to be optional; we were not dictating the use of these emission factors.

The emission factors in Table 1 of the preamble to the proposed rule were based on emissions data from test reports that were reviewed and accepted by EPA according to a common set of acceptance criteria. However, we received several comments regarding the quality of the emissions data we used and as a result, performed an extensive review of tests used at proposal and new tests received during the comment period. As a result of that review, revised emission factors for stationary combustion turbines were calculated and are presented in a memorandum included in the rule docket (OAR–2002–0060, A–95–51). That memorandum has emission factors

for both high load and all load conditions. The emission standards in the final rule are based on data for high loads.

We believe that the emission factors presented in the memorandum provide the most accurate information on stationary combustion turbine emission factors. However, caution should be used when using data collected using California Air Resources Board (CARB) Method 430 or EPA Method 0011 in determining applicability. We have used CARB 430 and EPA Method 0011 in developing emission factors but applied a bias factor to the data to make the emissions data comparable with emissions data measured by Fourier Transform Infrared (FTIR).

Comment: Multiple commenters supported the creation of a subcategory for limited use combustion turbines with a capacity utilization of 10 percent or less. One commenter expressed the view that the limited use subcategory should apply to all limited use combustion turbines, not just electric power peak shaving units.

Three commenters supported the exemption for limited use units and EPA's finding that no emission reduction should be required for these units.

Several commenters requested that EPA increase the allowable operating time for limited use turbines. One commenter recommended that the 50-hour allowance for limited use be increased to 200 hours to allow for maintenance checks. Two commenters stated that a more appropriate cut-off is 500 hours per year, which one commenter said is consistent with EPA policy for designating emergency engines for title V permits and is also appropriate because year-to-year variability in the utilization does not result in routine changes in a unit's status. A commenter also suggested that EPA could develop a more refined approach; for example, the cutoff for turbines greater than 10 MW could be 200 hours per year.

One commenter said that if a 10 percent utilization is not implemented, the testing of combustion turbines to assure the unit will be operational when needed should be excluded from the operating limit, because these testing operations can range from weekly testing for more than 1 hour to several times each month.

Two commenters contended that the subcategorization of limited use combustion turbines without controls is not protective of public health, because these combustion turbines operate mostly in the summer months when the public is more likely to be exposed to the emissions.

Two commenters remarked that any subcategorization of limited use combustion turbines should include a permit requirement that these units operate less than 876 hours per year. To lower costs for these units, less onerous monitoring requirements such as periodic stack tests with a temperature sensor on the catalyst could be required.

One commenter expressed the view that existing limited use combustion turbines might be exempted from the MACT emission limits, but new limited use combustion turbines should not be exempted. The commenter observed that in New Jersey, limited use units generally operate for less than 250 hours per year.

Response: The preamble for the proposed rule included a subcategory for limited use stationary combustion turbines and defined them as operating 50 hours or less per calendar year. We solicited comments on creating a subcategory of limited use stationary combustion turbines with capacity utilization of 10 percent or less and used for electric power peak shaving. After considering all of the comments, we decided not to include a subcategory for limited use stationary combustion turbines in the final rule. A subcategory of limited use stationary combustion turbines with capacity utilization of 10 percent or less and used for electric power peak shaving was not created because these sources are similar sources to units equipped with add-on oxidation catalyst control, and their operation only during peak periods does not preclude them from being equipped with add-on oxidation catalyst control. In response to the comment regarding subcategorization of limited use combustion turbines not being protective of public health, our objective in subcategorizing is not to protect public health, but to establish groups of sources which share common characteristics that are related to the availability of potential emission control strategies. In any case, we have not adopted a limited use subcategory, because we determined that creation of such subcategory would not change the nature of the required controls.

Comment: Two commenters recommended that to be consistent with most other NESHAP, EPA should add an exemption for research and development to the final rule.

Response: We agree that stationary combustion turbines located at a research or laboratory facility should not be subject to the NESHAP 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. A definition of research or laboratory facility is included in the final rule.

Comment: One commenter remarked that primary fuel is not defined in the rule. The commenter noted that applying the exemption only to turbines using landfill or digester gas as primary fuel is overly restrictive. The commenter suggested that the exemption should be for turbines with annual landfill and digester gas consumption of 10 percent or more of the total fuel consumption on an annual basis based on gross heat input. Other commenters requested that the exemption for firing landfill or digester gas be expanded to include combustion turbines used at gasification plants.

Response: We agree that it is appropriate to provide guidelines for the usage of landfill and digester gas. We have written the final rule to define turbines in the landfill and digester gas subcategory as those which burn landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. In the final rule, the subcategory for combustion turbines firing landfill or digester gas has been expanded to include units where gasified MSW is used to generate 10 percent or more of the gross heat input to the turbine on an annual basis. We have specified in the final rule that new turbines in this subcategory must daily monitor their fuel usage with a separate fuel meter to measure the volume flow rate of each fuel. Finally, the final rule requires new combustion turbines in this subcategory to submit annual reports documenting the fuel flow rate of each fuel and the heating values used to calculate and demonstrate that the percentage of heat input provided by landfill, digester gas, or gasified MSW is equivalent to 10 percent or more of the total fuel consumption on an annual basis based on gross heat input.

Comment: Several commenters urged EPA to add a subcategory to cover turbines installed north of the Arctic Circle (North Slope) and to specify no additional control requirements for the subcategory. The commenters stated that technologies identified for controlling HAP emissions from stationary combustion turbines are unproven or have met with limited success in northern Alaska above the Arctic Circle. Lean premix combustion turbines have met with limited success on the Alaska's North Slope. The annual average temperature above the Arctic Circle is approximately 10°F, with winter temperatures that can drop below −50°F. Turbine manufacturers have been required to ''de-tune'' the

lean premix turbines to ensure the integrity of the equipment at these cold ambient temperatures.

One of the technical issues with lean premix operation at the North Slope is the very wide range of ambient temperatures over which the turbine must operate. A range of −50°F to 80°F (130°F range) is a very challenging requirement for turbine manufacturers. They have to employ various air bleed, inlet guide vane control, or fuel staging to allow them to operate at the cold extremes. Sites in Canada have reported having to tune their lean premix engines differently for the summer and winter months. Even when temperatures drop to extremely low levels in the lower 48 states, the duration of those low temperatures is normally measured in hours; on the North Slope it is not uncommon for equipment to have to endure months of severe cold. In addition to this large range, at the colder end of the range the airflow on some turbine models can be 40 percent higher than at the standard ISO design conditions of 60°F, creating an especially acute problem in lean premix units. Turbine manufacturers with experience in the Arctic do not guarantee NO_X and CO levels at cold ambient temperatures (below 0°F). Therefore, lean premix turbines that can achieve low NO_X emissions typical of the lower 48 states' applications have not been demonstrated to be achievable north of the Arctic Circle. On the North Slope, less than 0°F represents about one-half of the year.

According to the commenters, vendors of CO oxidation catalysts have indicated that their products will perform adequately on the North Slope, but the technology has never been tried. To date, no CO oxidation catalyst has ever been installed on a turbine on the North Slope. It is unknown what impacts the extreme thermal conditions of North Slope operation will have on CO oxidation catalysts.

Response: We agree with the commenters that a subcategory should be created for turbines installed north of the Arctic Circle to recognize their distinct differences. There is a substantial difference in temperature between the North Slope of Alaska and even the coldest areas in the lower 48 states. As noted by the commenters, turbine operators on the North Slope of Alaska have experienced problems with operation of the turbines in lean premix mode, and turbine manufacturers do not guarantee the performance of their turbines at the ambient temperatures typically found north of the Arctic Circle. In addition, no turbines on the North Slope of Alaska are equipped with oxidation catalyst control. Therefore, a subcategory for turbines north of the Arctic Circle has been established. The North Slope of Alaska is defined as above the Arctic Circle (latitude 66.5° North). Stationary combustion turbines operated on the North Slope of Alaska are not required to meet the emission limitations. However, new or reconstructed stationary combustion turbines operated on the North Slope of Alaska must submit an initial notification.

Comment: Two commenters expressed the view that the routine exchange of aeroderivative turbines for routine overhaul should not result in a facility becoming a new source. One commenter stated that EPA should provide an exemption for temporary replacement engines during routine rebuilds, and a mechanism to reduce the likelihood a source would suddenly trigger new source preconstruction review/approval and MACT requirements arising from an unexpected repair or replacement of a stationary combustion turbine.

Response: The definition of reconstructed turbine in the proposed rule is consistent with the General Provisions of 40 CFR part 63. If an existing combustion turbine is refurbished to the extent that it meets the definition of reconstruction, then it should be considered a reconstructed source. We are not aware of any routine refurbishment for which the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source.

B. Definitions

Comment: One commenter requested that the definition of lean premix stationary combustion turbine be modified to recognize that fuel and air mixing may be occurring in the combustor of some lean premix combustion turbines. The definition should be modified to include these types of stationary combustion turbines that burn a lean mixture and thoroughly mix their fuel prior to combustion in the combustor.

Response: We have written the definition of lean premix in the final rule to recognize that fuel and air mixing may be occurring in the combustor of some lean premix combustion turbines.

Comment: Several commenters said that the definition of emergency stationary combustion turbine should include operational allowances for the periodic operation/testing to verify operational readiness. One commenter requested that the definition be clarified, or extended to allow for operations in anticipation of an emergency situation. Four commenters asked for clarification as to whether loss of power that constitutes an emergency is limited to power supplied to the facility as a whole or includes power supplied to portions of a facility.

Response: We agree with the commenters who stated that readiness testing should be included in the definition of emergency operation. Accordingly, we have written the definition of emergency stationary combustion turbine to include allowances for readiness testing in the final rule. The routine testing and maintenance must be within limits recommended by the turbine manufacturer or other entity such as an insurance company. However, we disagree with the commenter who requested the definition to include operations in anticipation of an emergency situation. Exempt operations will be limited to emergency situations only. We agree that loss of power can include power supplied to portions of a facility, and we have, therefore, written the definition of stationary emergency combustion turbine in the final rule to make this clear.

Comment: Several commenters recommended that the definition of ''stationary combustion turbine'' include all appropriate associated equipment.

Response: We agree with the commenters' suggestions and have written the definition of stationary combustion turbines in the final rule to reflect appropriate comments. The definition of a stationary combustion turbine does not include emissions control equipment.

Comment: One commenter expressed support for the definition of major source except that the phrase ''except when they are on the same surface site'' should be removed from the combustion turbine major source definition. This phrase is not present in the 40 CFR part 63, subpart HH, major source definition that is the template for the combustion turbine MACT major source definition. Section 112(n)(4) of the CAA requires that wells and associated equipment not be aggregated even within the same surface site except as provided in the combustion turbine MACT major source definition. In the combustion turbine MACT major source definition, the phrase ''storage vessel with flash emissions potential'' should be changed to ''storage vessel with the potential for flash emissions'' to conform to the 40 CFR part 63, subpart HH, definition.

The commenter also stated that the General Provision major source

definition presented in the combustion turbine MACT is different from those found in the definition of major source in the NESHAP from Oil and Natural Gas Production Facilities (40 CFR 63.761). The significance of this difference is that sources that are area sources under subpart HH could possibly be rendered ''major sources'' under the combustion turbine MACT. The EPA should acknowledge this possibility in the preamble to the final rule and clearly state that this does not change the source's status under subpart HH or any other MACT. Another commenter recommended that the preamble clarify that the definition of major source in the combustion turbine MACT does not alter the definition of major source in subpart HH, and, therefore, does not affect subpart HH applicability.

Response: We agree with the commenters and have written the major source definition in the final rule to reflect appropriate comment. We have acknowledged in the preamble to the final rule that the definition of major source in the final rule may be different from those found in other rules. However, this does not alter the definition of major source in other rules, and, therefore, does not affect the Oil and Natural Gas Production Facilities NESHAP (subpart HH of 40 CFR part 63) or any other rule applicability.

Comment: One commenter observed that landfill and digester gas are defined in the proposed rule as being formed through anaerobic decomposition, which is usually but not always the case.

Response: We agree with the commenter that landfill and digester gas are not always formed only through anaerobic decomposition. As a result, we have written the definition of landfill and digester gas in the final rule acknowledging that these gases are usually formed through anaerobic decomposition, but not always by inserting the word ''typically'' in front of ''formed'' in both definitions.

C. Dates

Comment: Two commenters stated that immediate compliance is unrealistic for new and reconstructed turbines and recommended a 1-year compliance timeframe. Other commenters recommended that the final rule allow 1 year to conduct the initial performance test, rather than the 180 days provided by the 40 CFR part 63, General Provisions.

Response: Immediate compliance is appropriate for new or reconstructed turbines and is consistent with the General Provisions of 40 CFR part 63. Sources are required to install the proper equipment and meet the applicable emission limitations on startup. However, we allow sources 180 days to demonstrate compliance. We feel that 180 days is sufficient time to conduct the initial performance test, consistent with the General Provisions. Sources have the option to petition for additional time if necessary.

Comment: One commenter requested that EPA allow a facility with identical combustion turbines to conduct performance tests on only one of the units to demonstrate compliance with the emission limits for all of the identical units.

Response: We are not allowing facilities with identical combustion turbines to conduct performance tests on only one of the units to demonstrate compliance with the emission limits for all of the identical units because not all apparently identical facilities produce the same emissions. We have turned down many similar requests and have asked owners and operators to run stack tests on all individual units.

Comment: Two commenters requested that the rule provide 1 year for initial notification of MACT applicability, as in the Oil and Natural Gas Production and the Natural Gas Transmission and Storage MACT, instead of 120 days.

Response: We do not agree that 1 year is necessary for initial notification of MACT applicability. An initial notification is not a time consuming activity.

D. MACT

Comment: Three commenters took issue with the MACT floor for new diffusion flame stationary combustion turbines. The commenters stated that no formaldehyde emissions data or oxidation catalyst control efficiency data were available to EPA to support setting the MACT floor for new diffusion flame stationary combustion turbines; newer models of turbines in the diffusion flame category should be evaluated to identify the best-performing unit.

Response: At proposal, we had limited emissions data for stationary combustion turbines, including one test for a diffusion flame turbine with add-on HAP emission control, and we requested HAP emissions test data from stationary combustion turbines. We received new emissions data for diffusion flame turbines during the comment period, including an additional formaldehyde test on a diffusion flame unit equipped with add-on HAP emissions control. The new data also include several tests conducted using FTIR, which is regarded as the most accurate measurement method for formaldehyde for stationary combustion turbines. Thus, the data set has been significantly improved, both quantitatively and qualitatively, and we feel that the data set is sufficient to identify the best-performing unit.

Based on comments and information received during the public comment period, the diffusion flame subcategory was divided further into subcategories for diffusion flame combustion turbines when firing gas and when firing oil at sites where all turbines fire oil for no more than 1000 hours annually (''diffusion flame gas-fired turbines'') and for diffusion flame combustion turbines when firing oil at sites where all turbines fire oil more than 1000 hours annually (''diffusion flame oil-fired turbines'').

In addition, based on information received during the public comment period indicating that oxidation catalysts are in use on some existing diffusion flame combustion turbines, we reevaluated the MACT floor for new turbines in each of the diffusion flame subcategories.

Comment: One commenter contended that the MACT floor for existing diffusion flame is unlawful because EPA did not identify the best performing sources or determine the emission levels they are achieving; EPA merely considered whether or not they are equipped with a catalyst. The commenter stated that whether or not the relevant best sources are equipped with control equipment, they are achieving some emission level, and EPA must determine the average emission level they are achieving and set floors at that level.

Response: We agree with the commenter that all factors which might control HAP emissions must be considered in making a floor determination for each subcategory, and that this analysis cannot be properly limited to add-on controls. However, we disagree that it must express the floor as a quantitative emission level in those instances where the source on which the floor determination is based has not adopted or implemented any measure that would reduce emissions. In this instance, we decided to subcategorize within diffusion flame combustion turbines based on the fuel which is used, because the composition of HAP emissions differs materially based on whether gas or oil is used. We then determined for each subcategory of diffusion flame combustion turbines that emissions of each HAP are relatively homogenous across that subcategory, and that there are not any

adjustments of the turbines or other operational modifications except for the use of add-on controls which would be effective in reducing HAP emissions. Since the source on which the floor for existing sources in each subcategory of diffusion flame turbines is based has not installed such add-on controls, we determined that the MACT floor for each such subcategory requires no emission reductions. We have also established fuel-based subcategories within lean premix combustion turbines, and have made a comparable determination that the MACT floor for existing sources within each of these subcategories requires no emission reductions.

Comment: One commenter said that the MACT floor for new diffusion flame units is unlawful because EPA did not identify the best-performing diffusion flame combustion turbine and the floor does not reflect what that source achieved in practice. According to the commenter, EPA ignored other factors that affect a source's performance (fuel, design, age, maintenance, operator training, skill and care, differences in effectiveness of catalysts). The performance of all sources using an oxidation catalyst is not the same and cannot possibly reflect the performance of the single best source.

Response: We agree with the commenter that the standard for new sources within each subcategory must be based on the emission levels achieved in practice by the best controlled similar source. However, we think that the performance in reducing emissions by the best controlled source will not be uniform, and that it would be inappropriate to establish a standard which could not be consistently met even by the source upon which the standard is based. We, therefore, believe that there must be some allowance made for the intrinsic variability in the effectiveness of controls in the standard we establish. We do not think that the performance of oxidation catalysts differs as much from one turbine to the next as suggested by the commenter, and we believe that the emission control levels achieved in practice by catalysts on differing turbines is one factor we may appropriately consider in evaluating the variability in emission control levels which is intrinsic to catalyst operation.

Comment: One commenter observed that EPA stated that it considered fuel switching but could not find a less HAP emitting fuel. The EPA's own data show that combustion turbines burning fuel oil have higher benzene and xylene emissions than combustion turbines firing natural gas or landfill gas. Had EPA tested other HAP, it would likely have found that fuel oil produces higher levels of those HAP as well. The EPA has already found the entire diesel exhaust stream to be hazardous.

Response: We agree with the commenter that the composition of HAP emissions are different for combustion turbines firing natural gas and combustion turbines firing oil. We have evaluated both the data we had prior to proposal and the data received since proposal; the test data support the conclusion that HAP emissions are different for different fuels for stationary diffusion flame units. Uncontrolled formaldehyde emissions are in general lower as a result of the combustion of distillate oil than for natural gas. Other differences in emissions between natural gas and distillate oil include higher levels of pollutants such as PAH and metals for stationary combustion turbines burning distillate oil.

We proposed one subcategory for combustion turbines using lean premix technology and another subcategory for combustion turbines using diffusion flame technology. However, in recognition of the clear differences we found in the composition of HAP emissions depending on the fuel that is used, we have determined that it is appropriate to subcategorize further based on fuel use. In devising appropriate subcategories based on fuel use, we need to consider that many combustion turbines are configured both to use natural gas and distillate oil. These dual fuel units typically burn natural gas as their primary fuel, and only utilize distillate oil as a backup. To limit the frequency of switching between subcategories caused by limited usage of a backup fuel, we have defined the gas subcategories in a manner which permits combustion turbines that fire gas to remain in the gas subcategory if all turbines at the site in question fire oil no more than a total of 1000 hours during the calendar year.

Comment: Several commenters took issue with the methodology and data used to set the MACT floors for lean premix units. Two commenters contended that EPA's determination of the floor for existing lean premix turbines is fundamentally flawed, and that reliance on a single data point and the assumptions made to compensate for the inherent error and variability is not appropriate. It was suggested that EPA must obtain additional information before it can set a floor.

Two commenters stated that data from all five combustion turbines should be used to set the MACT floor for existing lean premix turbines. One commenter determined that the formaldehyde limit should be 219 ppb if EPA declines to set the floor as no emission reduction.

Several commenters remarked than the MACT floor for new and existing lean premix turbines does not reflect a reasonable estimate of formaldehyde emissions achieved in practice by the best-performing source; EPA should adjust the MACT floor to reflect formaldehyde emissions reasonably expected over the operating range of the best-performing lean premix turbine. One commenter observed that EPA's use of the performance test of one ''best'' lean premix unit is not statistically viable and does not meet the statutory requirement for setting the MACT floor.

Two commenters said that EPA's emission standard for lean premix combustion turbines is unlawful and EPA should establish a ''no control'' emission limitation. It was also stated that EPA did not determine that the best performers in the subcategory were ''controlling'' their emissions in a duplicable manner. They stated that EPA improperly set the floor for the existing lean premix subcategory; EPA based the floor on the performance of the best source for which it had data, instead of basing it on the average emission limitation of the five sources for which it had data. They also stated that all of the variability that either the best performers will experience or that will affect the attainability of emissions had not been considered and suggested that EPA consider the normal turbine variations based on time, fuel, location, weather, and the repeatability of testing and monitoring methods.

Response: As previously discussed, we had limited emissions data at proposal for stationary combustion turbines. We had five tests for formaldehyde emissions for lean premix combustion turbines, none of which were on lean premix units with add-on HAP emission control. We received new emissions data for lean premix turbines, including two formaldehyde tests on a lean premix unit equipped with add-on HAP emissions control. The new data also include several tests conducted using FTIR, which is regarded as the most accurate measurement method for formaldehyde for stationary combustion turbines. Thus, the data set has been significantly improved, both quantitatively and qualitatively, and EPA believes that the data set is sufficient to identify the best-performing unit.

Also, as discussed previously, we decided that it is appropriate to subcategorize based on fuel within the subcategories for diffusion flame and lean premix combustion turbines. We have established subcategories for lean

premix combustion turbines when firing gas and when firing oil at sites where all turbines fire oil for no more than 1000 hours annually (''lean premix gas-fired turbines''), and for lean premix combustion turbines when firing oil at sites where all turbines fire oil more than 1000 hours annually (''lean premix oil-fired turbines'').

As a result of comments and the new data submitted post-proposal, we also have reevaluated the MACT floor for both existing and new turbines in each of the lean premix subcategories.

Comment: One commenter said that the MACT floor for existing lean premix combustion turbines is unlawful. The floor (formaldehyde) is at a level far worse than the emission levels achieved by the best source. The 95 percent reduction standard is unlawful because it does not even purport to reflect the actual emission levels achieved by the relevant best sources. The commenter also stated that CO is not a valid surrogate.

Response: We reevaluated the MACT floor for existing gas-fired and oil-fired LPC units as a result of comments and the new data submitted post-proposal. We do not agree that CO reduction is not a valid surrogate for HAP reduction, however, the alternative CO emission limitation has been removed from the final rule due to CO measurement difficulties. Thus, the commenter's concerns are moot. We have determined that formaldehyde is an appropriate and valid surrogate for each of the organic HAP that can be controlled by a catalyst, and that the standard for such organic HAP can be reasonably expressed in terms of formaldehyde emissions measured after exiting any control device.

Comment: One commenter stated that the MACT floor for new lean premix units does not reflect the actual performance of the single best source.

Response: As explained above, we believe that we must accommodate intrinsic variability in performance when setting a standard which is based on the performance of the best controlled similar source. It would make no sense to adopt a standard based on the best controlled source which could not be consistently met even by that source.

Comment: One commenter remarked that for MACT, EPA's rejection of potential control technologies that might be applied, including wet scrubbers, dry scrubbers, and activated carbon, without even considering them is unlawful, and that EPA's argument that a greater degree of reduction could not be achieved through the use of clean fuels is unlawful.

Response: We agree with the commenter that the effect of the choice of natural gas or fuel oil on the composition of HAP emissions is significant, and we have, therefore, subcategorized further within both lean premix and diffusion flame turbines based on which of these fuels is used. We are not aware of any data indicating that HAP emissions could be consistently reduced by selection of particular clean fuels within these general fuel groups. As for the other novel emission control technologies to which the commenter refers, we do not believe that these technologies are in use on any combustion turbine and we do not consider any sources utilizing such controls to be similar sources. Moreover, we are unable based on available information to determine that these technologies would be both efficacious and cost effective in reducing HAP emissions from combustion turbines.

Comment: One commenter remarked that for existing emergency, limited use, landfill or digester gas fired, and less than 1 MW units, EPA did not set a floor that reflects the emission levels that the best performing sources actually achieved. The EPA has not identified the relevant best performing sources and has not determined the average emission limitation achieved by such sources, therefore, EPA's floors for these sources are unlawful.

Response: We have not decided to establish a limited use subcategory. For the emergency, landfill or digester gas fired, and less than 1 MW subcategories, we have not identified any adjustments or other operational modifications that would materially reduce emissions by these units and we have determined that no add-on controls are presently in use. In these circumstances, we believe that we have appropriately established the floors for these sources as no emission reduction.

Comment: One commenter said that for new emergency, limited use, landfill or digester gas fired, and less than 1 MW units, the floor is unlawful because EPA did not identify the single best controlled source in any of these subcategories and did not set floors reflecting such source's actual performance.

Response: As noted above, we have not decided to establish a limited use subcategory. For the emergency, landfill or digester gas fired, and less than 1 MW subcategories, we have not identified any adjustments or operational modifications that would materially reduce emissions by these units and we have determined that no add-on controls are presently in use. We also have determined because of the specific characteristics of turbines in these subcategories that the turbines in other subcategories that utilize add-on controls are not similar sources. In these circumstances, we believe that we have appropriately determined that the new source MACT floor for these subcategories should also be no emission reduction.

Comment: One commenter contended that EPA's rejection of beyond the floor standards for new emergency, limited use, landfill or digester gas fired, and less than 1 MW units is arbitrary and capricious. The EPA does not state the cost of applying any control technology or indicate the quantity of the HAP that would be reduced.

Response: We believe that the record includes analysis demonstrating that it is not cost effective to require HAP controls for turbines in instances where no similar source has installed such controls.

Comment: One commenter said that EPA's proposal is unlawful because EPA must set standards for each listed HAP. Oxidation catalyst control devices do not control many of the HAP that combustion turbines emit, for example metals.

Response: We do not agree that it is required to establish a discrete standard for each listed HAP. However, we do agree that each listed HAP must be separately considered by EPA, both in determining the MACT floors and in establishing the emission standards for each subcategory. If emissions of a particular HAP are relatively homogenous for a particular subcategory, and there are no adjustments or operational modifications except for add-on controls which would reduce emissions of that HAP, the MACT floor and the emission standard for that HAP may be expressed as a level of emission reduction corresponding to the efficacy of add-on controls. Moreover, if the data demonstrate that control of emissions of a particular HAP is a suitable surrogate for control of emissions of a group of listed HAP, we may appropriately set the standard in terms of a level of emission reduction or an emission level for that particular HAP.

In establishing new source standards for certain subcategories, we determined that formaldehyde is an appropriate surrogate for the other organic HAP which are also controlled by an oxidation catalyst. While use of an oxidation catalyst does not control the metallic HAP which are emitted by turbines burning distillate oil, there are no combustion turbines or similar sources utilizing other technologies to

control metallic HAP. Moreover, we do not believe it would be practical or cost effective to require control of these metallic HAP and, therefore, the floor and the standard for each metallic HAP was appropriately set at no emission reduction.

Comment: One commenter noted that EPA's floors must reflect the average emission levels achieved by the relevant best sources. Thus, even if some of the relevant best sources are not using any control device, the agency must average their performance with that of the relevant best sources that are using a control device. That some of the relevant best performers are not using an end-of-stack control technology does not allow EPA to discount the performance of other best performers that are using such technology.

Response: We do not agree with the premise of this commenter that the existing source MACT floor (the average emission limitation achieved by the best performing 12 percent of existing sources or the best performing five existing sources in subcategories with fewer than 30 sources) must be calculated by determining the arithmetic average of the emission limitations achieved individually by each of these sources. We have consistently construed the statute to permit us to determine the average emission limitation by selecting the median facility among the best performing 12 percent or five existing sources. We think this well-established construction of the statute is reasonable, because an arithmetic average will quite often not coincide with the level of emission reduction that has been achieved in practice by any real facility. We do not think it is appropriate to establish an existing source MACT floor which may not be achievable by most of the sources from which it was derived. Nor do we think it is required to set a standard which is less stringent than most of the sources from which it is derived are achieving. Use of the emission limitation achieved by the median facility avoids these problems.

E. Emission Limitations

Comment: Many commenters stated that the final rule should only apply emission standards to the load range represented by the emissions data used to determine emission limitations.

Response: The emission standards are based on data from testing at high loads (90 percent and greater). To address the concerns expressed by the commenters about the emission standards being applicable at full load only, the final rule specifies that the performance test must be conducted at high load conditions, defined as 100 percent ±10 percent.

Comment: Many commenters took issue with the data used to set the formaldehyde emission limitation. The commenters noted that the test reports used to set the limit used two different test methods and that the limit was based on only five data points and, therefore, does not reflect a level of performance that is achievable for all sources. One commenter said that EPA has not provided enough data to know definitively what the standard should be. Another commenter stated that EPA must obtain additional information before it can set a floor.

The commenters also had concerns about possible errors in the test reports that are the source of the emissions data used to set the formaldehyde emission limitation. One commenter said that close examination of the five reports uncovers questions regarding the actual test procedures, comparability, data reduction and data reporting that should be revisited before finalizing the formaldehyde concentration limit. They stated that all five reports appear to have calculation errors and/or other data quality issues that significantly affect the reported formaldehyde concentration, the comparability of the results because different test methods were used, and/or uncertainty associated with the average result. One commenter also reviewed the five tests used to set the standard and found that all of the five tests used do not present valid quantitative results; and that data from these tests may not be used to establish a quantitative emission standard for formaldehyde emissions from lean premix combustion turbines.

One commenter said that CARB 430 may report anomalously low formaldehyde emissions; therefore, the standard may be too stringent and unachievable in practice. Two commenters questioned whether the CARB 430 data used to develop the standard followed CARB method requirements. One commenter believed that the results from all tests used to determine the MACT floor should be recalculated using CARB 430 procedures so the data can be justifiably compared and that results should also be recalculated using the American Society of Mechanical Engineers measurement uncertainty analysis procedure. The EPA should then use these results for establishing the formaldehyde concentration limit. The commenter estimated that an enforceable formaldehyde concentration limit should be in the range of approximately 100 to 500 ppb.

One commenter said that a single emission test does not fully reflect the variability that will be seen by the best performing source employing any technology. The EPA should properly assess variability that may be experienced by the best performing sources under the worst foreseeable conditions that are expected to recur. Emission testing conducted by the commenter in conjunction with the Gas Turbine Institute indicates that 43 ppb is not achievable for small industrial and aeroderivative turbines.

Several commenters suggested a revised level for the emission limitation. One commenter said that EPA must revise the limit upward to at least 63 ppb. Two commenters stated that additional formaldehyde data suggests that EPA should consider setting the emission standard to 90 ppbvd given the tremendous variability in the few measurements that are available. One commenter submitted a summary table of data for nine tests conducted on lean premix combustion turbines. The test results show a variability between high and low loads of 34 percent; also, six out of nine tests were above 43 ppb.

Response: As a result of comments received during the comment period, we performed an extensive review of tests used at proposal and new tests received during the comment period. A screening analysis of the formaldehyde test data for diffusion flame combustor turbines was conducted. Tests conducted using CARB 430 were evaluated due to the CARB advisory issued April 28, 2000, which stated that formaldehyde data measured by CARB 430 where the NO_X emissions were greater than 50 ppm should be flagged as non-quantitative. Tests where the NO_X emissions were greater than 50 ppm, or tests where the NO_X levels were unknown, were excluded from our analysis. Most of the diffusion flame tests in the EPA's combustion turbine emissions database were unable to pass the screening. The tests unable to pass the screening were not equipped with add-on control for the reduction of HAP.

The remaining test reports were further analyzed and reviewed to ensure the methods were used correctly in calculating and reporting formaldehyde concentrations and to check that proper quality assurance (QA)/quality control (QC) procedures were followed. A number of errors were found in the test reports where CARB 430 was used to quantify formaldehyde concentrations. In several instances, the CARB 430 reporting protocol was not followed. If the analytical concentration is less than five times the average field blank, then CARB 430 uses five times the field

blank as the reported result to correct for interferences or contaminants that can react with the formaldehyde or dinitrophenylhydrazine to yield negative bias. However, many test reports did not report formaldehyde concentrations in this fashion. The formaldehyde concentrations were, therefore, recalculated where the CARB 430 reporting protocol was not followed correctly.

No errors were found in test reports which used FTIR to measure formaldehyde concentrations in the stationary combustion turbine exhaust. The reported formaldehyde concentrations were representative of stationary combustion turbines and the measured QA/QC parameters were within acceptable limits as set in the method.

We agree that CARB 430 generally understates the formaldehyde concentration in the exhaust gas from stationary combustion turbines. Since EPA Method 0011 is a similar method to CARB 430, it is believed that Method 0011 also understates the emissions of formaldehyde. We feel that FTIR is a more accurate and reliable method than CARB 430. Several test reports were received during the comment period on recent testing on small lean premix combustion turbines which used both CARB 430 and FTIR to measure formaldehyde emissions. An analysis was conducted to correlate formaldehyde concentrations measured by CARB 430 and formaldehyde concentrations measured by FTIR. A linear regression was performed on the CARB 430 and FTIR formaldehyde data from these tests which gave a slope of 1.667 with a correlation coefficient of 0.561. Therefore, we concluded that CARB 430 formaldehyde results are on average 1.7 times lower than FTIR formaldehyde results. To account for the differences in the methods, a bias factor of 1.7 was applied to the CARB 430 and Method 0011 formaldehyde emissions data to make these data comparable to FTIR.

As a result of a complete data review, including emissions data we had at proposal and new emissions data we received during the comment period, we currently have a very different data set as compared to what we had at proposal. For example, the amount of data for lean premix units increased, while the amount of data for diffusion flame units decreased. As discussed previously, the new data set was used to determine the MACT floors. For new lean premix gas-fired turbines and new lean premix oil-fired turbines, a formaldehyde emission limitation of 91 ppb was established for the MACT floor. It is felt that this emission limitation will be achievable for both small and large size combustion turbines. We considered establishing separate subcategories by size but found that there was little difference in emissions among the best performing small and large units. The best performing large lean premix unit was controlled by an oxidation catalyst, and EPA had data from two separate tests of this turbine. Formaldehyde emissions were measured at 19 and 91 ppb. The best performing small lean premix unit (less than 25 MW) had uncontrolled formaldehyde emissions of 68 ppb, which is within the range of emissions for the large lean premix unit.

We have adequately considered the variability in emissions by the best performing source. We have emissions data for two tests for the best performing turbine in the lean premix gas-fired turbine subcategory; the formaldehyde emissions varied by a factor of five between the two tests. Since both tests were performed under similar conditions but at different times, they represent the variability of the best performing unit. The MACT floor for this subcategory was set based on the higher formaldehyde measurement, thus the variability of the best performing unit has been accounted for. Similar variability factors were applied for the other subcategories. This is explained further in section III.E.

F. Monitoring, Recordkeeping, and Reporting

Comment: Multiple commenters requested that the CO continuous emission monitoring system (CEMS) requirement be removed and periodic testing/parametric monitoring be adopted. Some commenters cited the cost burden of a CEMS, and others noted that a requirement for CO CEMS imposes an excessive cost burden for smaller turbines. One commenter also noted that CEMS have typically not been required on small turbines and personnel would not be familiar with CEMS operation and maintenance, resulting in increased capital and operating costs. Furthermore, one commenter felt that there would not be significant emissions reduction for the use of CEMS compared to the use of inlet temperature monitoring and periodic emission testing, the requirement is inconsistent with previous EPA decisions on monitoring, and there are deficiencies in the test methods and performance protocols. One commenter questioned whether the low measurements can be made accurately and reliably on a continuous basis without jeopardizing the flexibility of facility operations.

Many commenters recommended alternatives to the CO CEMS requirement. One commenter suggested the option of monitoring compliance with a one-time performance test for CO. One commenter said that an option could be reliance on a Federal CO permit limit combined with periodic CO stack testing. If the permitted CO limit is relatively high, compliance with the formaldehyde limit at that level could first be determined using an initial formaldehyde test. If the CO limits/concentration are low, initial formaldehyde testing should not be necessary. The commenter recommended that EPA establish a default minimum compliance demonstration at 5 parts per million (ppm). One commenter recommended that EPA evaluate periodic stack tests, conducted on the same schedule as relative accuracy test audit (RATA) testing as an alternative to CEMS. At a minimum, this approach should be pursued for units with oxidation catalyst systems that would qualify as peaking units under the Acid Rain Program and are not otherwise required to conduct emissions monitoring for CO or other pollutants.

One commenter said that a more workable solution would be to measure downstream CO, but only if a CEMS is already required for NO_X. A catalyst efficiency test could be performed periodically to confirm continued reduction efficiency (an option to perform this check with portable analyzer should be included). One commenter said that if EPA includes an option to monitor CO emissions using CPMS rather than CO CEMS, a requirement to replace a catalyst bed when the pressure drop increases by more than 2 inches of water from the drop measured during the initial performance test may not be appropriate. Particular vendors are better able to specify the conditions under which catalyst replacement is warranted.

Response: In the preamble for the proposed rule, we solicited comments on the performance capabilities of a state-of-the-art CO CEMS and its ability to measure the low concentrations of CO in the exhaust of a stationary combustion turbine following an oxidation catalyst control device. In general, commenters did not support CO CEMS, stating that existing CO CEMS technology and EPA performance criteria are not adequate to reliably and accurately measure trace levels of CO. Due to the CO measurement difficulties, EPA has decided not to include the CO

emission reduction limitation in the final rule.

Comment: One commenter remarked that subsequent performance testing (suggest no more frequent than annually) is needed for units meeting the formaldehyde limit, and that there should also be some methodology for the demonstration of continuous compliance.

Response: We agree with the commenter that subsequent performance testing is needed for units meeting the formaldehyde limit. The final rule includes a requirement for annual performance testing for units meeting the formaldehyde limit and designated requirements for continuous compliance. For sources equipped with oxidation catalyst control, continuous compliance will be demonstrated by continuously monitoring the inlet temperature to the catalyst and maintaining the inlet temperature within the range suggested by the catalyst manufacturer. Sources that are not equipped with oxidation catalyst control must petition the Administrator for approval of operating limitations or approval of no operating limitations.

Comment: One commenter said that EPA should allow facilities to use existing test data to demonstrate compliance with the emission limitation if the test was conducted using the same methods specified in the rule and no process changes have been made since the test, or it can be demonstrated that the results of the performance test reliably demonstrate compliance despite process changes.

Response: Since there are no emission limitation requirements for existing sources in the final rule, we expect that few facilities will have existing test data to demonstrate compliance. Facilities that came online after the proposal would be the only sources that may have conducted emissions testing prior to the stack testing requirements of the final rule, and we will allow facilities to use existing test data to demonstrate initial compliance with the emission limitation if the data is of good quality and is no older than 2 years. (After the initial compliance demonstration, facilities must then begin to follow the annual compliance test schedule.) The facility must petition the Administrator for approval and demonstrate that the tests were conducted using the same test methods specified in the subpart, the test method procedures were correctly followed, no process or equipment changes have been made since the test, and the data are of good quality and less than 2 years old. This has been specified in the final rule.

G. Test Methods

Comment: Several commenters expressed concern regarding the accuracy and precision of CARB Method 430 at levels commensurate with the proposed standard. Two commenters noted that CARB Method 430 is susceptible to interferences. One commenter said that sample loss and measurement uncertainties can contribute to large measurement variability. Another commenter contended that CARB Method 430 is an indirect measurement method and is inferior to Method 320. This commenter also said that CARB Method 430 cannot give realistic results.

Response: New information provided during the public comment period where CARB 430 and FTIR were concurrently tested showed that CARB 430 using the CARB reporting protocol is biased low by a factor of 1.7 compared to FTIR. Therefore, we agree with the commenters' concerns regarding the accuracy of CARB Method 430 and that it is an indirect measurement method, however, EPA disagrees that CARB Method 430 cannot give realistic results. In some cases, we believe that CARB Method 430 can provide realistic results. However, we also agree that FTIR would be the better compliance method. Therefore, we have specified Method 320 and ASTM D6348–03 as the compliance procedures in the final rule.

Comment: Several issues were raised in the comments received regarding EPA Method 0011. One commenter did not support the use of EPA Method 0011 for combustion turbines because there is no need for isokinetic sampling in combustion turbine stacks, compared to CARB Method 430 the field procedure is more complex, the potential for chronic field contamination is much greater, the QA/QC procedures are vastly inferior, the data reporting procedures especially with respect to blanks are more vague, and the method does not have sufficient sensitivity for demonstrating compliance with the proposed formaldehyde limit.

Response: We agree with the commenters that the method has many shortcomings and limited application opportunities for use in measuring formaldehyde emissions from stationary combustion turbines. Accordingly, we are not including EPA Method 0011 in the final rule. Both EPA Method 0011 and CARB Method 430 can be requested on a case-by-case basis as part of EPA's alternative method review process.

Comment: Several commenters did not support Method 323. The commenters said that the method should not be used for measuring very low concentrations of formaldehyde. The minimum detection levels of the method are not suitable for the emission standards. Two commenters also noted that the method has not been validated or demonstrated for use on combustion turbines with low ppb range formaldehyde emissions.

Response: We agree with commenters that Method 323 should not be used for measuring low concentrations of formaldehyde from combustion turbines. Therefore, we are not including Method 323 in the final rule.

Comment: Numerous commenters said that CO CEMS cannot reliably measure trace level CO concentrations and 95 percent CO reduction. One commenter remarked that EPA provides no information to show that CEMS are available to accurately measure low CO concentrations, and the use of CO CEMS for low levels is well beyond the scope of current 40 CFR part 60 CEMS performance standards. Also, vendor claims for CO CEMS and CO instrumental analyzers, unless accompanied by emissions test data obtained under known and controlled conditions applicable to the subject source type, should not be considered adequate proof of availability and performance.

Response: We agree that existing CO CEMS technology and EPA performance criteria are not adequate to reliably and accurately measure trace levels of CO. The American Society for Testing and Materials (ASTM) is currently trying to address this issue, with participation by EPA. The requirement for CO CEMS has not been included in the final rule.

Comment: Three commenters sought an allowance for site specific emission limits where duct burners are utilized and the formaldehyde limit applies. Three commenters recommended that facilities should be allowed to either accept the formaldehyde limit at the stack with the duct burner in operation, or be allowed to petition the EPA for an alternate (higher) formaldehyde limit for the combined turbine/duct burner co-firing.

Response: We have included the commenters' suggestions that facilities be allowed to accept the formaldehyde limit at the stack with the duct burner in operation in the final rule; however, it is not necessary to specify in the final rule that affected sources are allowed to petition EPA for an alternate formaldehyde limit.

H. Risk-Based Approaches

The preamble to the proposed rule requested comment on whether there might be further ways to structure the

final rule to focus on the facilities which pose significant risks and avoid the imposition of high costs on facilities that pose little risk to public health and the environment. Specifically, we requested comment on the technical and legal viability of three risk-based approaches: an applicability cutoff for threshold pollutants under the authority of CAA section 112(d)(4), subcategorization and delisting under the authority of CAA section 112(c)(1) and (9), and, a concentration-based applicability threshold.[1]

We indicated that we would evaluate all comments before determining whether either approach would be included in the final rule. Numerous commenters submitted detailed comments on these risk-based approaches. These comments are summarized in the Response-to-Comments document (*see* **SUPPLEMENTARY INFORMATION** section).

Based on our consideration of the comments received and other factors, we have decided not to include the risk-based approaches in today's final rule. The risk-based approaches described in the proposed rule and addressed in the comments we received raise a number of complex issues. In addition, we must issue the final rule expeditiously because the statutory deadline for promulgation has passed, and we have agreed to a binding schedule in a consent decree entered in *Sierra Club* v. *Whitman*, Civil Action No. 1:01CV01537 (D.D.C.). Given the range of issues raised by the risk-based approaches and the need to promulgate a final rule expeditiously, we believe that it is appropriate not to include any risk-based approaches in today's final rule.

I. Other

Comment: Two commenters remarked that EPA's declaration that diesel fired turbines cannot be operated in the lean premix mode is a misstatement. While some manufacturers, on some models, only offer liquid fuel capability in diffusion flame mode, other manufacturers have offered the dual fuel option on lean premix turbines since the mid-1990's. One commenter stated that the standard should be modified because of the dual fuel capability of combustion turbines. The commenter noted that EPA has no data to represent lean premix liquid fuel operation and, therefore, cannot determine an appropriate standard.

Response: At the time the NESHAP were proposed, we were not aware of the availability of diesel fired turbines that operated in the lean premix mode. We have since contacted several turbine manufacturers in an attempt to obtain more information about these units, and two manufacturers confirmed that they do offer diesel firing while operating in lean premix mode. The commenter is correct that we have no emissions test data for lean premix units firing liquid fuel, however, information provided by the manufacturers indicated that their emission guarantees for CO and hydrocarbons were similar for both natural gas and diesel. Also, testing on dual fuel diffusion flame units shows that formaldehyde emissions are actually lower for distillate oil firing. Therefore, we have established an emission standard for lean premix oil-fired units in the final rule.

Comment: One commenter observed that HAP emissions from sources burning natural gas are enormously different from sources burning other fuels such as diesel. The commenter questioned EPA's argument that the summation of emission factors for various HAP for different fuels is comparable. The commenter also said that EPA does not explain what the summation of emission factors means or how it might be relevant to EPA's floors for any HAP.

Response: We agree with the commenter that the composition of HAP emissions from sources burning natural gas is different than from sources burning diesel fuel. Uncontrolled formaldehyde emissions are in general lower as a result of the combustion of distillate oil than for natural gas. Other differences in emissions between natural gas and distillate oil include higher levels of pollutants such as PAH and metals for stationary combustion turbines burning distillate oil. We agree that the summation of emission factors for various HAP for different fuels may be different. As discussed in the response to previous comments, due to the differences in HAP emissions, subcategories based on fuel were established for both diffusion flame and lean premix turbines.

IV. Rationale for Selecting the Final Standards

A. How Did We Select the Source Category and Any Subcategories?

Stationary combustion turbines can be major sources of HAP emissions and, as a result, we listed them as a major source category for regulatory development under section 112 of the CAA, which allows us to establish subcategories within a source category for the purpose of regulation. Consequently, we evaluated several criteria associated with stationary combustion turbines which might serve as potential subcategories.

We identified emergency stationary combustion turbines as a subcategory. Emergency stationary combustion turbines operate only in emergencies, such as a loss of power provided by another source. These types of stationary combustion turbines operate infrequently and, when called upon to operate, must respond without failure and without lengthy periods of startup. These conditions limit the applicability of HAP emission control technology to emergency stationary combustion turbines.

Similarly, 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 MSW is used to generate 10 percent or more of the gross heat input to the stationary combustion turbine on an annual basis were identified as a subcategory. Landfill gas, digester gas, and gasified MSW contain a family of chemicals referred to as siloxanes, which limit the application of HAP emission control technology.

Stationary combustion turbines of less than 1 MW rated peak power output were also identified as a subcategory. We believe these small stationary combustion turbines are few in number. These small stationary combustion turbines are sufficiently dissimilar from larger combustion turbines that we cannot evaluate the feasibility of emission control technology based on information concerning the larger turbines. To our knowledge, none of the smaller turbines use emission control technology to reduce HAP. Therefore, we believe it would be inappropriate to require HAP emission controls to be applied to them without further information on control technology performance.

Stationary combustion turbines can be classified as either diffusion flame or lean premix. We examined formaldehyde test data for both diffusion flame and lean premix stationary combustion turbines and observed that uncontrolled formaldehyde emissions for stationary lean premix combustion turbines are significantly lower than those of stationary diffusion flame combustion turbines. Due to the difference in the two technologies, we decided to establish subcategories for diffusion flame and lean premix stationary combustion turbines.

[1] See 68 FR 1276 (January 9, 2003) (Plywood and Composite Wood Products Proposed NESHAP) and docket number A–98–44 (White Papers submitted to EPA outlining the risk-based approaches).

We further investigated subcategorizing lean premix turbines based on fuel. At the time of proposal, EPA was not aware of the availability of distillate oil fired stationary combustion turbines that operated in the lean premix mode. We received comments indicating otherwise during the public comment period from combustion turbine manufacturers. We believe there is a difference in uncontrolled HAP emissions between natural gas and distillate oil for stationary lean premix combustion turbines. This is based on test data for stationary diffusion flame combustion turbines which clearly show there is a difference in the composition of uncontrolled HAP emissions between natural gas and distillate oil. We believe this also would apply to stationary lean premix combustion turbines. For stationary lean premix combustion turbines, NO_X emissions also vary depending on which fuel is burned in the combustion process. Information from combustion turbine vendors indicate that NO_X emission guarantees for distillate oil can be up to five times higher than the NO_X emission guarantees for natural gas for stationary lean premix combustion turbines. Finally, the mass of total emissions may be similar for natural gas and distillate oil, but some pollutants such as formaldehyde are lower for distillate oil and other pollutants such as PAH and metals are higher for oil. For all practical purposes, uncontrolled natural gas metal emissions are nonexistent, while they are emitted in small quantities when burning distillate oil.

We expect that the majority of distillate oil burned in stationary combustion turbines will be fuel oil number 2. We recognize that stationary combustion turbine owners and operators may burn different varieties of distillate oil, however we believe that any other distillate oil combusted will be of similar quality and composition to fuel oil number 2. We do not anticipate that owners and operators will burn any other liquid based fuel that is more contaminated with metals than fuel oil number 2 and expect that most available liquid fuels that may be used in stationary combustion turbines will be similar and fairly consistent.

In recognition of the clear differences we found in the composition of HAP emissions depending on the fuel that is used, we have determined that it is appropriate to subcategorize further within stationary lean premix combustion turbines based on fuel use. In devising appropriate subcategories based on fuel use, we needed to consider that many combustion turbines are configured both to use natural gas and distillate oil. These dual fuel units typically burn natural gas as their primary fuel, and only utilize distillate oil as a backup. Without some allowance for this limited backup use of distillate oil, these turbines might switch subcategories frequently, causing confusion for sources and complicating compliance demonstrations. To limit the frequency of switching between subcategories which would result from limited usage of distillate oil as a backup fuel, we have defined the lean premix gas-fired subcategory in a manner which permits turbines that fire gas using lean premix technology to remain in the subcategory if all turbines at the site in question fire oil no more than a total of 1000 hours during the calendar year. We believe this 1000 hour allowance will be sufficient to accommodate those situations where distillate oil is used only as a backup. The lean premix gas-fired turbines subcategory will be defined to include: (a) Each stationary combustion turbine which is equipped only to fire gas using lean premix technology, (b) each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, during any period when it is firing gas, and (c) each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, and is located at a major source where all stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.

The lean premix oil-fired turbines subcategory will be defined to include: (a) each stationary combustion turbine which is equipped only to fire oil using lean premix technology, and (b) each stationary combustion turbine which is equipped both to fire oil using lean premix technology and to fire gas, and is located at a major source where all stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil. We do not know of any actual combustion turbines which would be in this subcategory, but this is possible because we have been advised that combustion turbines can be configured to burn oil using lean premix technology.

We further investigated subcategorizing diffusion flame turbines based on fuel. For diffusion flame turbines, test data show that HAP emissions vary depending on which fuel is burned. Formaldehyde emissions are in general lower for diffusion flame units firing distillate oil versus diffusion flame units firing natural gas. Emissions data also show that NO_X levels are higher for diffusion flame units firing distillate oil than diffusion flame units firing natural gas. Finally, other fuel differences between natural gas and distillate oil include higher levels of pollutants such as PAH and metals in the emissions of stationary diffusion flame combustion turbines burning distillate oil. Quantities of these pollutants are small for distillate oil; metal emissions from natural gas are at non-detectable levels. As previously indicated, we expect that most owners and operators of stationary combustion turbines will burn distillate oil of the form fuel oil number 2. However, we recognize that other liquid based fuels may be also be fired, but these fuels will be similar to fuel oil number 2, and do not expect owners and operators to burn any other fuel that is more contaminated with metals.

As in the case of the lean premix turbines, we concluded based on the clear differences in the composition of HAP emissions depending on the fuel that is used that it is appropriate to subcategorize further within stationary diffusion flame combustion turbines based on fuel use. As in the case of the lean premix turbines, we have included a 1000 hour per site allowance for limited backup use of distillate oil in order to limit the frequency that dual fuel turbines will switch subcategories. We believe this 1000 hour allowance will be sufficient to accommodate those situations where distillate oil is used only as a backup.

The diffusion flame gas-fired turbines subcategory will be defined to include: (a) Each stationary combustion turbine which is equipped only to fire gas using diffusion flame technology, (b) each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, during any period when it is firing gas, and (c) each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, and is located at a major source where all stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.

The diffusion flame oil-fired turbines subcategory will be defined to include: (a) each stationary combustion turbine which is equipped only to fire oil using diffusion flame technology, and (b) each stationary combustion turbine which is equipped both to fire oil using diffusion flame technology and to fire gas, and is located at a major source where all stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during

any period when it is firing oil. We expect that the vast majority of all stationary combustion turbines which are primarily oil-fired will be included in this subcategory.

Stationary combustion turbines located on the North Slope of Alaska have been identified as a subcategory due to operation limitations and uncertainties regarding the application of controls to these units. There are very few of these units, and none have installed emission controls for the reduction of HAP.

B. What Are the Requirements for Stationary Combustion Turbines Located at Area Sources?

The final rule does not apply to stationary combustion turbines located at an area source of HAP emissions. An area source is any source that is not a major source of HAP emissions. In developing our Urban Air Toxics Strategy, we identified area sources we believe warrant regulation to protect the environment and the public health and satisfy the statutory requirements in section 112 of the CAA pertaining to area sources. Stationary combustion turbines located at area sources were not included on that list. As a result, the final rule does not apply to these stationary combustion turbines.

C. What Is the Affected Source?

The final rule applies to any stationary combustion turbine located at a major source. Consequently, a stationary combustion turbine located at major sources of HAP emissions is the affected source under the final rule.

The General Provisions at 40 CFR 63.2 require us to generally adopt a broad definition of affected source, which includes all emission units within each subcategory that are located within the same contiguous area. However, § 63.2 also provides that we may adopt a narrower definition of affected source in instances where we determine that the broader definition would ''create significant administrative, practical, or implementation problems'' and ''the different definition would resolve those problems.'' This is such an instance.

Although we have taken some steps in the definition of subcategories to limit the frequency of switching between subcategories, we cannot eliminate the possibility that some individual turbines will be switched from one subcategory to another. Use of the broader definition of affected source specified by the General Provisions would require very complex aggregate compliance determinations because an individual turbine could be part of one affected source at one time and part of a different affected source at another time. This would require that the contribution of each turbine to total emissions for all emission units within each subcategory be adjusted to reflect the proportionate time the unit was operating within that subcategory. Such complicated compliance determinations are impractical and, therefore, we have decided to adopt a definition which establishes each individual combustion turbine as the affected source.

D. How Did We Determine the Basis and Level of the Emission Limitations for Existing Sources?

As established in section 112 of the CAA, the MACT standards must be no less stringent than the MACT floor. The MACT floor for existing sources is the average emission limitation achieved by the best performing 12 percent of existing sources in the subcategory (or the best performing five existing sources in subcategories with fewer than 30 sources).

From the applicable judicial precedent, we can derive certain basic principles which we must follow in deriving the MACT floor. All HAP emitted by sources in the category or subcategory in question must be considered in determining the MACT floor. If a particular HAP is an appropriate surrogate for evaluating emission reductions which have been achieved for a group of HAP, the MACT floor may be expressed in terms of that HAP. However, we must explain our basis for concluding there is a relationship between control of emissions of the HAP we utilize to characterize the MACT floor and control of other HAP. If we determine that the MACT floor requires differing controls affecting more than one group of HAP, multiple measures of the MACT floor may be necessary.

In addition, when deriving the MACT floor for a particular category or subcategory, we must consider all measures which could result in reduction of HAP emissions. These measures will include potential installation of add-on control technology, but other operational modifications such as adjustment of equipment, revision of work practices, and material substitution should also be considered. Where emissions are relatively homogeneous across the sources in a category or subcategory, and any variation in HAP emissions which does occur cannot be readily attributed to differences in any factor which is susceptible to control by the owner or operator, the MACT floor for a particular HAP or group of HAP may be expressed in terms of reductions achieved by use of potential add-on controls.

Existing Lean Premix Combustion Turbines

As explained above, we have established two subcategories of stationary lean premix combustion turbines, lean premix gas-fired turbines and lean premix oil-fired turbines. Emissions of each HAP are relatively homogeneous within each of these two subcategories, and any variation in HAP emissions cannot be readily controlled except by add-on control. To determine the MACT floor for both subcategories of existing stationary lean premix combustion turbines, the EPA's combustion turbine inventory database was consulted.

The inventory database provides population information on stationary combustion turbines in the United States (U.S.) and was constructed in order to support the development of the rule. Data in the inventory database are based on information from available databases, such as the Aerometric Information Retrieval System (AIRS), the Ozone Transport and Assessment Group (OTAG), and State and local agencies' databases. The first version of the database was released in 1997. Subsequent versions have been released reflecting additional or updated data. The most recent release of the database is version 4, released in November 1998.

The inventory database contains information on approximately 4,800 stationary combustion turbines. The current stationary combustion turbine population is estimated to be about 8,000 turbines. Therefore, the inventory database represents about 60 percent of the stationary combustion turbines in the U.S. At least 20 percent of those turbines are estimated to be lean premix combustion turbines, based on conversations with turbine manufacturers.

The information contained in the inventory database is believed to be representative of stationary combustion turbines primarily because of its comprehensiveness. The database includes both small and large stationary combustion turbines in different user segments. Forty-eight percent are ''industrial,'' 39 percent are ''utility,'' and 13 percent are ''pipeline.'' Note that independent power producers (IPP) are included in the utility and industrial segments.

We examined all of the information available to us including the inventory database to identify any operational modifications such as equipment adjustments or work practice revisions which might be associated with lower

HAP emissions. We were unsuccessful in identifying any such operational modifications. Therefore, we were unable to utilize any factors other than add-on controls in deriving the MACT floor.

Another approach we investigated to identify a MACT floor was to review the requirements in existing State regulations and permits. No State regulations exist for HAP emission limits for stationary combustion turbines. Only one State permit limitation for a single HAP (benzene) was identified. Therefore, we were unable to use State regulations or permits in deriving a MACT floor.

The only add-on control technology currently proven to reduce HAP emissions from stationary lean premix combustion turbines is an oxidation catalyst emission control device. At proposal, the inventory database indicated that no existing stationary lean premix combustion turbines were controlled with oxidation catalyst systems. During the public comment period, we received a test report where a lean premix combustion turbine burning natural gas was tested twice about 2 years apart with an oxidation catalyst in operation.

We estimate that about 1 percent of existing lean premix gas-fired turbines may have oxidation catalyst systems installed. Accordingly, the average of the best performing 12 percent is no emission reduction. Therefore, the MACT floor for existing lean premix gas-fired turbines for each individual HAP is no emission reduction.

For lean premix oil-fired turbines, we do not have any data indicating that turbines in this subcategory are in actual use, nor do we have data indicating that oxidation catalysts have been installed. Accordingly, the average emission limitation achieved by the best performing existing units in this subcategory for each individual HAP would also be no emission reduction.

To determine MACT for both subcategories of existing stationary lean premix combustion turbines, we evaluated regulatory alternatives more stringent than the MACT floor. We considered requiring the use of an oxidation catalyst emission control device. According to catalyst vendors, oxidation catalysts are currently being used on some existing lean premix stationary combustion turbines. In addition, we recently received a test report where testing was conducted on a lean premix unit with an oxidation catalyst. However, an analysis of the application of oxidation catalyst control to existing lean premix stationary combustion turbines showed that the incremental cost per ton of HAP removed was excessive. We have not identified any operational modifications which are not currently in use for these turbines but might result in HAP reductions. Nor have we identified any technologies to control those metallic HAP which may be emitted during burning of distillate oil which are technologically feasible and cost-effective. For these reasons, we concluded that MACT for each individual HAP for existing sources in both subcategories of existing stationary lean premix combustion turbines is the same as the MACT floor, *i.e.,* no emission reduction.

Existing Diffusion Flame Combustion Turbines

As explained above, we have established two subcategories of stationary diffusion flame combustion turbines, diffusion flame gas-fired turbines and diffusion flame oil-fired turbines. We believe emissions of each HAP are relatively homogeneous within each of these two subcategories and any variation in HAP emissions cannot be readily controlled except by add-on control. To determine the MACT floor for both subcategories of existing stationary diffusion flame combustion turbines, we consulted the inventory database previously discussed in this preamble. At least 80 percent of those turbines are assumed to be diffusion flame combustion turbines, based on conversations with turbine manufacturers.

We investigated the use of operational modifications such as equipment adjustments and work practice revisions for stationary diffusion flame combustion turbines to determine if HAP reductions associated with such operational modifications might be relevant in deriving the MACT floor. We found no relevant references in the inventory database.

Most stationary diffusion flame combustion turbines will not operate unless preset conditions established by the manufacturer are met. Stationary diffusion flame combustion turbines, by manufacturer design, permit little operator involvement and there are no operating parameters, such as air/fuel ratio, for the operator to adjust. We concluded, therefore, that there are no specific operational modifications which could reduce HAP emissions or which could serve to identify a MACT floor.

Another approach we investigated to identify a MACT floor was to review the requirements in existing State regulations and permits. No State regulations exist for HAP emission limits for stationary combustion turbines. Only one State permit limitation for a single HAP (benzene) was identified. Therefore, we were unable to use State regulations or permits in deriving a MACT floor.

We examined the inventory database for information on HAP emission control technology. There were no turbines controlled with oxidation catalyst systems in the inventory database so we used information supplied by catalyst vendors. There are about 200 oxidation catalyst systems installed in the U.S. The only control technology currently proven to reduce HAP emissions from stationary diffusion flame combustion turbines is an oxidation catalyst emission control device, such as a CO oxidation catalyst. These control devices are used to reduce CO emissions and are currently installed on several stationary combustion turbines.

Less than 3 percent of existing stationary diffusion flame gas-fired turbines in the U.S., based on information in our inventory database and information from catalyst vendors, are equipped with oxidation catalyst emission control devices. Therefore, the average emission limitation for the best performing 12 percent of existing diffusion flame gas-fired turbines is no emission reduction and the MACT floor for each individual HAP for existing turbines in this subcategory is also no emission reduction.

We estimate that less than 1 percent of existing stationary diffusion flame oil-fired turbines have oxidation catalyst systems installed. Thus, the average of the best performing 12 percent of existing diffusion flame oil-fired turbines is no emission reduction for organic HAP. No technologies to control metallic HAP have been installed on the existing turbines in this subcategory. Therefore, the MACT floor for each individual HAP for existing turbines in the diffusion flame oil-fired subcategory is no emission reduction.

To determine MACT for both subcategories of existing diffusion flame combustion turbines, regulatory alternatives more stringent than the MACT floor were evaluated. One beyond-the-floor regulatory option is requiring an oxidation catalyst. However, cost per ton estimates of oxidation catalyst emission control devices for control of total HAP from stationary diffusion flame combustion turbines were deemed excessive. In addition, we did not identify any operational modifications which are not currently in use for these turbines but might result in HAP reductions. Moreover, we did not identify any

technologies to control those metallic HAP which may be emitted during burning of distillate oil which are technologically feasible and cost-effective. For these reasons, MACT for each individual HAP for turbines in both subcategories of existing stationary diffusion flame combustion turbines is the same as the MACT floor, *i.e.*, no emission reduction.

E. How Did We Determine the Basis and Level of the Emission Limitations and Operating Limitations for New Sources?

For new sources, the MACT floor is defined as the emission control that is achieved in practice by the best controlled similar source. To be a similar source, a source should not have any characteristics that differ sufficiently to have a material effect on the feasibility of emission controls, but the source need not be in the same source category or subcategory.

We considered using a surrogate in order to reduce the costs associated with monitoring while at the same time being relatively sure that the pollutants the surrogate is supposed to represent are also controlled. We investigated the use of formaldehyde concentration as a surrogate for all organic HAP emissions. Formaldehyde is the HAP emitted in the highest concentrations from stationary combustion turbines. Formaldehyde, toluene, benzene, and acetaldehyde account for essentially all the mass of HAP emissions from the stationary combustion turbine exhaust, and emissions data show that these pollutants are equally controlled by an oxidation catalyst.

Information from testing conducted on a diffusion flame combustion turbine equipped with an oxidation catalyst control system indicated that the formaldehyde and acetaldehyde emission reduction efficiency achieved was 97 and 94 percent, respectively. Later, after review of an expert task group, the conclusion reached was that both formaldehyde and acetaldehyde were controlled at least 90 percent. In addition, emissions tests conducted on reciprocating internal combustion engines (RICE) at Colorado State University (CSU) in 1998 showed that the benzene emission reduction efficiency across an oxidation catalyst averaged 73 percent, and the toluene emission reduction averaged 77 percent for 16 runs at various engine conditions on a two-stroke lean burn engine. The toluene emission reduction efficiency across the oxidation catalyst averaged 85 percent for ten runs at various engine conditions on a compression ignition RICE. We would expect the emissions reductions efficiencies for benzene and toluene from combustion turbines to be as high or higher than those reported for the CSU RICE tests since combustion turbines catalyst temperatures are generally higher. Finally, catalyst performance information obtained from a catalyst vendor indicated that the percent conversion for an oxidation catalyst system installed on combustion turbines did not vary significantly between formaldehyde, benzene, and toluene. The percent conversion was measured at 77, 72, and 71 for formaldehyde, benzene, and toluene, respectively. Although emissions reductions for large molecules may in theory be less than for formaldehyde, the above information shows that formaldehyde is a good surrogate for the most significant HAP pollutants emitted from combustion turbines as demonstrated by evaluating the reduction efficiency of larger, heavier molecules, hence taking differences in molecular density into account. In addition, emission data show that HAP emission levels and formaldehyde emission levels are related, in the sense that when emissions of one are low, emissions of the other are low and vice versa. This leads us to conclude that emission control technologies which lead to reductions in formaldehyde emissions will lead to reductions in organic HAP emissions. For the reasons provided above, it is appropriate to use formaldehyde as a surrogate for all organic HAP emissions.

New Lean Premix Gas-Fired Turbines

To determine the MACT floor for new stationary lean premix gas-fired turbines, we reviewed the emissions data we had available at proposal and additional test reports received during the comment period. In order to set the MACT floor for new sources in this subcategory, we chose the best performing turbine. Emissions of each HAP are relatively homogeneous within the subcategory of stationary lean premix gas-fired turbines and any variation in HAP emissions cannot be readily controlled except by add-on control. The best performing turbine is equipped with an oxidation catalyst.

The formaldehyde concentration from the best performing turbine was measured at the outlet of the control device using CARB 430. Concerns were raised during the public comment period that CARB 430 formaldehyde results can be biased low as compared to formaldehyde results obtained by FTIR. For a comprehensive discussion of test methods and the development of the correlation between CARB 430 and FTIR formaldehyde levels, please refer to the memorandum entitled ''Review of Test Methods and Data used to Quantify Formaldehyde Concentrations from Combustion Turbines'' in the docket. A bias factor of 1.7 was, therefore, applied to the formaldehyde concentration of the best performing turbine. The best performing turbine was tested twice under the same conditions about 2 years apart where one test measured 19 ppbvd and the other test measured 91 ppbvd formaldehyde (numbers have been bias corrected). We determined that since both of these tests were performed under similar conditions but at different times, this represented the variability of the best performing unit and used the higher value as the MACT floor. The MACT floor for organic HAP for new stationary lean premix gas-fired turbines is, therefore, an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen.

We recognize that our selection of an emission limit of 91 ppbvd formaldehyde is based on quite limited data. We think that each new combustion turbine in this subcategory should be able to achieve compliance with this limit if an oxidation catalyst is properly installed and operated. If actual emission data demonstrate that we are incorrect, and that sources which properly install and operate an oxidation catalyst cannot consistently achieve compliance, we will revise the standard accordingly.

No beyond-the-floor regulatory alternatives were identified for new lean premix gas-fired turbines. We are not aware of any add-on control devices which can reduce organic HAP emissions to levels lower than those resulting from the application of oxidation catalyst systems. We, therefore, determined that MACT for organic HAP emissions from new stationary lean premix gas-fired turbines is the same as the MACT floor, *i.e.*, an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen.

New Lean Premix Oil-Fired Turbines

We do not have any tests for lean premix combustion turbines firing any other fuels besides natural gas. However, we expect that emissions of organic HAP will be controlled by installation of an oxidation catalyst on any units in this subcategory to a degree similar to lean premix gas-fired turbines and diffusion flame oil-fired turbines. We also expect that organic HAP emissions from lean premix oil-fired turbines would be equal to or less than organic HAP emissions from lean premix gas-fired turbines. We have these expectations based on the fact that dual-fuel units using oxidation catalyst systems operate on distillate oil and the

fact that catalyst vendors indicate that oxidation catalyst systems operate equally well on either fuel. Therefore, we used the best performing turbine from the lean premix gas-fired turbine subcategory to set the MACT floor for lean premix oil-fired turbines. As a result, the MACT floor for organic HAP for new stationary lean premix oil-fired turbines is an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen.

We are not aware of any similar sources which are equipped with emission control devices that could also reduce emissions of metallic HAP. We also examined the inventory database in an attempt to identify any operating modifications which might reduce metal emissions, but could not identify any such practices. We also referred to the inventory database to determine if any similar sources are equipped with emission controls for the reduction of particulate matter (PM) which would also reduce metal emissions. No such units were found in the inventory database and none were identified by commenters during the public comment period. For this reason, the MACT floor for new stationary lean premix oil-fired turbines is no emission control for metallic HAP emissions.

We were unable to identify any beyond-the-floor regulatory alternatives for new stationary lean premix oil-fired turbines. We know of no emission control technology currently available which can reduce HAP emissions to levels lower than those achieved through use of an oxidation catalyst. We also have not identified any add-on controls for metallic HAP. We conclude, therefore, that MACT for new lean premix oil-fired turbines would be equivalent to the MACT floor, *i.e.*, an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen organic HAP, and no emission reduction for metallic HAP.

New Diffusion Flame Gas-Fired Turbines

In the proposed rule, we requested sources to submit any HAP emissions test data available from stationary combustion turbines. After the proposal, we also contacted several State agencies to request emissions test data from diffusion flame combustion turbines. Due to the CARB advisory issued on April 28, 2000, which stated that formaldehyde emissions data where the NO_X levels were greater than 50 ppmvd were suspect and should be flagged as non-quantitative, we conducted an analysis of existing diffusion flame emissions test data. Tests where the NO_X emissions were greater than 50 ppm or tests where the NO_X levels were unknown were excluded from our analysis. Most of the diffusion flame tests in the emissions database were unable to pass the screening. Therefore, we specifically requested States to provide test reports for diffusion flame combustion turbines where Method 320 was used, or CARB 430 was used and the NO_X emissions were below 50 ppmvd. During the comment period we received three additional test reports for testing conducted on a total of five stationary diffusion flame combustion turbines.

To identify the MACT floor for new stationary diffusion flame gas-fired turbines, we based our analysis on the performance of the best turbine. Individual HAP emissions are relatively homogeneous within the subcategory of stationary diffusion flame gas-fired turbines and any variation in HAP emissions cannot be readily controlled except by add-on control. The best performing turbine in this subcategory is equipped with an oxidation catalyst.

As previously indicated, formaldehyde is the HAP emitted in the highest concentrations from stationary combustion turbines and data show control of organic HAP emissions and formaldehyde emissions are related. We have, therefore, concluded that formaldehyde is an appropriate surrogate for all organic HAP emissions.

Formaldehyde was measured by CARB 430 at the outlet of the oxidation catalyst. We applied a bias factor of 1.7 to the formaldehyde concentration obtained by CARB 430 for the best performing turbine. The corrected outlet concentration of formaldehyde from the best performing turbine was 15 ppbvd. We only have one controlled test for this turbine, but we expect that similar variability would be associated with this turbine as was associated with the best performing lean premix turbine. Therefore, applying a factor of 5 to the formaldehyde concentration measured at the outlet of the best performing diffusion flame turbine is appropriate to account for variability. Therefore, we would establish a formaldehyde emission limitation of 75 ppbvd based on the outlet of the control device. However, with a similar control system, we would expect that the emission limit should be no lower than the emission limit for lean premix turbines since diffusion flame turbines on average emit more HAP. The MACT floor for new stationary diffusion flame combustion gas-fired turbines is, therefore, an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen.

We were unable to identify any beyond-the-floor regulatory alternatives for new stationary diffusion flame gas-fired turbines. We know of no emission control technology currently available which can reduce organic HAP emissions to levels lower than that achieved through the use of an oxidation catalyst. We concluded, therefore, that MACT for organic HAP emissions from new diffusion flame stationary gas-fired turbines is equivalent to the MACT floor, *i.e.*, an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen.

New Diffusion Flame Oil-Fired Turbines

To determine the MACT floor for new diffusion flame oil-fired turbines, we again based our analysis on the best performing turbine. Emissions of each individual HAP are relatively homogeneous within stationary diffusion flame oil-fired turbines and any variation in HAP emissions cannot be readily controlled except by add-on control. The best performing turbine in this subcategory is equipped with an oxidation catalyst.

As previously described in more detail, we are using formaldehyde as a surrogate for all organic HAP emissions. The formaldehyde was measured with EPA Method 0011 at the outlet of the control device. The EPA Method 0011 is similar to CARB 430 and the problems associated with CARB 430 are expected to be associated with EPA Method 0011. So again we applied a bias factor of 1.7 to the formaldehyde outlet concentration of the best performing diffusion flame oil-fired turbine. The corrected formaldehyde concentration from this turbine is 44 ppbvd. We only had one controlled test for this turbine, but would expect some variability as has been shown with other turbines. However, since formaldehyde emissions from distillate oil fired turbines are lower on average by a factor of 1.4, we do not believe that the MACT emission limit should be set higher than the emission limit for new stationary diffusion flame gas-fired turbines. Therefore, the MACT floor for organic HAP for new stationary diffusion flame oil-fired turbines is an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen.

We examined the inventory database to identify any operating practices which could affect metal emissions. We were unable to identify any such practices. We also determined that no similar sources are equipped with emission control devices for the reduction of PM which could also reduce metal emissions. Therefore, the MACT floor for metallic HAP for new diffusion flame oil-fired turbines is no emission reduction.

To determine MACT for new stationary diffusion oil-fired turbines, we tried to identify beyond-the-floor options. There are currently no beyond-the-floor regulatory alternatives for this subcategory as we know of no emission control technology current available that can reduce organic HAP emissions to levels lower than that obtained with the use of an oxidation catalyst. We also have not identified any add-on controls for metallic HAP. We conclude, therefore, that MACT for new diffusion flame oil-fired turbines would be equivalent to the MACT floor, *i.e.*, an emission limit of 91 ppbvd formaldehyde at 15 percent oxygen organic HAP, and no emission reduction for metallic HAP.

Other Subcategories

Although the final rule will apply to all stationary combustion turbines located at major sources of HAP emissions, emergency stationary combustion turbines, 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 MSW is used to generate 10 percent or more of the gross heat input to the stationary combustion turbine on an annual basis, stationary combustion turbines of less than 1 MW rated peak power output, and stationary combustion turbines located on the North Slope of Alaska are not required to meet the emission limitations or operating limitations.

For each of the other subcategories of stationary combustion turbines, we have concerns about the applicability of emission control technology. For example, emergency stationary combustion turbines operate infrequently. In addition, when called upon to operate they must respond immediately without failure and without lengthy startup periods. This infrequent operation limits the applicability of HAP emission control technology.

Landfill and digester gases contain a family of silicon based gases called siloxanes. Siloxanes are also a component of municipal waste. Combustion of siloxanes forms compounds that can foul post-combustion catalysts, rendering catalysts inoperable within a very short period of time. It is our judgment based on public comments that firing even 10 percent landfill or digester gas will cause fouling that will render the oxidation catalyst inoperable within a short period of time. Pretreatment of exhaust gases to remove siloxanes was investigated. However, no pretreatment systems are in use and their long term effectiveness is unknown. We also considered fuel switching for this subcategory of turbines. Switching to a different fuel such as natural gas or diesel would potentially allow the turbine to apply an oxidation catalyst emission control device. However, fuel switching would defeat the purpose of using this type of fuel which would then either be allowed to escape uncontrolled or would be burned in a flare with no energy recovery. We believe that switching landfill or digester gas or gasified MSW to another fuel is inappropriate and is an environmentally inferior option.

For stationary combustion turbines of less than 1 MW rated peak power output, we have concerns about the effectiveness of scaling down the oxidation catalyst emission control technology. Just as there are often unforeseen problems associated with scaling up a technology, there can be problems associated with scaling down a technology.

Stationary combustion turbines located on the North Slope of Alaska have been identified as a subcategory due to operation limitations and uncertainties regarding the application of controls to these units. There are very few of these units; in addition, none have installed emission controls for the reduction of HAP.

As a result, we identified subcategories for each of these types of stationary combustion turbines and investigated MACT floors and MACT for each subcategory. As expected, since we identified these types of stationary combustion turbines as separate subcategories based on concerns about the applicability of emission control technology, we found no stationary combustion turbines in these subcategories using any emission control technology to reduce HAP emissions. As discussed above, we are not aware of any work practices that might constitute a MACT floor, nor did we find that the use of a particular fuel results in HAP emission reductions. The MACT floor, therefore, for each of these subcategories is no emission reduction.

Despite our concerns with the applicability of emission control technology, we examined the cost per ton of HAP removed for these subcategories. This analysis can be found in the docket (Docket ID No. OAR–2002–0060 (A–95–51)) for the final rule. Whether our concerns are warranted or not, we consider the incremental cost per ton of HAP removed excessive—primarily because of the very small reduction in HAP emissions that would result.

We also considered the non-air health, environmental, and energy impacts of an oxidation catalyst system, as discussed previously in this preamble, and concluded that there would be only a small energy impact and no non-air health or environmental impacts. However, as stated above, we did not adopt this regulatory option due to cost considerations and concerns about the applicability of this technology to these subcategories. We were not able to identify any other means of achieving HAP emission reduction for these subcategories.

As a result, for all of these reasons, we conclude that MACT for these subcategories is the MACT floor (*i.e.*, no emission reduction).

F. How Did We Select the Initial Compliance Requirements?

New and reconstructed sources complying with the emission limitation for formaldehyde emissions are required to conduct an initial performance test. The purpose of the initial test is to demonstrate initial compliance with the formaldehyde emission limitation.

G. How Did We Select the Continuous Compliance Requirements?

If you must comply with the emission limitations, continuous compliance with these requirements is required at all times except during startup, shutdown, and malfunction of your stationary combustion turbine. You are required to develop a startup, shutdown, and malfunction plan.

We considered requiring FTIR CEMS; however, we concluded that the costs of FTIR CEMS were excessive and were not yet demonstrated at the low formaldehyde levels of the standards. We considered requiring those sources to continuously monitor operating load to demonstrate continuous compliance because the data establishing the formaldehyde outlet concentration level are based on tests that were done at high loads. However, we believe that the performance of a stationary combustion turbine at high load is also indicative of its operation at lower loads. In fact, the operator can make no parameter adjustments that would lead to lower emissions.

For these reasons, EPA determined that it would be appropriate to require sources that comply with the emission limitation for formaldehyde emissions and that use an oxidation catalyst emission control device to continuously monitor the oxidation catalyst inlet temperature. Continuously monitoring the oxidation catalyst inlet temperature and maintaining this temperature within the range recommended by the

catalyst manufacturer will ensure proper operation of the oxidation catalyst emission control device and continuous compliance with the emission limitation for formaldehyde.

Sources that do not use an oxidation catalyst emission control device are required to petition the Administrator for approval of operating limitations or approval of no operating limitations.

H. How Did We Select the Testing Methods To Measure These Low Concentrations of Formaldehyde?

The final rule requires the use of Method 320 or ASTM D6348–03 to determine compliance with the emission limitation for formaldehyde. With regard to formaldehyde, we believe systems meeting the requirements of Method 320, a self-validating FTIR method, can be used to attain detection limits for formaldehyde concentrations well below the current emission limitations with a path length of 10 meters or less. Some of the older technology may require 100 or even 200 meter path lengths. We expect state-of-the-art digital signal processing (to reduce signal to noise ratio) would be needed. Method 320 also includes formaldehyde spike recovery criteria, which require spike recoveries of 70 to 130 percent.

While we believe FTIR systems can meet the requirements of Method 320 and measure formaldehyde concentrations at these low levels, we have limited experience with their use. As a result, we solicited comments on the ability and use of FTIR systems to meet the validation and quality assurance requirements of Method 320 for the purpose of determining compliance with the emission limitation for formaldehyde. Commenters were generally in agreement that Method 320 is the most accurate and reliable test method currently available to test for formaldehyde emissions from the stationary combustion turbine exhaust.

We are also allowing the use of ASTM D6348–03 in the final rule to determine compliance with the emission limitation for formaldehyde. As mentioned in the preamble to the proposed rule, the method was reviewed by the EPA as a potential alternative to Method 320. Suggested revisions to ASTM D6348–98 were sent to ASTM by the EPA that would allow the EPA to accept ASTM D6348–98 as an acceptable alternative. The ASTM has revised the method following EPA's suggested revisions. The EPA has determined that the revised method, ASTM D6348–03, ''Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy,'' is an acceptable alternative to Method 320 for formaldehyde measurement.

As an alternative to Method 320, we proposed Method 323 for natural gas-fired sources. Method 323 uses the acetyl acetone colorimetric method to measure formaldehyde emissions in the exhaust of natural gas-fired, stationary combustion sources. Commenters did not support Method 323 and were concerned whether this method could provide reliable results. In addition, Method 323 has not been validated or demonstrated for use on stationary combustion turbines emitting low formaldehyde emissions. Therefore, Method 323 has not been included as a compliance method for formaldehyde in the final rule.

At proposal we believed CARB Method 430 and EPA SW–846 Method 0011 were capable of measuring formaldehyde concentrations at these low levels. Commenters were not supportive of these methods. In addition, CARB 430 is susceptible to interferences and sample loss contributes to large measurement variability. Method 0011 uses a similar analytical approach to CARB 430 and has many shortcomings and limited application opportunities. Accordingly, we are not including CARB 430 and Method 0011 in the final rule.

For these reasons, EPA has specified that Method 320 or ASTM D6348–03 should be used to determine compliance with the formaldehyde emission limitation in the final rule.

I. How Did We Select the Notification, Recordkeeping and Reporting Requirements?

The notification, recordkeeping, and reporting requirements are based on the NESHAP General Provisions of 40 CFR part 63.

V. Summary of Environmental, Energy and Economic Impacts

We estimate that 20 percent of the stationary combustion turbines affected by the final rule will be located at major sources. As a result, the environmental, energy, and economic impacts presented in this preamble reflect these estimates.

The outcome of the petition to delist certain subcategories which has been submitted to EPA could significantly affect the estimated impacts of the final rule. If approved, the delisting could significantly decrease the number of sources affected by the final rule and could affect the final emission estimates. Thus, the estimated impacts could change.

A. What Are the Air Quality Impacts?

The final rule will reduce total national HAP emissions by an estimated 98 tpy in the 5th year after the standards are promulgated. The emission reduction achieved by the final rule would be due to the sources that install an oxidation catalyst control system. We estimate that all new stationary combustion turbines will install oxidation catalyst control to comply with the standards.

To estimate air impacts, national HAP emissions in the absence of the final rule (*i.e.*, HAP emission baseline) were calculated. We then assumed a HAP reduction of 90 percent, achieved by using oxidation catalyst emission control devices to comply with the formaldehyde emission limitation, and applied this reduction to the baseline HAP emissions to estimate total national HAP emission reduction. The total national HAP emission reduction is the sum of formaldehyde, acetaldehyde, benzene, and toluene emissions reductions. In addition to HAP emission reduction, the final rule will reduce criteria air pollutant emissions, primarily CO emissions.

B. What Are the Cost Impacts?

The national total annualized cost of the final rule in the 5th year following promulgation is estimated to be about $43 million. Approximately $147,400 of that amount is the estimated annualized cost for monitoring, recordkeeping, and reporting. To calculate the annualized control costs, we obtained estimates of the capital costs of oxidation catalyst emission control devices from vendors. We then calculated the national total annualized costs of control for the new stationary combustion turbines installing oxidation catalyst emission control in the next 5 years. Our projection of new stationary combustion turbine capacity that will come online during the next 5 years is based on estimates from the Department of Energy indicating that 218 new stationary combustion turbines will begin operation between 2002 and 2007.

C. What Are the Economic Impacts?

The EPA prepared an economic impact analysis to evaluate the impacts the final rule would have on combustion turbines producers, consumers of goods and services produced by combustion turbines, and society. The analysis shows minimal changes in prices and output for products made by the 24 industries affected by the final rule. The price increase for affected output is less than 0.02 percent and the reduction in output

is less than 0.02 percent for each affected industry. Estimates of impacts on fuel markets show price increases of less than 0.06 percent for petroleum products and natural gas, and price increases of 0.53 and 0.72 percent for base-load and peak-load electricity, respectively. The price of coal is expected to decline by about 0.24 percent, and this is due to a small reduction in demand for this fuel type. Reductions in output are expected to be less than 0.67 percent for each energy type, including base-load and peak-load electricity. The social costs of the final rule are estimated at $7.8 million (1998 dollars). Social costs include the compliance costs, but also include those costs that reflect changes in the national economy due to changes in consumer and producer behavior in response to the compliance costs associated with a regulation. In this case, changes in energy use among both consumers and producers to reduce the impact of the regulatory requirements of the final rule lead to the estimated social costs being somewhat less than the total annualized compliance cost estimate of $43 million (1998$). The primary reason for the lower social cost estimate is the increase in electricity supply generated by existing unaffected sources, which mostly offsets the impact of increased electricity prices to consumers.

For more information on these impacts, please refer to the economic impact analysis in the public docket.

D. What Are the Non-Air Health, Environmental and Energy Impacts?

The only energy requirement is a small increase in fuel consumption resulting from back pressure caused by operating an oxidation catalyst emission control device. This energy impact is small in comparison to the costs of other impacts. There are no known non-air environmental or health impacts as a result of the implementation of the final rule.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), we must determine whether a regulatory action is ''significant'' and, therefore, subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, we have determined that the final rule is a ''significant regulatory action'' within the meaning of the Executive Order. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are included in the docket.

B. Paperwork Reduction Act

The information collection requirements in the final rule have been submitted for approval to the Office of Management and Budget under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The information requirements are not enforceable until OMB approves them.

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 emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information submitted to EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies set forth in 40 CFR part 2, subpart B.

The final rule will require maintenance inspections of the control devices but will not require any notifications or reports beyond those required by the General Provisions. The recordkeeping requirements require only the specific information needed to determine compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the final rule) is estimated to be 2,448 labor hours per year at a total annual cost of $333,450. This estimate includes a one-time performance test, semiannual excess emission reports, maintenance inspections, notifications, and recordkeeping. Total capital/startup costs associated with the monitoring requirements over the 3-year period of the ICR are estimated at $22,500, with no operation and maintenance costs.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

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 EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule. The EPA has also determined that the final rule will not have a significant economic impact on a substantial number of small entities.

For purposes of assessing the impacts of today's rule on small entities, small entity is defined as: (1) A small business whose parent company has fewer than 100 or 1,000 employees, or fewer than 4 billion kW-hr per year of electricity usage, depending on size definition for the affected North American Industry Classification System (NAICS) code; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. It should be noted that small entities in 6 NAICS codes are affected by the final rule, and the small

business definition applied to each industry by NAICS code is that listed in the Small Business Administration (SBA) size standards (13 CFR 121).

After considering the economic impacts of today's final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. We have determined, based on the existing combustion turbines inventory, that 29 small entities out of 300 in the industries impacted by the final rule may be affected. None of these small entities will incur control costs associated with the final rule, but will incur monitoring, recordkeeping, and reporting costs and the costs of performance testing. These 29 small entities own 51 affected turbines in the existing combustion turbines inventory, which represents 2.5 percent of the existing turbines overall. Of these entities, 22 of these entities are small communities and 7 are affected small firms. None of the 29 affected small entities are estimated to have compliance costs that exceed one-half of 1 percent of their revenues. The median compliance costs to affected small entities is 0.07 percent of sales. In addition, the final rule is likely to also increase profits at the many small firms and increase revenues for the many small communities using combustion turbines that are not affected by the final rule as a result of the very slight increase in market prices.

It should be noted that it is likely that the ongoing deregulation of the electric power industry across the nation should minimize the rule's impacts on small entities. Increased competition in the electric power industry is forecasted to decrease the market price for wholesale electric power. It is likely that open access to the grid and lower market prices for electricity will make it less attractive for local communities to purchase and operate new combustion turbines. For more information on the results of the analysis of small entity impacts, please refer to the economic impact analysis in the docket.

Although the final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of the final rule on small entities. In the final rule, the Agency is applying the minimum level of control and the minimum level of monitoring, recordkeeping, and reporting to affected sources allowed by the Clean Air Act. Existing stationary combustion turbines have no emission requirements. In addition, as mentioned earlier in the preamble, new turbines with capacities under 1.0 MW are not subject to the final rule. This provision should reduce the level of small entity impacts.

D. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, we generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires us to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, we must develop a small government agency plan under section 203 of the UMRA. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that the final rule contains a Federal mandate that will not result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. The highest cost in any 1 year is less than $43 million. Thus, today's rule is not subject to the requirements of sections 202 and 205 of the UMRA.

Although not required by the UMRA, we have consulted with State and local air pollution control officials. We also have held meetings on the rule with many of the stakeholders from numerous individual companies, environmental groups, consultants and vendors, labor unions, and other interested parties. We have added materials to the Air docket to document those meetings.

In addition, we have determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments. Therefore, today's rule is not subject to the requirements of section 203 of the UMRA.

E. Executive Order 13132: Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999) requires us to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' are defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

The final rule 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, as specified in Executive Order 13132. The final rule primarily affects private industry, and does not impose significant economic costs on State or local governments. Thus, Executive Order 13132 does not apply to the final rule.

Although not required by Executive Order 13132, we consulted with representatives of State and local governments to enable them to provide meaningful and timely input into the development of the final rule. This consultation took place during the ICCR committee meetings where members representing State and local governments participated in developing recommendations for EPA's combustion-related rules, including the final rule. The concerns raised by representatives of State and local governments were considered during the development of the final rule.

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

Executive Order 13175 (65 FR 67249, November 6, 2000) requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of

regulatory policies that have tribal implications.'' ''Policies that have tribal implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes.''

The final rule does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to the final rule.

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

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that we have reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, we must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives.

We interpret Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks.

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

This rule is not a ''significant energy action'' as defined in Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 Fed. Reg. 28355 (May 22, 2001)) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The basis for this determination is provided below.

The increase in petroleum product output, which includes increases in fuel production, is estimated at 0.013 percent, or about 2,003 barrels per day based on 2000 U.S. fuel production nationwide. The reduction in coal production is estimated at 0.00007 percent, or about 7,936 short tons per year based on 2000 U.S. coal production nationwide. The reduction in electricity output is estimated at 0.083 percent, or about 20.4 billion kilowatt-hours per year based on 2000 U.S. electricity production nationwide. Production of natural gas is expected to increase by 11.7 million cubic feet (ft^3) per day. The maximum of all energy price increases, which include increases in natural gas prices as well as those for petroleum products, coal, and electricity, is estimated to be the 0.71 percent increase in peak-load electricity rates nationwide. Energy distribution costs may increase by roughly no more than the same amount as electricity rates. We expect that there will be no discernable impact on the import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies. Also, the increase in cost of energy production should be minimal given the very small increase in fuel consumption resulting from back pressure related to operation of oxidation catalyst emission control devices. All of the estimates presented above account for some passthrough of costs to consumers as well as the direct cost impact to producers. For more information on these estimated energy effects, please refer to the economic impact analysis for the final rule. This analysis is available in the public docket.

No new combustion turbines with a capacity of less than 1.0 MW will be affected. Also, the control level applied to affected new combustion turbines is the minimum that can be applied consistent with the provisions of the Clean Air Act.

Therefore, we conclude that the final rule when implemented will not have a significant adverse effect on the supply, distribution, or use of energy.

I. National Technology Transfer and Advancement Act

As noted in the proposed rule, section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104–113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to the Office of Management and Budget (OMB), with explanations when an agency does not use available and applicable voluntary consensus standards.

The final rule involves technical standards. The EPA cites the following standards in the final rule: EPA Methods 1, 1A, 3A, 3B, 4, and 320. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Method 1A. The search and review results have been documented and are placed in the docket (Docket ID No. OAR–2002–0060 (A–95–51)) for the final rule.

The search for emissions measurement procedures identified six voluntary consensus standards. The EPA determined that five of these six standards identified for measuring emissions of the HAP or surrogates subject to emission standards in the final rule were impractical alternatives to EPA test methods for the purposes of the rule. Therefore, EPA does not intend to adopt these standards for this purpose. (See Docket ID No. OAR–2002–0060 (A–95–51) for further information on the methods.)

The voluntary consensus standard ASTM D6348–03, ''Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy,'' is an acceptable alternative to EPA Method 320 for formaldehyde measurement provided that, in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130.

Section 63.6120 and Table 3 to subpart YYYY of the final rule list the EPA testing methods included in the regulation. Under §§ 63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any of the EPA testing methods, performance specifications, or procedures.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. section 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a

rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing today's final rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the comptroller General of the United States prior to publication of the rule in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). The final rule will be effective on March 5, 2004.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: August 29, 2003.

Marianne Lamont Horinko,

Acting Administrator.

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

PART 63—[AMENDED]

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

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

■ 2. Part 63 is amended by adding subpart YYYY to read as follows:

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

Sec.

What This Subpart Covers

§ 63.6080 What is the purpose of subpart YYYY?

Subpart YYYY establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emissions from stationary combustion turbines located at major sources of HAP emissions, and requirements to demonstrate initial and continuous compliance with the emission and operating limitations.

§ 63.6085 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary combustion turbine located at a major source of HAP emissions.

(a) Stationary combustion turbine means 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 sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, 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, although it may be mounted on a vehicle for portability or transportability. Stationary combustion turbines covered by this subpart include simple cycle stationary combustion turbines, regenerative/recuperative cycle stationary combustion turbines, cogeneration cycle stationary combustion turbines, and combined cycle stationary combustion turbines. Stationary combustion turbines subject to this subpart do not include 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.

(b) A major source of HAP emissions is a contiguous site under common control that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

§ 63.6090 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary combustion turbine located at a major source of HAP emissions.

(1) *Existing stationary combustion turbine.* A stationary combustion turbine is existing if you commenced construction or reconstruction of the stationary combustion turbine on or before January 14, 2003. A change in ownership of an existing stationary combustion turbine does not make that stationary combustion turbine a new or reconstructed stationary combustion turbine.

(2) *New stationary combustion turbine.* A stationary combustion turbine is new if you commenced construction of the stationary

combustion turbine after January 14, 2003.

(3) *Reconstructed stationary combustion turbine.* A stationary combustion turbine is reconstructed if you meet the definition of reconstruction in § 63.2 of subpart A of this part and reconstruction is commenced after January 14, 2003.

(b) *Subcategories with limited requirements.*

(1) A new or reconstructed stationary combustion turbine located at a major source which meets either of the following criteria does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of § 63.6145(d):

(i) The stationary combustion turbine is an emergency stationary combustion turbine; or

(ii) The stationary combustion turbine is located on the North Slope of Alaska.

(2) A stationary combustion turbine which burns 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 municipal solid waste (MSW) is used to generate 10 percent or more of the gross heat input on an annual basis does not have to meet the requirements of this subpart except for:

(i) The initial notification requirements of § 63.6145(d); and

(ii) Additional monitoring and reporting requirements as provided in § 63.6125(c) and § 63.6150.

(3) An existing, new, or reconstructed stationary combustion turbine with a rated peak power output of less than 1.0 megawatt (MW) at International Organization for Standardization (ISO) standard day conditions, which is located at a major source, does not have to meet the requirements of this subpart and of subpart A of this part. This determination applies to the capacities of individual combustion turbines, whether or not an aggregated group of combustion turbines has a common add-on air pollution control device. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification. For example, a 0.75 MW emergency turbine would not have to submit an initial notification.

(4) Existing stationary combustion turbines in all subcategories do not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary for any existing stationary combustion turbine, even if a new or reconstructed turbine in the same category would require an initial notification.

(5) Combustion turbine engine test cells/stands do not have to meet the requirements of this subpart but may have to meet the requirements of subpart A of this part if subject to another subpart. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification.

§ 63.6092 Are duct burners and waste heat recovery units covered by subpart YYYY?

No, duct burners and waste heat recovery units are considered steam generating units and are not covered under this subpart. In some cases, it may be difficult to separately monitor emissions from the turbine and duct burner, so sources are allowed to meet the required emission limitations with their duct burners in operation.

§ 63.6095 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you start up a new or reconstructed stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine, a lean premix oil-fired stationary combustion turbine, a diffusion flame gas-fired stationary combustion turbine, or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart on or before March 5, 2004, you must comply with the emission limitations and operating limitations in this subpart no later than March 5, 2004.

(2) If you start up a new or reconstructed stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine, a lean premix oil-fired stationary combustion turbine, a diffusion flame gas-fired stationary combustion turbine, or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart after March 5, 2004, you must comply with the emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If your new or reconstructed stationary combustion turbine is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, it must be in compliance with any applicable requirements of this subpart when it becomes a major source.

(c) You must meet the notification requirements in § 63.6145 according to the schedule in § 63.6145 and in 40 CFR part 63, subpart A.

Emission and Operating Limitations

§ 63.6100 What emission and operating limitations must I meet?

For each new or reconstructed stationary combustion turbine which is a lean premix gas-fired stationary combustion turbine, a lean premix oil-fired stationary combustion turbine, a diffusion flame gas-fired stationary combustion turbine, or a diffusion flame oil-fired stationary combustion turbine as defined by this subpart, you must comply with the emission limitations and operating limitations in Table 1 and Table 2 of this subpart.

General Compliance Requirements

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

(a) 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.

(b) 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.

Testing and Initial Compliance Requirements

§ 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).

(b) An owner or operator is not required to conduct an initial performance test to determine outlet formaldehyde concentration on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (b)(5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

§ 63.6115 When must I conduct subsequent performance tests?

Subsequent performance tests must be performed on an annual basis as specified in Table 3 of this subpart.

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

(a) You must conduct each performance test in Table 3 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements of the General Provisions at § 63.7(e)(1) and under the specific conditions in Table 2 of this subpart.

(c) Do not conduct performance tests or compliance evaluations during periods of startup, shutdown, or malfunction. Performance tests must be conducted at high load, defined as 100 percent plus or minus 10 percent.

(d) You must conduct three separate test runs for each performance test, and each test run must last at least 1 hour.

(e) If your stationary combustion turbine is not equipped with an oxidation catalyst, you must petition the Administrator for operating limitations that you will monitor to demonstrate compliance with the formaldehyde emission limitation in Table 1. You must measure these operating parameters during the initial performance test and continuously monitor thereafter. Alternatively, you may petition the Administrator for approval of no additional operating limitations. If you submit a petition under this section, you must not conduct the initial performance test until after the petition has been approved or disapproved by the Administrator.

(f) If your stationary combustion turbine is not equipped with an oxidation catalyst and you petition the Administrator for approval of additional operating limitations to demonstrate compliance with the formaldehyde emission limitation in Table 1, your petition must include the following information described in paragraphs (f)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as additional operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(g) If you petition the Administrator for approval of no additional operating limitations, your petition must include the information described in paragraphs (g)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary combustion turbine and any emission control device which could change intentionally (*e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.*, wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of why establishing limitations on the parameters is not possible;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of why you could not establish upper and/or lower values for the parameters which would establish limits on the parameters as operating limitations;

(5) For the parameters which could change in such a way as to increase HAP emissions, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible, unreasonable or unnecessary to adopt the parameters as operating limitations.

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

(a) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you use an oxidation catalyst emission control device, you must monitor on a continuous basis your catalyst inlet temperature in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.

(b) If you are operating a stationary combustion turbine that is required to comply with the formaldehyde emission limitation and you are not using an oxidation catalyst, you must continuously monitor any parameters specified in your approved petition to the Administrator, in order to comply with the operating limitations in Table 2 and as specified in Table 5 of this subpart.

(c) If you are operating 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 monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your turbine in a manner which minimizes HAP emissions.

(d) 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 monitor and record your distillate oil usage daily for all new and existing stationary combustion turbines located at the major source with a non-resettable hour meter to measure the number of hours that distillate oil is fired.

§ 63.6130 How do I demonstrate initial compliance with the emission and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 4 of this subpart.

(b) You must submit the Notification of Compliance Status containing results of the initial compliance demonstration according to the requirements in § 63.6145(f).

Continuous Compliance Requirements

§ 63.6135 How do I monitor and collect data to demonstrate continuous compliance?

(a) Except for monitor malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct all parametric monitoring at all times the stationary combustion turbine is operating.

(b) Do not use data recorded during monitor malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing the performance of the control device or in assessing emissions from the new or reconstructed stationary combustion turbine.

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

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Table 1 and Table 2 of this subpart according to methods specified in Table 5 of this subpart.

(b) You must report each instance in which you did not meet each emission imitation or operating limitation. You must also report each instance in which you did not meet the requirements in Table 7 of this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6150.

(c) 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 full conformity with all provisions of your startup, shutdown, and malfunction plan, and you have otherwise satisfied the general duty to minimize emissions established by § 63.6(e)(1)(i).

Notifications, Reports, and Records

§ 63.6145 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), 63.8(f)(4), and 63.9(b) and (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you start up your new or reconstructed stationary combustion turbine before March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after March 5, 2004.

(c) As specified in § 63.9(b), if you start up your new or reconstructed stationary combustion turbine on or after March 5, 2004, you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(d) If you are required to submit an Initial Notification but are otherwise not affected by the emission limitation requirements of this subpart, in accordance with § 63.6090(b), your notification must include the information in § 63.9(b)(2)(i) through (v) and a statement that your new or reconstructed stationary combustion turbine has no additional emission limitation requirements and must explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary combustion turbine).

(e) If you are required to conduct an initial performance test, you must submit a notification of intent to conduct an initial performance test at least 60 calendar days before the initial performance test is scheduled to begin as required in § 63.7(b)(1).

(f) If you are required to comply with the emission limitation for formaldehyde, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For each performance test required to demonstrate compliance with the emission limitation for formaldehyde, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test.

§ 63.6150 What reports must I submit and when?

(a) 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 (a)(4) of this section. The semiannual compliance report must be submitted by the dates specified in paragraphs (b)(1) through (b)(5) of this section, unless the Administrator has approved a different schedule.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) For each deviation from an emission limitation, the compliance report must contain the information in paragraphs (a)(4)(i) through (a)(4)(iii) of this section.

(i) The total operating time of each stationary combustion turbine during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(iii) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

(b) Dates of submittal for the semiannual compliance report are provided in (b)(1) through (b)(5) of this section.

(1) The first semiannual compliance report must cover the period beginning on the compliance date specified in § 63.6095 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date specified in § 63.6095.

(2) The first semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified in § 63.6095.

(3) Each subsequent semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary combustion turbine that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established the date for submitting annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(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 (c)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas, digester gas, or gasified MSW is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(d) Dates of submittal for the annual report are provided in (d)(1) through (d)(5) of this section.

(1) The first annual report must cover the period beginning on the compliance date specified in § 63.6095 and ending on December 31.

(2) The first annual report must be postmarked or delivered no later than January 31.

(3) Each subsequent annual report must cover the annual reporting period from January 1 through December 31.

(4) Each subsequent annual report must be postmarked or delivered no later than January 31.

(5) For each stationary combustion turbine that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established the date for submitting annual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (d)(1) through (4) 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 (e)(3) of this section.

(1) The number of hours distillate oil was fired by each new or existing stationary combustion turbine during the reporting period.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

§ 63.6155 What records must I keep?

(a) You must keep the records as described in paragraphs (a)(1) through (5).

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii).

(3) Records of the occurrence and duration of each startup, shutdown, or malfunction as required in § 63.10(b)(2)(i).

(4) 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)(iii).

(b) If you are operating a stationary combustion turbine which fires landfill gas, digester gas or gasified MSW equivalent to 10 percent or more of the gross heat input on an annual basis, or 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 keep the records of your daily fuel usage monitors.

(c) You must keep the records required in Table 5 of this subpart to show continuous compliance with each operating limitation that applies to you.

§ 63.6160 In what form and how long must I keep my records?

(a) You must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must retain your records of the most recent 2 years on site or your records must be accessible on site. Your records of the remaining 3 years may be retained off site.

Other Requirements and Information

§ 63.6165 What parts of the General Provisions apply to me?

Table 7 of this subpart shows which parts of the General Provisions in § 63.1 through 15 apply to you.

§ 63.6170 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the emission limitations or operating limitations in § 63.6100 under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule to determine outlet formaldehyde concentration, as specified in § 63.6110(b).

§ 63.6175 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA; in 40 CFR 63.2, the General Provisions of this part; and in this section:

Area source means any stationary source of HAP that is not a major source as defined in this part.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas

exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary reciprocating internal combustion engines.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101–549, 104 Stat. 2399).

Cogeneration cycle stationary combustion turbine means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger, such as a heat recovery steam generator.

Combined cycle stationary combustion turbine means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger to generate steam for use in a steam turbine.

Combustion turbine engine test cells/stands means engine test cells/stands, as defined in subpart PPPPP of this part, that test stationary combustion turbines.

Compressor station means any permanent combination of compressors that move natural gas at increased pressure from fields, in transmission pipelines, or into storage.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: after processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

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; or

(4) Fails to conform to any provision of the applicable startup, shutdown, or malfunction plan, or to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diffusion flame gas-fired stationary combustion turbine means:

(1)(i) Each stationary combustion turbine which is equipped only to fire gas using diffusion flame technology,

(ii) Each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, during any period when it is firing gas, and

(iii) Each stationary combustion turbine which is equipped both to fire gas using diffusion flame technology and to fire oil, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.

(2) Diffusion flame gas-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine,

(ii) Any stationary combustion turbine located on the North Slope of Alaska, or

(iii) Any stationary combustion turbine burning landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or any stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis.

Diffusion flame oil-fired stationary combustion turbine means:

(1)(i) Each stationary combustion turbine which is equipped only to fire oil using diffusion flame technology, and

(ii) Each stationary combustion turbine which is equipped both to fire oil using diffusion flame technology and to fire gas, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil.

(2) Diffusion flame oil-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine, or

(ii) Any stationary combustion turbine located on the North Slope of Alaska.

Diffusion flame technology means a configuration of a stationary combustion turbine where fuel and air are injected at the combustor and are mixed only by diffusion prior to ignition.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Distillate oil means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2.

Emergency stationary combustion turbine means any stationary combustion turbine that operates in an emergency situation. Examples include stationary combustion turbines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility is interrupted, or stationary combustion turbines used to pump water in the case of fire or flood, etc. Emergency stationary combustion turbines do not include stationary combustion turbines used as peaking units at electric utilities or stationary combustion turbines at industrial facilities that typically operate at low capacity factors. Emergency stationary combustion turbines may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are required by the manufacturer, the vendor, or the insurance company associated with the turbine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary combustion turbines.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes ''rich'' glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The ''lean'' glycol is then recycled.

Hazardous air pollutant (HAP) means any air pollutant listed in or pursuant to section 112(b) of the CAA.

ISO standard day conditions means 288 degrees Kelvin (15°C), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean premix gas-fired stationary combustion turbine means:

(1)(i) Each stationary combustion turbine which is equipped only to fire gas using lean premix technology,

(ii) Each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to

fire oil, during any period when it is firing gas, and

(iii) Each stationary combustion turbine which is equipped both to fire gas using lean premix technology and to fire oil, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil no more than an aggregate total of 1000 hours during the calendar year.

(2) Lean premix gas-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine,

(ii) Any stationary combustion turbine located on the North Slope of Alaska, or

(iii) Any stationary combustion turbine burning landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, or any stationary combustion turbine where gasified MSW is used to generate 10 percent or more of the gross heat input on an annual basis.

Lean premix oil-fired stationary combustion turbine means:

(1)(i) Each stationary combustion turbine which is equipped only to fire oil using lean premix technology, and

(ii) Each stationary combustion turbine which is equipped both to fire oil using lean premix technology and to fire gas, and is located at a major source where all new, reconstructed, and existing stationary combustion turbines fire oil more than an aggregate total of 1000 hours during the calendar year, during any period when it is firing oil.

(2) Lean premix oil-fired stationary combustion turbines do not include:

(i) Any emergency stationary combustion turbine, or

(ii) Any stationary combustion turbine located on the North Slope of Alaska.

Lean premix technology means a configuration of a stationary combustion turbine where the air and fuel are thoroughly mixed to form a lean mixture for combustion in the combustor. Mixing may occur before or in the combustion chamber.

Major source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in this section, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in this section, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes or has the potential to cause the emission limitations in this standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Municipal solid waste as used in this subpart is as defined in § 60.1465 of Subpart AAAA of 40 CFR Part 60, New Source Performance Standards for Small Municipal Waste Combustion Units.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. May be field or pipeline quality. For the purposes of this subpart, the definition of natural gas includes similarly constituted fuels such as field gas, refinery gas, and syngas.

Natural gas transmission means the pipelines used for the long distance transport of natural gas (excluding processing). Specific equipment used in natural gas transmission includes the land, mains, valves, meters, boosters, regulators, storage vessels, dehydrators, compressors, and their driving units and appurtenances, and equipment used transporting gas from a production plant, delivery point of purchased gas, gathering system, storage area, or other wholesale source of gas to one or more distribution area(s).

Natural gas transmission and storage facility means any grouping of equipment where natural gas is processed, compressed, or stored prior to entering a pipeline to a local distribution company or (if there is no local distribution company) to a final end user. Examples of a facility for this source category are: an underground natural gas storage operation; or a natural gas compressor station that receives natural gas via pipeline, from an underground natural gas storage operation, or from a natural gas processing plant. The emission points associated with these phases include, but are not limited to, process vents. Processes that may have vents include, but are not limited to, dehydration and compressor station engines. Facility, for the purpose of a major source determination, means natural gas transmission and storage equipment that is located inside the boundaries of an individual surface site (as defined in this section) and is connected by ancillary equipment, such as gas flow lines or power lines. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Natural gas transmission and storage equipment or groupings of equipment located on different gas leases, mineral fee tracts, lease tracts, subsurface unit areas, surface fee tracts, or surface lease tracts shall not be considered part of the same facility.

North Slope of Alaska means the area north of the Arctic Circle (latitude 66.5 degrees North).

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst emission control device means an emission control

device that incorporates catalytic oxidation to reduce CO emissions.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in § 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to § 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to § 63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Regenerative/recuperative cycle stationary combustion turbine means any stationary combustion turbine that recovers heat from the stationary combustion turbine exhaust gases using an exhaust heat exchanger to preheat the combustion air entering the combustion chamber of the stationary combustion turbine.

Research or laboratory facility means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a *de minimis* matter.

Simple cycle stationary combustion turbine means any stationary combustion turbine that does not recover heat from the stationary combustion turbine exhaust gases.

Stationary combustion turbine means 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 sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, the combustion turbine portion of any stationary cogeneration cycle combustion system, 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. Stationary combustion turbines do not include 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.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Tables to Subpart YYYY of Part 63.

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

TABLE 1 TO SUBPART YYYY OF PART 63.—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.

As stated in §§ 63.6100 and 63.6140, you must comply with the following operating limitations:

TABLE 2 TO SUBPART YYYY OF PART 63.—OPERATING LIMITATIONS

For . . .	You must . . .
1. each stationary combustion turbine that is required to comply with the emission limitation for formaldehyde and is using an oxidation catalyst.	maintain the 4-hour rolling average of the catalyst inlet temperature within the range suggested by the catalyst manufacturer.
2. each stationary combustion turbine that is required to comply with the emission limitation for formaldehyde and is not using an oxidation catalyst.	maintain any operating limitations approved by the Administrator.

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

TABLE 3 TO SUBPART YYYY OF PART 63.—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 D6348–03 provided that %R as determined in Annex A5 of ASTM D6348–03 is equal or greater than 70% and less than or equal to 130%; 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 § 63.7(d)(1)(i).	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.	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 D6348–03.	measurements to determine moisture content must be made at the same time as the performance test.

As stated in §§ 63.6110 and 63.6130, you must comply with the following requirements to demonstrate initial compliance with emission limitations:

TABLE 4 TO SUBPART YYYY OF PART 63.—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS

For the . . .	You have demonstrated initial compliance if . . .
emission limitation for formaldehyde..	the average formaldehyde concentration meets the emission limitations specified in Table 1.

As stated in §§ 63.6135 and 63.6140, you must comply with the following requirements to demonstrate continuing compliance with operating limitations:

TABLE 5 OF SUBPART YYYY OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITATIONS

For each stationary combustion turbine complying with the emission limitation for formaldehyde . . .	You must demonstrate continuous compliance by . . .
1. with an oxidation catalyst	continuously monitoring the inlet temperature to the catalyst and maintaining the 4-hour rolling average of the inlet temperature within the range suggested by the catalyst manufacturer.
2. without the use of an oxidation catalyst	continuously monitoring the operating limitations that have been approved in your petition to the Administrator.

As stated in § 63.6150, you must comply with the following requirements for reports:

TABLE 6 OF SUBPART YYYY OF PART 63.—REQUIREMENTS FOR REPORTS

If you own or operate a . . .	you must . . .	According to the following requirements . . .
1. stationary combustion turbine which must comply with the formaldehyde emission limitation.	report your compliance status	semiannually, according to the requirements of § 63.6150.
2. stationary combustion turbine which fires landfill gas, digester gas or gasified MSW equivalent to 10 percent or more of the gross heat input on an annual basis.	report (1) the fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas, digester gas, or gasified MSW is equivalent to 10 percent or more of the gross heat input on an annual basis, (2) the operating limits provided in your federally enforceable permit, and any deviations from these limits, and (3) any problems or errors suspected with the meters.	annually, according to the requirements in § 63.6150.

TABLE 6 OF SUBPART YYYY OF PART 63.—REQUIREMENTS FOR REPORTS—Continued

If you own or operate a . . .	you must . . .	According to the following requirements . . .
3. 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.	report (1) the number of hours distillate oil was fired by each new or existing stationary combustion turbine during the reporting period, (2) the operating limits provided in your federally enforceable permit, and any deviations from these limits, and (3) any problems or errors suspected with the meters.	annually, according to the requirements in § 63.6150.

You must comply with the applicable General Provisions requirements:

TABLE 7 OF SUBPART YYYY OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART YYYY

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.	
§ 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)	Operation and maintenance	Yes.	
§ 63.6(e)(2)	[Reserved].		
§ 63.6(e)(3)	SSMP	Yes.	
§ 63.6(f)(1)	Applicability of standards except during startup, shutdown, or malfunction (SSM).	Yes.	
§ 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.	
§ 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.	

TABLE 7 OF SUBPART YYYY OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART YYYY—Continued

Citation	Subject	Applies to Subpart YYYY	Explanation
§ 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)	Routine and predictable SSM	Yes.	
§ 63.8(c)(1)(ii)	Parts for repair of CMS readily available	Yes.	
§ 63.8(c)(1)(iii)	SSMP for CMS required	Yes.	
§ 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)	CMS quality control	Yes.	
§ 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	If alternative is in use.
§ 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)–(iii)	Records related to SSM	Yes.	
§ 63.10(b)(2)(iv)–(v)	Records related to actions during SSM	Yes.	
§ 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	For CO standard if using RATA alternative.
§ 63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§ 63.10(b)(3)	Records of applicability determination	Yes.	
§ 63.10(c)	Additional records for sources using CMS.	Yes	Except that § 63.10(c)(2)–(4) and (9) are reserved.
§ 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	Subpart YYYY does not require reporting of startup, shutdowns, or malfunctions.
§ 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.	

TABLE 7 OF SUBPART YYYY OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART YYYY—Continued

Citation	Subject	Applies to Subpart YYYY	Explanation
§ 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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