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National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR–2002–0058; FRL–7418–9]

RIN 2060–AG69

National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA is proposing national emission standards for hazardous air pollutants (NESHAP) for industrial/ commercial/institutional boilers and process heaters. The EPA has identified industrial/commercial/ institutional boilers and process heaters as major sources of hazardous air pollutants (HAP) emissions. The proposed rule would implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emissions standards reflecting the application of the maximum achievable control technology (MACT). The proposed rule would reduce HAP emissions by 58,000 tons per year, hydrogen chloride—a substance that is not considered to be a carcinogen—accounts for 42,000 tons per year (72 percent) of total HAP emissions reductions. The proposed rule would protect air quality and promote the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the CAA.

The HAP emitted by facilities in the boiler and process heater source category include arsenic, cadmium, chromium, hydrogen chloride (HCl), hydrogen fluoride, lead, manganese, mercury, and nickel. Exposure to these substances has been demonstrated to cause adverse health effects such as irritation to the lung, skin, and mucus membranes, effects on the central nervous system, kidney damage, and cancer. The adverse health effects associated with the exposure to these specific HAP are further described in this preamble. In general, these findings have only been shown with concentrations higher than those typically in the ambient air.

DATES: *Comments.* Submit comments on or before March 14, 2003.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by February 3, 2003, a public hearing will be held on February 12, 2003.

ADDRESSES: *Comments.* Comments may be submitted by mail (in duplicate, if possible) to EPA Docket Center (Air Docket), U.S. EPA West (MD–6102T), Room B–108, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, Attention Docket ID No. OAR–2002–0058. By hand delivery/courier, comments may be submitted (in duplicate, if possible) to EPA Docket Center, Room B–108, U.S. EPA West, 1301 Constitution Avenue, NW, Washington, DC 20460, Attention Docket ID No. OAR–2002–0058. Also, comments may be submitted electronically according to the detailed instructions as provided in the **SUPPLEMENTARY INFORMATION** section.

Public Hearing. If a public hearing is held, it will be held at the new EPA facility complex in Research Triangle Park, North Carolina, or an alternate site nearby.

Docket. Docket ID No. OAR–2002–0058 contains supporting information used in developing the proposed rule. The docket is located at the U.S. EPA, 1301 Constitution Avenue, NW, Washington, DC 20460 in room B108, and may be inspected from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: Jim Eddinger, Combustion Group, Emission Standards Division (C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541–5426, fax number (919) 541–5450, e-mail: *eddinger.jim@epa.gov.*

SUPPLEMENTARY INFORMATION: *Regulated Entities.* The promulgation of the proposed rule would affect the following North American Industrial Classification System (NAICS) and Standard Industrial Classification (SIC) codes.

Category	NAICS code	SIC code	Examples of potentially regulated entities
Any industry using a boiler or process heater as defined in the proposed rule.	211	13	Extractors of crude petroleum and natural gas.
	321	24	Manufacturers of lumber and wood products.
	322	26	Pulp and paper mills.
	325	28	Chemical manufacturers.
	324	29	Petroleum refineries, and manufacturers of coal products.
	316, 326, 339	30	Manufacturers of rubber and miscellaneous plastic products.
	331	33	Steel works, blast furnaces.
	332	34	Electroplating, plating, polishing, anodizing, and coloring.
	336	37	Manufacturers of motor vehicle parts and accessories.
	221	49	Electric, gas, and sanitary services.
	622	80	Health services.
	611	82	Educational services.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists examples of the types of entities EPA is now aware could potentially be regulated by this action. Other types of entities not listed could also be affected. To determine whether your facility, company, business, organization, *etc.,* is regulated by this action, you should examine the applicability criteria in § 63.7485 of the proposed 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.

How Can I Get Copies of This Document and Other Related Information?

Docket. The EPA has established an official public docket for this action under Docket ID No. OAR–2002–0058. 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 B108, 1301 Constitution Ave., NW., Washington, DC. 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.

Electronic Access. You may access this **Federal Register** document electronically through the EPA Internet under the ''**Federal Register**'' listings at *http://www.epa.gov/fedrgstr/.*

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 submit or 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. Once in the system, select ''search,'' then key in the appropriate docket identification number.

Certain types of information will not be placed in the EPA Dockets. Information claimed as CBI and other information whose disclosure is restricted by statute, which is not included in the official public docket, will not be available for public viewing in EPA's electronic public docket. The EPA's policy is that copyrighted material will not be placed in EPA's electronic public docket but will be available only in printed paper form in the official public docket. To the extent feasible, publicly available docket materials will be made available in EPA's electronic public docket. When a document is selected from the index list in EPA Dockets, the system will identify whether the document is available for viewing in EPA's electronic public docket. 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. The EPA intends to work towards providing electronic access to all of the publicly available docket materials through EPA's electronic public docket.

For public commenters, it is important to note that EPA's policy is that public comments, whether submitted electronically or on paper, will be made available for public viewing in EPA's electronic public docket as EPA receives them and without change, unless the comment contains copyrighted material, CBI, or other information whose disclosure is restricted by statute. When EPA identifies a comment containing copyrighted material, EPA will provide a reference to that material in the version of the comment that is placed in EPA's electronic public docket. The entire printed comment, including the copyrighted material, will be available in the public docket.

Public comments submitted on computer disks that are mailed or delivered to the docket will be transferred to EPA's electronic public docket. Public comments that are mailed or delivered to the Docket will be scanned and placed in EPA's electronic public docket. Where practical, physical objects will be photographed, and the photograph will be placed in EPA's electronic public docket along with a brief description written by the docket staff.

For additional information about EPA's electronic public docket, visit EPA Dockets online or see 67 FR 38102, May 31, 2002.

You may submit comments electronically, by mail, or through hand delivery/courier. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your comment. Please ensure that your comments are submitted within the specified comment period. Comments received after the close of the comment period will be marked ''late.'' The EPA is not required to consider these late comments. However, late comments may be considered if time permits.

Electronically. If you submit an electronic comment as prescribed below, EPA recommends that you include your name, mailing address, and an e-mail address or other contact information in the body of your comment. Also include this contact information on the outside of any disk or CD ROM you submit, and in any cover letter accompanying the disk or CD ROM. This ensures that you can be identified as the submitter of the comment and allows EPA to contact you in case EPA cannot read your comment due to technical difficulties or needs further information on the substance of your comment. The EPA's policy is that EPA will not edit your comment, and any identifying or contact information provided in the body of a comment will be included as part of the comment that is placed in the official public docket and made available in EPA's electronic public docket. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment.

Your use of EPA's electronic public docket to submit comments to EPA electronically is EPA's preferred method for receiving comments. Go directly to EPA Dockets at *http://www.epa.gov/edocket,* and follow the online instructions for submitting comments. To access EPA's electronic public docket from the EPA Internet Home Page, select ''Information Sources,'' ''Dockets,'' and ''EPA Dockets.'' Once in the system, select ''search,'' and then key in Docket ID No. OAR–2002–0058. The system is an anonymous access system, which means EPA will not know your identity, e-mail address, or other contact information unless you provide it in the body of your comment.

Comments may be sent by electronic mail (e-mail) to *a-and-r-docket@epa.gov,* Attention Docket ID No. OAR–2002–0058. In contrast to EPA's electronic public docket, EPA's e-mail system is not an anonymous access system. If you send an e-mail comment directly to the Docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket and made available in EPA's electronic public docket.

You may submit comments on a disk or CD ROM that you mail to the mailing address identified below. These electronic submissions will be accepted in WordPerfect or ASCII file format. Avoid the use of special characters and any form of encryption.

By Mail. Send your comments (in duplicate if possible) to: Air and Radiation Docket and Information Center, U.S. EPA, Mailcode: 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. OAR–2002–0058. The EPA requests a separate copy also be sent to the contact person listed above (see **FOR FURTHER INFORMATION CONTACT**).

By Hand Delivery or Courier. Deliver your comments to: EPA Docket Center, Room B108, 1301 Constitution Ave., NW., Washington, DC, Attention Docket ID No. OAR–2002–0058. Such deliveries are only accepted during the Docket's normal hours of operation as identified above.

Do not submit information that you consider to be CBI electronically through EPA's electronic public docket or by e-mail. Send or deliver information identified as CBI only to the following address: Mr. Jim Eddinger, c/o OAQPS Document Control Officer (Room C404–2), U.S. EPA, Research Triangle Park, 27711, Attention Docket ID No. OAR–2002–0058. You may claim information that you submit to EPA as CBI by marking any part or all of that information as CBI (if you submit CBI on disk or CD ROM, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket and EPA's electronic public docket. If you submit the copy that does not contain CBI on disk or CD ROM, mark the outside of the disk or CD ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide any technical information and/or data you used that support your views.
4. If you estimate potential burden or costs, explain how you arrived at your estimate.
5. Provide specific examples to illustrate your concerns.
6. Offer alternatives.
7. Make sure to submit your comments by the comment period deadline identified.
8. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and **Federal Register** citation related to your comments.

Public Hearing. Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Ms. Kelly Hayes, Combustion Group, Emission Standards Division (C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone (919) 541–5578 at least 2 days in advance of the public hearing. Persons interested in attending the public hearing must also call Ms. Kelly Hayes to verify the time, date, and location of the hearing.

The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposed rule. If a public hearing is requested and held, EPA will ask clarifying questions during the oral presentation but will not respond to the presentations or comments. Written statements and supporting information will be considered with equivalent weight as any oral statement and supporting information presented at a public hearing, if held.

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

I. Background Information

A. What Criteria Are Used in the Development of NESHAP?

Section 112 of the CAA requires EPA to promulgate regulations for the control of HAP emissions from each source category listed under section 112(c) of the CAA. The statute requires the regulations to reflect the maximum degree of reductions in emissions of HAP that is achievable taking into consideration the cost of achieving emissions reductions, any nonair quality health and environmental impacts, and energy requirements. This level of control is commonly referred to as MACT. The MACT based regulation can be based on the emissions reductions achievable through application of measures, processes, methods, systems, or techniques including, but not limited to: (1) Reducing the volume of, or eliminating emissions of, such pollutants through process changes, substitutions of materials, or other modifications; (2) enclosing systems or processes to eliminate emissions; (3) collecting, capturing, or treating such pollutants when released from a process, stack, storage or fugitive emission point; (4) design, equipment, work practices, or operational standards as provided in subsection 112(h) of the CAA; or (5) a combination of the above.

For new sources, MACT based standards cannot be less stringent than the emission control achieved in practice by the best-controlled similar source. The MACT based 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 for categories and subcategories with 30 or more sources, or the best performing 5 sources for categories or subcategories with fewer than 30 sources.

In essence, these MACT based standards would ensure that all major sources of toxic air emissions achieve the level of control already being achieved by the better-controlled and lower-emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to effectively control its emissions. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more a year. At the same time, this approach provides a level economic playing field, ensuring that facilities that employ cleaner processes and good emission controls are not disadvantaged relative to competitors with poorer controls.

B. What Is the Regulatory Development Background of the Source Categories in the Proposed Rule?

In September 1996, EPA 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, known as the Coordinating Committee, formed Source Work Groups for the various combustion types covered under the ICCR. One of the work groups was formed to research issues related to boilers; another was formed to research issues related to process heaters. The Boiler and Process Heater Work Groups submitted recommendations, information, and data analysis results to the Coordinating Committee, which in turn considered them and submitted recommendations and information to EPA. The Committee's recommendations were considered by EPA in developing the proposed rule for boilers and process heaters. The Committee's 2-year charter expired in September 1998.

Following the expiration of the ICCR FACA charter, EPA decided to combine boilers with units in the process heater source category covering indirect-fired units, and to regulate both under the proposed NESHAP. This was done because indirect-fired process heaters and boilers are similar devices, burn similar fuel, have similar emission characteristics, and emissions from each can be controlled using similar control devices or techniques.

C. What Is the Statutory Authority for the Proposed Rule?

Section 112 of the CAA requires that EPA promulgate regulations requiring the control of HAP emissions from major sources and certain area sources. The control of HAP is achieved through promulgation of emission standards under sections 112(d) and (f) of the CAA and, in appropriate circumstances, work practice standards under section 112(h) of the CAA.

An initial list of categories of major and area sources of HAP selected for regulation in accordance with section 112(c) of the CAA was published in the **Federal Register** on July 16, 1992 (57 FR 31576). Industrial boilers, commercial and institutional boilers, and process heaters are three of the listed 174 categories of sources. The listing was based on the Administrator's determination that they may reasonably be anticipated to emit several of the 188 listed HAP in quantities sufficient to designate them as major sources.

D. What Is the Relationship Between the Proposed Rule and Other Combustion Rules?

The proposed rule regulates source categories covering industrial boilers, institutional and commercial boilers, and process heaters. These source categories potentially include combustion units that are already regulated by other MACT standards. Therefore, we are excluding from today's proposed rule any units that are already or will be subject to regulation under another MACT standard.

The commercial and industrial solid waste incinerators (CISWI) standards (40 CFR 60, subparts CCCC and DDDD) regulate commercial and industrial nonhazardous solid waste incinerators. Sources subject to the CISWI rules are exempt from the requirements of the proposed rule.

The utility HAP study Report to Congress provides information used to determine whether fossil fuel-fired utility boilers should be regulated in a future MACT standard. A fossil fuel-fired utility boiler is a fossil fuel-fired combustion unit with a heat input greater than 25 megawatts that serves a generator producing electricity for sale. Fossil fuel-fired utility boilers are exempt from the proposed rule. Nonfossil fuel-fired utility boilers are covered by the proposed rule.

The EPA's Office of Solid Waste is in the process of developing MACT based standards for hazardous waste boilers. Boilers burning hazardous waste are not included in the proposed rule.

In 1986, EPA had codified new source performance standards (NSPS) for industrial boilers (40 CFR part 60, subparts Db and Dc) and revised portions of them in 1999. The NSPS regulates emissions of particulate matter (PM), sulfur dioxide, and nitrogen oxides from boilers constructed after June 19, 1984. Sources subject to the NSPS are still subject to the proposed rule because the proposed rule regulates sources of hazardous air pollutants while the NSPS does not. However, in developing the proposed rule for industrial/commercial/institutional boilers and process heaters, EPA minimized the monitoring requirements, testing requirements, and recordkeeping requirements to avoid duplicating requirements.

Because of the broad applicability of the proposed rule due to the definition of a process heater, certain process heaters could appear to fit the applicability of another existing MACT rule. We have, therefore, included in the list of combustion units exempt from the proposed rule refining kettles subject to the secondary lead MACT rule (40 CFR 63, subpart X). This is one combustion unit meeting the definition of a process heater, that we are specifically aware of, that is covered by another MACT standard. Therefore, we are requesting comments on other process heaters that are already or will be subject to regulation under another MACT standard.

E. What Are the Health Effects of Pollutants Emitted From Industrial/Commercial/Institutional Boilers and Process Heaters?

Today's proposed rule protects air quality and promotes the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the CAA. As noted above, emissions data collected during development of the proposed rule show that hydrogen chloride emissions represent the predominant HAP emitted by industrial boilers, accounting for 59 percent of the total HAP emissions. Industrial boilers and process heaters also emit lesser amounts of hydrogen fluoride, accounting for about 5 percent of total HAP emissions, and metals (arsenic, cadmium, chromium, mercury, manganese, nickel, and lead), accounting for about 4 percent of total HAP emissions. Exposure to these HAP is associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (*e.g.*, irritation of the lung, skin, and mucus membranes, effects on the central nervous system, and damage to the kidneys), and acute health disorders (*e.g.*, lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified two of the HAP as human carcinogens and three as probable human carcinogens. 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, today's proposed rule would reduce emissions and subsequent exposures.

1. Arsenic

Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain), and central and peripheral nervous system disorders. Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Human data suggest a relationship between inhalation exposure of women working at or living near metal smelters and an increased risk of reproductive effects, such as spontaneous abortions. Inorganic arsenic exposure in humans by the inhalation route has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The EPA has classified inorganic arsenic as a Group A, human carcinogen.

2. Cadmium

The acute (short-term) effects of cadmium inhalation in humans consist mainly of effects on the lung, such as pulmonary irritation. Chronic (long-term) inhalation or oral exposure to cadmium leads to a build-up of cadmium in the kidneys that can cause kidney disease. Cadmium has been shown to be a developmental toxicant in animals, resulting in fetal malformations and other effects, but no conclusive evidence exists in humans. An association between cadmium exposure and an increased risk of lung cancer has been reported from human studies, but these studies are inconclusive due to confounding factors. Animal studies have demonstrated an increase in lung cancer from long-term inhalation exposure to cadmium. The EPA has classified cadmium as a Group B1, probable carcinogen.

3. Chromium

Chromium may be emitted in two forms, trivalent chromium (chromium III) or hexavalent chromium (chromium VI). The respiratory tract is the major target organ for chromium VI toxicity, for acute (short-term) and chronic (long-term) inhalation exposures. Shortness of breath, coughing, and wheezing have been reported from acute exposure to chromium VI, while perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic exposure. Limited human studies suggest that chromium VI inhalation exposure may be associated with complications during pregnancy and childbirth, while animal studies have not reported reproductive effects from inhalation exposure to chromium VI. Human and animal studies have clearly established that inhaled chromium VI is a carcinogen, resulting in an increased risk of lung cancer. The EPA has classified chromium VI as a Group A, human carcinogen.

Chromium III is less toxic than chromium VI. The respiratory tract is also the major target organ for chromium III toxicity, similar to chromium VI. Chromium III is an essential element in humans, with a daily intake of 50 to 200 micrograms per day recommended for an adult. The body can detoxify some amount of chromium VI to chromium III. The EPA has not classified chromium III with respect to carcinogenicity.

4. Hydrogen Chloride

Hydrogen chloride, also called hydrochloric acid, is corrosive to the eyes, skin, and mucous membranes. Acute (short-term) inhalation exposure may cause eye, nose, and respiratory tract irritation and inflammation and pulmonary edema in humans. Chronic (long-term) occupational exposure to hydrochloric acid has been reported to cause gastritis, bronchitis, and dermatitis in workers. Prolonged exposure to low concentrations may also cause dental discoloration and erosion. No information is available on the reproductive or developmental effects of hydrochloric acid in humans. In rats exposed to hydrochloric acid by inhalation, altered estrus cycles have been reported in females and increased fetal mortality and decreased fetal weight have been reported in offspring. The EPA has not classified hydrochloric acid for carcinogenicity.

5. Hydrogen Fluoride

Acute (short-term) inhalation exposure to gaseous hydrogen fluoride can cause severe respiratory damage in humans, including severe irritation and pulmonary edema. Chronic (long-term) exposure to fluoride at low levels has a beneficial effect of dental cavity prevention and may also be useful for the treatment of osteoporosis. Exposure to higher levels of fluoride may cause dental fluorosis. One study reported menstrual irregularities in women occupationally exposed to fluoride. The EPA has not classified hydrogen fluoride for carcinogenicity.

6. Lead

Lead is a very toxic element, causing a variety of effects at low dose levels. Brain damage, kidney damage, and gastrointestinal distress may occur from acute (short-term) exposure to high levels of lead in humans. Chronic (long-term) exposure to lead in humans results in effects on the blood, central nervous system (CNS), blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from lead exposure by the oral route. The EPA has classified lead as a Group B2, probable human carcinogen.

7. Manganese

Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic (long-term) exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day. Chronic exposure to high levels of manganese by inhalation in humans results primarily in CNS effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Manganism, characterized by feelings of weakness and lethargy, tremors, a mask-like face, and psychological disturbances, may result from chronic exposure to higher levels. Impotence and loss of libido have been noted in male workers afflicted with manganism attributed to inhalation exposures. The EPA has classified manganese in Group D, not classifiable as to carcinogenicity in humans.

8. Mercury

Mercury exists in three forms: elemental mercury, inorganic mercury compounds (primarily mercuric chloride), and organic mercury compounds (primarily methyl mercury). Each form exhibits different health effects. Various major sources may release elemental or inorganic mercury; environmental methyl mercury is typically formed by biological processes after mercury has precipitated from the air.

Acute (short-term) exposure to high levels of elemental mercury in humans results in CNS effects such as tremors, mood changes, and slowed sensory and motor nerve function. High inhalation exposures can also cause kidney damage and effects on the gastrointestinal tract and respiratory system. Chronic (long-term) exposure to elemental mercury in humans also affects the CNS, with effects such as increased excitability, irritability, excessive shyness, and tremors. The EPA has not classified elemental mercury with respect to cancer.

Acute exposure to inorganic mercury by the oral route may result in effects such as nausea, vomiting, and severe abdominal pain. The major effect from chronic exposure to inorganic mercury is kidney damage. Reproductive and developmental animal studies have reported effects such as alterations in testicular tissue, increased embryo resorption rates, and abnormalities of development. Mercuric chloride (an inorganic mercury compound) exposure has been shown to result in forestomach, thyroid, and renal tumors in experimental animals. The EPA has classified mercuric chloride as a Group C, possible human carcinogen.

9. Nickel

Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis, consisting of itching of the fingers, hand and forearms, is the most common effect in humans from chronic (long-term) skin contact with nickel.

Respiratory effects have also been reported in humans from inhalation exposure to nickel. No information is available regarding the reproductive or developmental effects of nickel in humans, but animal studies have reported such effects. Human and animal studies have reported an increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal studies of soluble nickel compounds (*i.e.*, nickel carbonyl) have reported lung tumors. The EPA has classified nickel refinery subsulfide as Group A, human carcinogens and nickel carbonyl as a Group B2, probable human carcinogen.

II. Summary of the Proposed Rule

A. What Source Categories and Subcategories Are Affected by the Proposed Rule?

The proposed rule affects industrial boilers, institutional and commercial boilers, and process heaters. In the proposed rule process heaters are defined as units in which the combustion gases do not directly come into contact with process gases in the combustion chamber (*e.g.*, indirect fired). Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Combustion units are not subject to the proposed rule simply by virtue of having a waste heat boiler. A waste heat boiler (or heat recovery steam generator) is a device that recovers normally unused energy and converts it to usable heat. Emissions from a combustion unit with a waste heat boiler are regulated by the applicable standards for the particular type of combustion unit. For example, emissions from a commercial or industrial solid waste incineration unit, or other incineration unit with a waste heat boiler are regulated by standards established under section 129 of the CAA.

Hot water heaters also are not regulated under today's proposed rule. A hot water heater is a closed vessel in which water is heated by combustion of gaseous fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 pounds per square inch gauge and water temperatures not exceeding 210 degree Fahrenheit.

B. What Pollutants Are Emitted?

Boilers and process heaters emit PM, volatile organic compounds, and hazardous air pollutants, depending on the material burned. Solid and liquid fuel-fired units emit metals, halogenated compounds and organic compounds. Gas fuel-fired units emit mostly organic compounds.

C. What Is the Affected Source?

The affected source is each individual industrial, commercial, or institutional boiler or process heater located at a major facility. The affected source does not include units that are municipal waste combustors (40 CFR part 60, subparts AAAA, BBBB, Eb or Cb), medical waste incinerators (40 CFR part 60, subpart Ce and Ec), fossil fuel-fired electric utility steam generating units, commercial and industrial solid waste incineration units (40 CFR part 60, subparts CCCC or DDDD), recovery boilers or furnaces (40 CFR part 63, subpart MM), ethylene cracking furnaces (40 CRF part 63, subpart YY), or hazardous waste combustion units required to have a permit under section 3005 of the Solid Waste Disposal Act or are subject to 40 CFR part 63, subpart EEE.

D. Does the Proposed Rule Apply to Me?

The proposed rule applies to you if you own or operate a boiler or process heater at a major source meeting the requirements discussed previously in this preamble. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more a year.

E. What Emission Limitations and Work Practice Standards Must I Meet?

You must meet the emission limits and work practice standards for the subcategories in Table 1 of this preamble for each of the pollutants listed. Emission limits and work practice standards were developed for new and existing sources; and for large, small, and limited use solid, liquid, and gas fuel-fired units. Large units are those watertube boilers and process heaters with heat input capacities greater than 10 million British thermal units per hour (MMBtu/hr). Small units are any firetube boilers or any boiler and process heater with heat input capacities less than or equal to 10 MMBtu/hr. Limited use units are those large units with capacity utilizations less than or equal to 10 percent as required in a federally enforceable permit.

If your new or existing boiler or process heater is permitted to burn a solid fuel (either as a primary fuel or a backup fuel), or any combination of solid fuel with liquid or gaseous fuel, the unit is in one of the solid subcategories. If your new or existing boiler or process heater burns a liquid fuel, or a liquid fuel in combination with a gaseous fuel, the unit is in one of the liquid subcategories. If your new or existing boiler or process heater burns a gaseous fuel only, the unit is in the gas subcategory.

TABLE 1.—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR BOILERS AND PROCESS HEATERS

[Pounds per million British thermal units]

Source	Subcategory	Particulate matter (PM)	or	Total selected metals	Hydrogen chloride (HCl)	Mercury (Hg)	Carbon Monoxide (CO)(ppm@3%oxygen)
New Boiler, or Process Heater.	Solid Fuel, Large Unit	0.026	or	0.0001	0.02	0.000003	400
	Solid Fuel, Small Unit	0.026	or	0.0001	0.02	0.000003	....
	Solid Fuel, Limited Use.	0.026	or	0.0001	0.02	0.000003	400
	Liquid Fuel, Large Unit.	0.03	....	....	0.0005	....	400
	Liquid Fuel, Small Unit	0.03	....	0.0009	....	....	
	Liquid Fuel, Limited Use.	0.03	....	....	0.0009	....	400
	Gaseous Fuel Large Unit.	....	....	....	....	....	400
	Gaseous Fuel Small Unit.	....	....	....	....		
	Gaseous Fuel Limited Use.	....	....	....	....	....	400
Existing Boiler or Process Heater.	Solid Fuel, Large Unit	0.07	or	0.001	0.09	0.000007	....
	Solid Fuel, Small Unit	....	....	....	....	....	....
	Solid Fuel, Limited Used.	0.2	or	0.001	....	....	....
	Liquid Fuel, Large Unit.	....	....	....	....	....	....
	Liquid Fuel, Small Unit	....	....	....	....	....	....
	Liquid Fuel, Limited Use.	....	....	....	....	....	....
	Gaseous Fuel	....	....	....	....	....	....

For solid fuel-fired boilers or process heaters, we are proposing to allow sources to choose one of two emission limit options: (1) Existing and new affected sources may choose to limit PM emissions to the level listed in Table 1 of this preamble or (2) existing and new affected sources may choose to limit total selected metals emissions to the level listed in Table 1 of this preamble.

If you do not use an add-on control or use an add-on control other than a wet scrubber, you must maintain opacity level to less than or equal to the level established during the compliance test for mercury and PM or total selected metals, and maintain the fuel chlorine content to less than or equal to the operating level established during the HCl compliance test.

If you use a wet scrubber, you must maintain the minimum pH, pressure drop and liquid flow-rate above the operating levels established during the performance tests.

If you use a dry scrubber, you must maintain opacity level and the minimum sorbent injection rate established during the performance test.

If you use an electrostatic precipitator (ESP) in combination with a wet scrubber and cannot monitor the opacity, you must maintain the average secondary current and voltage or total power input established during the performance test.

There is an alternative compliance procedure and operating limit for meeting the total selected metals emission limit option or the mercury emission limit option. If you have no control or do not want to take credit of metals reductions with your existing control device, and can show that total metals in the fuel would be less than the metals emission level, then you can monitor the metals fuel analysis to meet the metals emissions limitations. Similarly, if you do not have an emission control device or you otherwise would rather comply by limiting the mercury input at your facility, and can show that mercury in the fuel would be less than the mercury emission level, then you can monitor the mercury fuel analysis to meet the mercury emission limitations.

If your unit is a new source in the large or limited use subcategories, it must meet a carbon monoxide (CO) emission limit of 400 parts per million corrected to 3 percent oxygen. If your new or existing source is controlled with a fabric filter, then you must install a bag leak detection system such that the bag detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

F. What Are the Testing and Initial Compliance Requirements?

As the owner or operator of a new or existing boiler or process heater, you must conduct performance tests to demonstrate compliance with any applicable emission limits. The applicable emission limits and, therefore, the required performance tests are different depending on the subcategory classification of the unit. Existing units in the small solid fuel subcategory and in any of the liquid or gaseous fuel subcategories do not have applicable emission limits and, therefore, are not required to conduct stack tests. Other units are required to conduct the following compliance tests where applicable:

(1) Conduct initial and annual stack tests to determine compliance with the PM emission limits using EPA Method 5 or Method 17 in appendix A to part 60 of this chapter.

(2) Affected sources in the solid fuel subcategories may choose to comply with an alternative total selected metals emission limit instead of PM. Sources would then conduct initial and annual stack tests to determine compliance with the total selected metals emission limit using EPA Method 29 in appendix A to part 60 of this chapter.

(3) Conduct initial and annual stack tests to determine compliance with the mercury emission limits using EPA method 29 in appendix A to part 60 of this chapter (for boilers with rated heat input capacities of less than 250 MMBtu per hour) or the draft ASTM Z65907, ‘‘Standard Method for Both Speciated and Elemental Mercury Determination,’’ (for boilers with rated heat input capacities of greater than 250 MMBtu per hour).

(4) Conduct initial and annual stack tests to determine compliance with the HCl emission limits using EPA Method 26 in appendix A to part 60 of this chapter (for boilers without wet scrubbers) or EPA Method 26A in appendix A to part 60 of this chapter (for boilers with wet scrubbers).

(5) Use EPA Method 19 in appendix A to part 60 of this chapter to convert measured concentration values to pound per million British thermal units (Btu) values.

(6) For new units in any of the liquid fuel subcategories that do not burn residual oil, instead of conducting an initial compliance test you may submit a signed statement in the Notification of Compliance Status report that indicates that you only burn liquid fossil fuels other than residual oil.

As part of the initial compliance demonstration, you must monitor specified operating parameters during the initial performance tests that demonstrate compliance with the PM (or metals), mercury, and HCl emission limits. You must calculate the average parameter values measured during each 1-hour test run over the 3-hour performance test. The minimum or maximum of the three average values (depending on the parameter measured) for each applicable parameter is established as a site-specific operating limit. The applicable operating parameters for which operating limits must be established are based on the emissions limits applicable to your unit as well as the types of add-on controls on the unit. A summary of the operating limits that must be established for the various types of the following units:

(1) For boilers and process heaters without wet scrubbers that must comply with the mercury emission limit and either a PM emission limit or a total selected metals emission limit, you must measure opacity during the performance test and calculate the 6-minute averages. The maximum 1-hour average measured establishes your site-specific opacity operating limit. Or, if the unit is controlled with a fabric filter, instead of setting an opacity operating limit, the fabric filter must be operated such that the required bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(2) For boilers and process heaters without wet or dry scrubbers that must comply with an HCl emission limit, you must measure the average chlorine content level in the input fuel(s) during the HCl performance test. This is your maximum chlorine input operating limit. If you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supplier than what was burned during the initial performance test, then you must recalculate the maximum chlorine input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of recalculating the chlorine input exceeds the average chlorine content level established during the initial test then you must conduct a new performance test to demonstrate compliance with the HCl emission limit.

(3) For boilers and process heaters with wet scrubbers that must comply with a mercury, PM and/or an HCl emission limit, you must measure pressure drop and liquid flow-rate of the scrubber during the performance test, and calculate the average value for each test run. The minimum test run average establishes your site-specific pressure drop and liquid flow-rate operating levels. If different average parameter levels are measured during the mercury, PM (or metals) and HCl tests, the highest of the average values becomes your site-specific operating limit. If you are complying with an HCl emission limit, you must measure pH during the performance test for HCl and determine the average for each test run and the minimum value for the performance test. This establishes your minimum pH operating limit.

(4) For boilers and process heaters with dry scrubbers that must comply with a PM or mercury emission limit, you must measure opacity during the PM performance test as described above. If you must also comply with an HCl emission limit, you must measure the sorbent injection rate during the performance test for HCl, and calculate the average for each test run. The minimum test run average established during the performance test is your site-specific minimum sorbent injection rate operating limit.

(5) For boilers and process heaters with fabric filters in combination with wet scrubbers that must comply with a mercury emission limit, PM emission limit and/or an HCl emission limit, you must measure the pH, pressure drop, and liquid flow-rate of the wet scrubber during the performance test and calculate the average value for each test run. The minimum test run average establishes your site-specific pH, pressure drop, and liquid flow-rate operating limits for the wet scrubber. Furthermore, the fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(6) For boilers and process heaters with ESP in combination with wet scrubbers that must comply with a mercury, PM and/or an HCl emission limit, you must measure the pH, pressure drop, and liquid flow-rate of the wet scrubber during the HCl performance test and you must measure the voltage and current of the ESP collection plates during the mercury and PM (or metals) performance test. Calculate the average value of these parameters for each test run. The minimum test run averages establish your site-specific minimum pH, pressure drop, and liquid flow-rate operating limit for the wet scrubber and the minimum voltage and current operating limits for the ESP plates.

(7) For boilers that choose to comply with the alternative total selected metals emission limit instead of PM and have either no add-on controls or add-on controls for which you do not want to take credit for any emission reduction of metals, you must measure the total selected metals content of the inlet fuel that was burned during the total selected metals performance test. This value is your maximum fuel inlet metals content operating limit. If you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supplier than what was burned during the initial performance test, then you must

recalculate the maximum metals input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of recalculating the metals input exceeds the average metals content level established during the initial test then you must conduct a new performance test to demonstrate compliance with the alternate total selected metals emission limit.

(8) For boilers that choose to demonstrate compliance with the mercury emission limit on the basis of fuel analysis and have no add-on controls or add-on controls for which you do not want to take credit for any emission reduction of mercury, you must measure the mercury content of the inlet fuel that was burned during the mercury performance test. This value is your maximum fuel inlet mercury operating limit. If you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supplier than what was burned during the initial performance test, then you must recalculate the maximum mercury input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of recalculating the mercury input exceeds the average mercury content level established during the initial test then you must conduct a new performance test to demonstrate compliance with the mercury emission limit.

(9) For new boilers and process heaters in any of the large or limited use subcategories, you must monitor CO during the performance tests for PM (or metals) and/or HCl to demonstrate that average CO emissions are at or below an exhaust concentration of 400 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen.

G. What Are the Continuous Compliance Requirements?

To demonstrate continuous compliance with the emission limitations, you must monitor and comply with the applicable site-specific operating limits established during the following performance tests:

(1) For boilers and process heaters without wet scrubbers that must comply with a mercury emission limit and either a PM emission limit or a total selected metals emission limit, you must continuously monitor opacity and maintain the 3-hour block average at or below your site-specific opacity operating limit. Or, if the unit is controlled with a fabric filter, instead of continuous monitoring opacity, the fabric filter must be continuously operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(2) For boilers and process heaters without wet or dry scrubbers that must comply with an HCl emission limit, you must maintain daily records of fuel use that demonstrate that you have burned no new fuels such that you have maintained the fuel chlorine content level at or below your site-specific maximum chlorine input operating limit. If you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supplier than what was burned during the initial performance test, then you must recalculate the maximum chlorine input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of recalculating the chlorine input exceeds the average chlorine content level established during the initial test then you must conduct a new performance test to demonstrate continuous compliance with the HCl emission limit.

(3) For boilers and process heaters with wet scrubbers that must comply with a mercury, PM and/or an HCl emission limit, you must monitor pressure drop and liquid flow-rate of the scrubber and maintain the 3-hour block averages at or above the operating limits established during the performance test. You must monitor the pH of the scrubber and maintain the 3-hour block average at or above the operating limit established during the performance test to demonstrate continuous compliance with the HCl emission limits.

(4) For boilers and process heaters with dry scrubbers that must comply with a PM or mercury emission limit, you must monitor and maintain opacity levels as described above to demonstrate continuous compliance with the PM emission limits. If you must also comply with an HCl emission limit, you must continuously monitor the sorbent injection rate and maintain it at or above the operating limits established during the HCl performance test.

(5) For boilers and process heaters with fabric filters in combination with wet scrubbers, you must monitor the pH, pressure drop, and liquid flow-rate of the wet scrubber and maintain the levels at or above the operating limits established during the HCl performance test. You must also maintain the operation of the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(6) For boilers and process heaters with ESP in combination with wet scrubbers that must comply with a mercury, PM and/or an HCl emission limit, you must monitor the pH, pressure drop, and liquid flow-rate of the wet scrubber and maintain the 3-hour block averages at or above the operating limits established during the HCl performance test and you must monitor the voltage and current of the ESP collection plates and maintain the 3-hour block averages at or above the operating limits established during the mercury or PM (or metals) performance test.

(7) For boilers that choose to comply with the alternative total selected metals limit instead of PM emission limit based on fuel analysis rather than on performance testing, you must maintain daily fuel records that demonstrate that you burned no new fuels or fuels from a new supplier such that the total selected metals content of the inlet fuel was maintained at or below your maximum fuel inlet metals content operating limit set during the metals performance test. If you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supplier than what was burned during the initial performance test, then you must recalculate the maximum metals input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of recalculating the metals input exceeds the average metals content level established during the initial test then you must conduct a new performance test to demonstrate continuous compliance with the alternate selected metals emission limit.

(8) For boilers that choose to comply with the mercury emission limit based on fuel analysis rather than on performance testing, you must maintain daily fuel records that demonstrate that you burned no new fuels or fuels from a new supplier such that the total selected mercury content of the inlet fuel was maintained at or below your maximum fuel inlet metals content operating limit set during the mercury performance test. If you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supplier than what was burned during the initial performance test, then you must recalculate the maximum mercury input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of recalculating the mercury input exceeds the average mercury content level established during the initial test then you must conduct a new performance test to demonstrate continuous compliance with the mercury emission limit.

(9) For new boilers and process heaters in any of the large or limited use subcategories, you must continuously monitor CO and maintain the average CO emissions at or below 400 ppm by

volume on a dry basis corrected to 3 percent oxygen to demonstrate compliance with the work practice standards. Upon detecting an excursion or exceedance, you must restore operation of the unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance. Such actions may include initial inspections and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operation to below the work practice standard.

If a control device other than the ones specified in this section is used to comply with the proposed rule, you must establish site-specific operating limits and establish appropriate continuous monitoring requirements, as approved by the Administrator.

H. What Are the Notification, Recordkeeping and Reporting Requirements?

You must keep the following records:

(1) All reports and notifications submitted to comply with the proposed rule.

(2) Continuous monitoring data as required in the proposed rule.

(3) Each instance in which you did not meet each emission limit and each operating limit, including periods of startup, shutdown, and malfunction (*i.e.*, deviations from the proposed rule).

(4) Daily hours of operation by each source.

(5) Total fuel use by each affected source electing to comply with an emission limit based on fuel analysis for each 30-day period along with a description of the fuel, the total fuel usage amounts and units of measure, and information on the supplier and original source of the fuel.

(6) Calculations and supporting information of chlorine fuel input, as required in the proposed rule.

(7) Calculations and supporting information of total selected metals and mercury fuel input, as required in the proposed rule, if applicable.

(8) A signed statement, as required in the proposed rule, indicating you burned no new fuels, no fuels from a new supplier, or no new fuel mixture or the recalculation of chlorine input to demonstrate that the new fuel, new mixture, new source still meets chlorine fuel input levels.

(9) A signed statement, as required in the proposed rule, indicating you burned no new fuels, no fuels from a new supplier, or no new fuel mixture or the recalculation of total selected metals fuel input to demonstrate that the new fuel, new fuel mixture, or fuel from a new source still meets the total selected metals fuel input levels.

(10) A signed statement, as required in the proposed rule, indicating you burned no new fuels, no fuels from a new supplier, or no new fuel mixture or the recalculation of mercury fuel input to demonstrate that the new fuel, new fuel mixture, or fuel from a new source still meets the mercury fuel input levels.

(11) A copy of the results of all performance tests, fuel analysis, opacity observations, performance evaluations, or other compliance demonstrations conducted to demonstrate initial or continuous compliance with the proposed rule.

(12) A copy of any Federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(13) A copy of your site-specific startup, shutdown, and malfunction plan.

(14) A copy of your site-specific monitoring plan developed for the proposed rule, if applicable.

You must submit the following reports and notifications:

(1) Notifications required by the General Provisions.

(2) Initial Notification no later than 120 calendar days after you become subject to this subpart.

(3) Notification of Intent to conduct performance tests and/or compliance demonstration at least 60 calendar days before the performance test and/or compliance demonstration is scheduled.

(4) Notification of Compliance Status 60 calendar days following completion of the performance test and/or compliance demonstration.

(5) Compliance reports semi-annually.

III. Rationale of the Proposed Rule

A. How Did EPA Determine Which Pollution Sources Would Be Regulated Under the Proposed Rule?

The proposed rule regulates source categories covering industrial boilers, institutional and commercial boilers, and process heaters. These source categories potentially include combustion units that are already regulated by other MACT standards. Therefore, we are excluding from today's proposed rule any units that are already or will be subject to regulation under another MACT standard. A list of combustion units excluded from the proposed rule is discussed previously in this preamble. The CAA specifically requires that fossil fuel-fired steam generating units of more than 25 megawatts that produce electricity for sale (*i.e.*, utility boilers) be reviewed separately by EPA. Consequently, the proposed rule does not regulate fossil fuel-fired utility boilers greater than 25 megawatts, but does regulate fossil fuel-fired units less than 25 megawatts and all nonfossil fuel-fired utility boilers. The proposed rule also does not regulate emissions from combustion units with waste heat boilers, unless such units would otherwise be subject to the emission limitations in today's proposed rule. For example, emissions from any commercial or industrial solid waste incinerator (CISWI) or other incinerator unit that has a waste heat boiler will be covered by regulations promulgated under section 129 of the CAA.

During the ICCR FACA, the scope of the process heater source category was limited to regulate only indirect-fired units. Direct-fired units are covered in other MACT standards or rulemakings pertaining to industrial process operations. For example, lime kilns are covered by the Pulp and Paper NESHAP (40 CFR part 63, subpart S). Indirect-fired process heaters are similar to boilers in fuel use, emissions, and applicable controls, and, therefore, it is appropriate for EPA to combine this category of units with industrial, commercial and institutional boilers for purposes of developing emission standards.

Also during the ICCR FACA process, EPA received comments from stakeholders regarding the potential for the proposed rule to regulate small hot water heaters located at major source facilities. Many industrial facilities have office buildings located onsite which use hot water heaters. Such hot water heaters, by their design and operation, could be considered boilers. However, since hot water heaters generally are small and use natural gas as fuel, their emissions are negligible compared to the emissions from the industrial operations that make such facilities major sources, and compared to boilers that are used for industrial, commercial, or institutional purposes. Moreover, such hot water heaters are more appropriately described as residential-type boilers, not industrial, commercial or institutional boilers. Consequently, we are including a definition of hot water heaters that includes fuel, size, pressure and temperature limitations that we believe are appropriate to distinguish between residential-type units and industrial, commercial or institutional units. Therefore, the proposed rule regulates industrial, commercial, and institutional boilers and process heaters located at major source facilities but excludes residential-type hot water heaters.

The Clean Air Act allows EPA to divide source categories into subcategories when differences between given types of units lead to corresponding differences in the nature of emissions and the technical feasibility of applying emission control techniques. The design, operating, and emissions information that EPA has reviewed indicates the need to subcategorize boilers and process heaters based on the physical state of the fuel burned, *i.e.*, solid, liquid, or gas. Data indicate that there are significant design and operational differences between units that burn solid, liquid and gaseous fuels.

Boiler systems are designed for specific fuel types and will encounter problems if a fuel with characteristics other than those originally specified is fired. While many boilers in the population database are indicated to co-fire liquids or gases with solid fuels, in actuality most of these commonly use fuel oil or natural gas as a startup fuel only. Other co-fired units are specifically designed to fire combinations of solids, liquids, and gases. Changes to the fuel type (solid, liquid, or gas) would require extensive changes to the fuel handling and feeding system (*e.g.*, a stoker using wood as fuel would need to be redesigned to handle fuel oil or gaseous fuel). Additionally, the burners and combustion chamber would need to be redesigned and modified to handle different fuel types and account for increases or decreases in the fuel volume and shape. In some cases, the changes may reduce the capacity and efficiency of the boiler or process heater. An additional effect of these changes would be extensive retrofit costs.

Emissions from boilers and process heaters burning solids, liquids, and gaseous fuels will also differ. Boilers and process heaters emit a number of different types of HAP emissions. In general, their formation is dependent upon the composition of the fuel. The combustion quality and temperature may also play an important role. The fuel dependent HAP emissions from boilers and process heaters are metals, including mercury, and acid gases. These fuel dependent HAP emissions generally can be controlled by either changing the fuel property before combustion or by removing the HAP from the flue gas after combustion. Organic HAP, on the other hand, are formed from incomplete combustion and are much less influenced by the characteristics of the fuel being burned. The degree of combustion may be greatly influenced by three general factors: time, turbulence, and temperature. These factors are a function of the design of the boiler or process heater which is dependent in part on the type of fuel being burned.

Solid fuel-fired units will emit larger amounts of PM and metals depending on the solid fuel burned. Liquid and gaseous fuel-fired units generally emit larger amounts of organic HAP. Because these different types of units have different emission characteristics which may influence the feasibility of effectiveness of emission control, they should be regulated separately (*i.e.*, subcategorized). Thus, these categories appropriately identify distinctly different types of units subject to regulation.

Accordingly, EPA decided to subcategorize boilers and process heaters into solid, liquid and gaseous fuel subcategories in order to account for these differences in emissions and applicable controls. The solid fuel subcategory includes boilers and process heaters burning any amount of solid fuel (including units burning a combination of solid fuel and liquid or gaseous fuel). The gaseous fuel subcategory includes units only burning gaseous fuel. The liquid fuel subcategory includes all remaining boilers and process heaters.

Small boilers and process heaters were also identified as a subcategory. These small units typically are package units having capacities less than 10 MMBtu/hr heat input or use a combustor design (*i.e.*, firetube or cast iron) which is not common in large units. Large boilers generally are field-erected using the watertube combustor design with capacities above 10 MMBtu/hr. As discussed above, the design of the boiler or process heater will influence the completeness of the combustion process which will influence the formation of organic HAP emissions. The vast majority of these small units use natural gas as fuel. Additionally, most existing State and Federal regulations for boilers and process heaters do not regulate units with a heat input capacity of less than 10 MMBtu/hr, due to their low emissions. Consequently, we decided to further subcategorize boilers and process heaters within each fuel category by creating subcategories for large units (watertube boilers and process heaters greater than 10 MMBtu/hr capacity) and small units (all firetube boilers and boilers and process heaters of any other type with less than or equal to 10 MMBtu/hr capacity).

A review of the information gathered on boilers also shows that a number of units operate as backup, emergency, or peaking units that operate infrequently. Back-up or emergency units only operate if another boiler that is the regular source of energy or steam is not operating (for example due to a shutdown for maintenance and repair). Peaking units operate only during peak energy use periods, typically in the summer months. The boiler database indicates that these infrequently operated units typically operate 10 percent of the year or less. These limited use boilers, when called upon to operate, must respond without failure and without lengthy periods of startup. While these are potential sources of emissions, and it is appropriate for EPA to address them in the proposal, the Agency believes that their use and operation are different compared to typical industrial, commercial, and institutional boilers. Consequently, we decided that such limited use units should have their own subcategory. Therefore, the proposed rule has subcategories for boilers and process heaters having a capacity utilization of less than 10 percent.

In summary, we have identified nine subcategories of boilers and process heaters located at major sources: (1) Large solid fuel-fired boilers and process heaters (sizes greater than 10 MMBtu/hr), (2) large liquid fuel-fired boilers and process heaters (sizes greater than 10 MMBtu/hr), (3) large gaseous fuel-fired boilers and process heaters (sizes greater than 10 MMBtu/hr), (4) small solid fuel-fired boilers and process heaters (firetubes or any unit less than or equal to 10 MMBtu/hr), (5) small liquid fuel-fired boilers and process heaters (sizes less than or equal to 10 MMBtu/hr), (6) small gaseous fuel-fired boilers and process heaters (sizes less than or equal to 10 MMBtu/hr), (7) limited use solid fuel-fired boilers and process heaters (large units with capacity utilization less than or equal to 10 percent), (8) limited use liquid fuel-fired boilers and process heaters (large units with capacity utilization less than or equal to 10 percent), and (9) limited use gaseous fuel-fired boilers and process heaters (large units with capacity utilization less than or equal to 10 percent).

B. How Did EPA Select the Format for the Proposed Rule?

The proposed rule includes emission limits for PM, selected metallic HAP, mercury, and HCl for six of the nine subcategories. The selection of emission limitations as the format for the proposed rule provides flexibility for the regulated community by allowing a regulated source to choose any control technology or technique to meet the emission limits, rather than requiring each unit to use a prescribed method that may not be appropriate in each case. This is particularly relevant for boilers and process heaters, because they can burn many different types of fuels with greatly varying emission profiles and owners need flexibility to use the control devices that are best for their particular emission characteristics.

The EPA selected an outlet emission rate format because outlet data are available for boilers and process heaters that use the control techniques that provide the greatest reduction in HAP emissions. The individual limits reflect the achievable performance of boilers and process heaters using the appropriate controls for each type of emissions.

The EPA is proposing numerical emission rate limits as a mass of pollutant emitted per heat energy input to the boiler or process heater. The most typical units for the limits are pounds of pollutant emitted per million Btu of heat input. The mass per heat input units are consistent with other Federal and many State boiler regulations and allows easy comparison between such requirements. Additionally, the proposed rule contains an option to monitor inlet chlorine, mercury, and metals content in the fuel to meet outlet emission rate limits. This option can only be done on a mass basis.

The EPA considered percent reduction and outlet concentration as alternative formats for the pollutants regulated. However, an outlet concentration limit could not be accurately correlated to the chlorine content in the inlet fuel. An outlet concentration limit would also not be consistent with the format of other regulations. Affected units would already be complying with a mass per heat input limit, so EPA did not believe that a concentration limit would provide any additional benefits or flexibility. Additionally, data were insufficient to determine percent reductions that control devices achieve. Furthermore, a percent reduction requirement would limit the flexibility of the regulated community by requiring the use of a control device. Therefore, neither alternative was selected as the format for the proposed rule. The EPA requests comments on the appropriateness of percent reduction requirements and outlet concentration limit requirements, and any data upon which those requirements could be based.

Boilers and process heaters can emit a wide variety of compounds, depending on the fuel burned. The boiler emissions test database lists over 100 possible HAP. Because of the large number of HAP potentially present and the disparity in the quantity and quality of the emissions information available, EPA grouped the HAP into four common categories: mercury, non-mercury metallic HAP, inorganic HAP, and organic HAP. In general, the pollutants within each group have similar characteristics and can be controlled with the same techniques. For example, non-mercury metallic HAP can be controlled with PM controls. The EPA chose to look at mercury separately from other metallic HAP due to its different chemical characteristics and applicable controls.

Next, EPA identified compounds that could be used as surrogates for all the compounds in each pollutant category. For the non-mercury metallic HAP, EPA chose to use PM as a surrogate. Most, if not all, non-mercury metallic HAP emitted from combustion sources will appear on the flue gas fly-ash. Therefore, the same control techniques that would be used to control the fly-ash PM will control non-mercury metallic HAP. Particulate matter was also chosen instead of specific metallic HAP because all fuels do not emit the same type and amount of metallic HAP but most generally emit PM that includes some amount and combination of metallic HAP. The use of PM as a surrogate will also eliminate the cost of performance testing to comply with numerous standards for individual metals.

However, the Agency is sensitive to the fact that some sources that burn fuels containing very little metals, but would have sufficient PM emissions to require control under the PM provisions of the proposed rule. In such cases, PM would not be an appropriate surrogate for metallic HAP. Therefore, the Agency is also proposing an alternative metals emission limit. A source may choose to comply with the alternative metals emissions limit instead of the PM limit to meet the proposed rule. The metals emission limit is for the sum of emissions of eight selected metals: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium. The eight represent the most common and the largest emitted metallic HAP from boilers and process heaters.

For inorganic HAP, EPA chose to use HCl as a surrogate. The emissions test information available to EPA indicate that the primary inorganic HAP emitted from boilers and process heaters are acid gases, with HCl present in the largest amounts. Other inorganic compounds emitted are found in much smaller quantities. Also, control technologies that would reduce HCl would also control other inorganic compounds that are acid gases. Thus, the best controls for HCl would also be the best controls for other inorganic HAP that are acid gases. Therefore, HCl is a good surrogate for inorganic HAP because controlling HCl will result in a corresponding control of other inorganic HAP emissions.

For organic HAP, EPA chose to use CO as a surrogate to represent the variety of organic compounds, including dioxins, emitted from the various fuels burned in boilers and process heaters. Because CO is a good indicator of incomplete combustion, there is a direct correlation between CO emissions and the formation of organic HAP emissions. Monitoring equipment for CO is readily available, which is not the case for organic HAP. Also, it is significantly easier and less expensive to measure and monitor CO emissions than to measure and monitor emissions of each individual organic HAP. Therefore, using CO as a surrogate for organic HAP is a reasonable approach because minimizing CO emissions will result in minimizing organic HAP emissions.

In addition to meeting emission limits, today's proposal would also require sources to establish control device operating parameter limits and continuously monitor control device operating parameters. Each source would establish site-specific values for the relevant parameters during performance tests, and use the parameter values to demonstrate compliance with the emission limits. We selected different operating parameters for each type of potential control device. The parameters were selected because they are good indicators of proper control device operation and performance, are consistent with other standards, and are feasible to monitor. The operating limits reasonably assure that the control devices continue to operate in a manner that will achieve the same level of control as during the performance test.

C. How Did EPA Determine the Proposed Emission Limitations for Existing Units?

All standards established pursuant to section 112(d)(2) of the CAA must reflect MACT, the maximum degree of reduction in emissions of air pollutants that the Administrator, taking into consideration the cost of achieving such emissions reductions, and any nonair quality health and environmental impacts and energy requirements, determined is achievable for each category. For existing sources, MACT cannot be less stringent than the average emission limitation achieved by the best performing 12 percent of existing sources for categories and subcategories with 30 or more sources. This requirement constitutes the MACT floor for existing boilers and process heaters. However, EPA may not consider costs or other impacts in determining the MACT floor. The EPA must consider cost, nonair quality health and environmental impacts, and energy requirements in connection with any standards that are more stringent than the MACT floor (beyond-the-floor controls).

D. How Did EPA Determine the MACT Floor for Existing Units?

We considered several approaches to identifying MACT floor for existing industrial, commercial, and institutional boilers and process heaters. Based on recent court decisions, in most cases the most acceptable approach for determining the MACT floor is likely to involve primarily the consideration of available emissions test data. Using such an approach, EPA might calculate the MACT floor for a category of sources by ranking the emission test results from units within the category from lowest to highest, and then taking the numerical average of the test results from the best performing (lowest emitting) 12 percent of sources.

However, after review of the available HAP emission test data, we determined that it was inappropriate to use this MACT floor approach to establish emission limits for boilers and process heaters. The main problem with using only the HAP emissions data is that, based on the test data alone, uncontrolled units (or units with low efficiency add-on controls) were frequently identified as being among the best performing 12 percent of sources in a subcategory, while many units with high efficiency controls were not. However, these uncontrolled or poorly controlled units are not truly among the best controlled units in the category. Rather, the emissions from these units are relatively low because of particular characteristics of the fuel that they burn, that cannot reasonably be replicated by other units in the category or subcategory. In fact, we expect just this kind of variability in emission rates given the variety of fuel types included within each subcategory of boilers and process heaters.

A review of fuel analyses indicate that the concentration of HAP (metals, HCl, mercury) vary greatly, not only between fuel types, but also within each fuel type. Some fuels even have pollutant concentration levels below the detection limit of the applicable analytical test method. Therefore, a unit without any add-on controls, but burning a fuel containing lower amounts of HAP, can have emission levels that are lower than the emissions from a unit with the best available add-on controls. If only the available HAP emissions data are used, the resulting MACT floor levels would be unachievable for many existing units, even those that employ the most effective available emission control technology. For example, an uncontrolled boiler burning wood may have lower emissions of mercury than a well controlled boiler burning coal. In fact, coal burning boilers may never be able to achieve the mercury HAP level of the wood-fired unit, no matter what add-on controls are used. In this instance, establishing a MACT standard based on emission data alone would force the coal units to switch to different fuels to achieve the MACT limits. As discussed later in this section, fuel switching is not an appropriate or available control option for identifying the MACT floors for boilers and process heaters.

Another problem with using only emissions data is that there is no HAP emissions information available to the Agency for some of the subcategories. This is consistent with the fact that units in these source categories have not historically been required to test for HAP emissions.

We also considered using HAP emission limits contained in State regulations and permits as a surrogate for actual emission data in order to identify the emissions levels from the best performing units in the category for purposes of establishing MACT standards. However, we found no State regulations or State permits that specifically limit HAP emissions from these sources.

Consequently, we concluded that the most appropriate approach for determining MACT floors for boilers and process heaters was to look at the control options used by the units within each subcategory in order to identify the best performing units. Information was available regarding the emission control options employed by the population of boilers identified by the EPA. We considered several possible control controls (*i.e.,* factors that influence emissions), including fuel substitution, process changes and work practices, and add-on control technologies.

We considered first whether fuel switching would be an appropriate control option for sources in each subcategory. We considered the feasibility of fuel switching to other fuels used in the subcategory and to fuels from other subcategories. This consideration included determining whether switching fuels would achieve lower HAP emissions. A second consideration was whether fuel switching could be technically achieved by boilers and process heaters in the subcategory considering the existing design of boilers and process heaters. We also considered the availability of various types of fuel.

After considering these factors, we determined that fuel switching was not an appropriate control technology for purposes of determining the MACT floor level of control for any subcategory. This decision was based on the overall effect of fuel switching on HAP emissions, technical and design considerations discussed previously in this preamble, and concerns about fuel availability.

Based on the data available in the emissions database, we determined that while fuel switching from solid fuels to gaseous or liquid fuels would decrease PM and some metals emissions, emissions of some organic HAP would increase, resulting in uncertain benefits. This determination is discussed in the memorandum ‘‘Development of Fuel Switching Costs and Emission Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants’’ located in the docket. We believe that it is inappropriate in a MACT rulemaking to consider as MACT a control option that potentially will decrease emissions of one HAP while increasing emissions of another HAP. In order to adopt such a strategy, EPA would need to assess the relative risk associated with each HAP emitted, and determine whether requiring the control in question would result in overall lower risk. Such an analysis is not appropriate at this stage in the regulatory process.

A similar determination was made when considering fuel switching to cleaner fuels within a subcategory. For example, the term ‘‘clean coal’’ refers to coal that is lower in sulfur content and not necessarily lower in HAP content. Data gathered by EPA also indicates that within specific coal types HAP content can vary significantly. Switching to a low sulfur coal may actually increase emissions of some HAP. Therefore, it is not appropriate for EPA to include fuel switching to a low sulfur coal as part of the MACT standards for boilers and process heaters. Fuel switching from coal to biomass would result in similar impacts on HAP emissions. While this would reduce metallic HAP emissions, it would likely increase emissions of organics based on information in the emissions database.

Another factor considered was the availability of alternative fuel types. Natural gas pipelines are not available in all regions of the U.S., and natural gas is simply not available as a fuel for many industrial, commercial, and institutional boilers and process heaters. Moreover, even where pipelines provide access to natural gas, supplies of natural gas may not be adequate. For example, it is common practice in cities during winter months (or periods of peak demand) to prioritize natural gas usage for residential areas before industrial usage. Requiring EPA regulated combustion units to switch to natural gas would place an even greater strain on natural gas resources. Consequently, even where pipelines exist, some units would not be able to run at normal or full capacity during these times if shortages were to occur. Therefore, under any circumstances, there would be some units that could not comply with a requirement to switch to natural gas.

Similar problems for fuel switching to biomass could arise. Existing sources burning biomass generally are combusting a recovered material from the manufacturing or agriculture process. Industrial, commercial, and institutional facilities that are not associated with the wood products industry or agriculture may not have access to a sufficient supply of biomass materials to replace their fossil fuel.

As discussed previously in this preamble, there is a significant concern that switching fuels would be infeasible for sources designed and operated to burn specific fuel types. Changes in the type of fuel burned by a boiler or process heater (solid, liquid, or gas) may require extensive changes to the fuel handling and feeding system (*e.g.*, a stoker using wood as fuel would need to be redesigned to handle fuel oil or gaseous fuel). Additionally, burners and combustion chamber designs are generally not capable of handling different fuel types, and generally cannot accommodate increases or decreases in the fuel volume and shape. Design changes to allow different fuel use, in some cases, may reduce the capacity and efficiency of the boiler or process heater. Reduced efficiency may result in less complete combustion and, thus, an increase in organic HAP emissions. For the reasons discussed above, we decided that fuel switching to cleaner solid fuels or to liquid or gaseous fuels is not an appropriate criteria for identifying the MACT floor level of control for units in the boilers and process heaters category.

We also concluded that process changes or work practices were not appropriate criteria for identifying the MACT floor level of control for units in the boilers and process heaters category. The HAP emissions from boilers and process heaters are primarily dependent upon the composition of the fuel. Fuel dependent HAP are metals, including mercury, and acid gases. Fuel dependent HAP are typically controlled by removing them from the flue gas after combustion. Therefore, they are not affected by the operation of the boiler or process heater. Consequently, process changes would be ineffective in reducing these fuel-related HAP emissions.

On the other hand, organic HAP can be formed from incomplete combustion of the fuel. Combustion is defined as the rapid chemical combination of oxygen with the combustible elements of a fuel. The objective of good combustion is to release all the energy in the fuel while minimizing losses from combustion imperfections and excess air. The combination of the fuel with the oxygen requires temperature (high enough to ignite the fuel constituents), mixing or turbulence (to provide intimate oxygen-fuel contact), and sufficient time (to complete the process), sometimes referred to the three Ts of combustion. Good combustion practice (GCP), in terms of boilers and process heaters, could be defined as the system design and work practices expected to minimize organic HAP emissions. The GCP control strategy could include a number of combustion conditions and work practices which are applied collectively to achieve this goal.

While few sources in EPA's database specifically reported using good combustion practices, the data that we have suggests that boilers and process heaters within each subcategory might use any of a wide variety of different work practices, depending on the characteristics of the individual unit. The lack of information, and lack of a uniform approach to assuring combustion efficiency, is not surprising given the extreme diversity of boilers and process heaters, and given the fact that no applicable Federal standards, and most applicable State standards, do not include work practice requirements for boilers and process heaters. Even those States that do have such requirements do not require the same work practices. For example, CO emissions are generally a good indicator of incomplete combustion, and, therefore, low CO emissions might reflect good combustion practices. Therefore, we considered whether existing CO monitoring requirements and emission limits might be used to establish good combustion practice standards for boilers and process heaters. (As discussed previously in this preamble, CO is also a surrogate for organic HAP emissions in the proposed rule.) The population databases did not contain information regarding whether existing units monitored CO emissions. Therefore, we reviewed State regulations applicable to boilers and process heaters, and then for each subcategory we matched the applicability of State CO monitoring requirements or emission limits with information on the locations and characteristics of the boilers and process heaters in the population database. Ultimately, we found that very few units (less than 6 percent) in any subcategory were subject to CO monitoring requirements or emission limits. We concluded that this information did not allow EPA to identify a level of performance that was representative of good combustion across the various units in any subcategory.

Consequently, EPA was unable to identify any uniform requirements or set of work practices that would meaningfully reflect the use of good combustion practices, or that could be meaningfully implemented across any subcategory of boilers and process heaters. Therefore, EPA is not establishing combustion practice requirements as a part of the MACT floor for existing units. However, we have considered the appropriateness of such requirements in the context of evaluation possible beyond-the-floor options.

In general, boilers and process heaters are designed for good combustion. Facilities have an economic incentive to ensure that fuel is not wasted, and the combustion device operates properly and is appropriately maintained. In fact, existing boilers and process heaters are used typically as high efficiency control devices to control (reduce) emission streams containing organic compounds from various process operations. Therefore, EPA's inability to establish a combustion practice requirement as part of the MACT floor for existing sources in this category should not reduce the incentive for owners and operators to run their boilers and process heaters at top efficiency.

We request comment, and emissions information, regarding whether there are any uniform GCP practices that would be appropriate for minimizing organic HAP emissions from any subcategory of industrial, commercial, and institutional boilers and process heaters.

As a result of the preceding evaluation of the feasibility of establishing emission limits based on control techniques such as fuel switching and good combustion practices, we concluded that add-on control technology should be the primary factor for purposes of identifying the best controlled units within each subcategory of boilers and process heaters. In order to determine the MACT floor based primarily on add-on control technologies, we first examined the population database of existing sources. Units not meeting the definition of an industrial, commercial, or institutional boiler or process heater, and units located at area sources were removed from the database. The remaining units were divided first into three subcategories based on fuel state: gaseous fuel-fired, liquid fuel-fired, and solid fuel-fired units. Each of these three subcategories was then further divided into subcategories based on capacity: (1) Large units (watertube boilers and process heaters with heat inputs greater than 10 MMBtu/hr); (2) small units (firetube boilers and any boiler and process heater with a maximum rated heat input capacity of 10 MMBtu/hr or less); and (3) limited use units with capacity utilization less than 10 percent.

We identified the types of air pollution control techniques currently used by existing boilers and process heaters in each subcategory. We ranked those controls according to their effectiveness in removing the different categories of pollutants; including metallic HAP and PM, inorganic HAP such as acid gases, mercury, and organic HAP. The EPA ranked these existing control technologies by incorporating recommendations made by the ICCR, and by reviewing emissions test data, previous EPA studies, and other literature, as well as by using engineering judgement.

Based upon the emissions reduction potential of existing air pollution control techniques, we listed all the boilers and process heaters in the population database in order of decreasing control device effectiveness within each subcategory for each pollutant type. Then we identified the top 12 percent of units within each category based on this ranking, and determined what kind of emission control technology, or combination of technologies, the units in the top 12 percent employed. Finally, we looked at the emissions test data from boilers and process heaters that used the same control technology, or technologies, as the units in the top 12 percent to estimate the average emissions limitation achieved by these units.

The last part in the process described above, involving the calculation of numerical emission limits, was a two-step analysis. The first step involved calculating a numerical average of an appropriate subset of the emission test data from units using the same technology, or technologies, as the units in the top 12 percent. Based on the initial ranking, we determined what proportion of the units using a particular technology were among the top 12 percent of units in the subcategory. Then we looked at a corresponding proportion of the emission test data from units using that type of control technology, and produced an overall average measured performance level. For example, in the large solid-fuel subcategory, approximately 14 percent of units used the best performing control technology for PM/metallic HAP (baghouses). In order to rank the units using the best technology for which we had emission test data, we generated unit by unit measured performance levels by averaging the multiple tests from each individual unit (if multiple tests were available). Then we looked at the best 12/14 of the units for which we generated such individual averages, and averaged the unit by unit averages from all of these units. This resulted in an overall average measured emissions performance level for units representative of the top 12 percent of units in the subcategory.

The second step in this part of the process involved generating and applying an appropriate variability factor to account for unavoidable variations in emissions due primarily to uncontrollable differences in fuel characteristics and ordinary operational variability. First, we identified all the units for which we had emission test data using the same technology, or technologies, as units in the top 12 percent. Then, for each such unit with multiple emission tests, we calculated the variability in the measured emissions from that unit by dividing the highest three-run test result by the lowest three-run test result. Finally, we calculated the overall variability in the measured emissions from these units by averaging all the individual unit variability factors, and we applied this overall variability factor to the overall average measured emissions performance level (as described above) to derive a emission limit representative of the average emission limitation achieved by the top 12 percent of units.

This approach reasonably ensures that the emission limit selected as the MACT floor adequately represents the average level of control actually achieved by units in the top 12 percent, considering ordinary operational variability. Both the analysis of the measured emissions from units representative of the top 12 percent, and the variability analysis, are reasonably designed to provide a meaningful estimate of the average performance, or central tendency, of the best controlled 12 percent of units in a given subcategory. Using such an approach, including a variability factor, is reasonable because the estimated performance of the best controlled units must account for variability in the performance of the units over time and under different operational conditions. Absent comprehensive emission data, there is no reason to believe that any individual unit could consistently achieve the emission performance demonstrated by a limited set of emission tests. Because, each emission test is but a snapshot of actual and ongoing performance, taken at one moment in time, evaluating the snapshots collectively is the best way to estimate the unavoidable variation in emissions expected to occur and recur over time at similarly controlled units in the category (or subcategory). As a result, the most reasonable methodology for determining the variability among the best controlled units is to evaluate the overall variability in the performance of the particular control technology that those units use, by examining the variability among the emission test results (the performance snapshots) for all similarly controlled units (excluding any emission values from tests that did not represent a proper functioning system). Accordingly, we have used the available emissions data to reasonably estimate the variability of the top performing units in each subcategory.

The EPA's review of emissions data indicates that some boilers and process heaters within each subcategory may be able to meet the floor emission levels without using the air pollution control technology that is used by the top 12 percent of units in the subcategory. This is to be expected given the variety of fuel types, fuel input rates, and boiler designs included within each subcategory and the resulting variability in emission rates. Thus, for instance, boilers or process heaters within the large unit solid fuel subcategory that burn lower percentages of solid fuels may be able to achieve the emission levels for the large unit solid fuel subcategory without the need for additional control devices.

Furthermore, solid fuels, especially coal, are very heterogeneous and can vary in composition by location. Coal analysis data obtained from the electric utility industry in another rulemaking contained information on the mercury, chlorine, and ash content of various coals. A preliminary review of this data indicate that the composition can vary greatly from location to location, and also within a particular location. Based on the range of variation of mercury, chlorine, and ash content in coal, it is possible for a unit with a lower performing control system to have emission levels lower than a unit considered to be included in the best performing 12 percent of the units.

This situation is reflected in the emissions information used to set the MACT floor emission limits. In some instances there are boilers with ESP or other controls that achieve similar, or lower, outlet emission levels of non-mercury metallic HAP, PM, or mercury than fabric filters. In most cases, this is due to concentrations entering these other control devices being lower, even though the percent reduction achieved is lower than fabric filters.

Additionally, the design of some control devices may have a substantial effect on their emissions reductions capability. For example, fabric filters are largely insensitive to the physical characteristics of the inlet gas stream. Thus, their design does not vary widely, and emissions reductions are expected to be similar (*e.g.* 99 percent reduction of PM). However, ESP design can vary significantly. Some ESP are two fields, others may have three or four. The more fields the larger the emissions reductions for PM. Similarly, other devices can be designed to achieve higher emissions reductions. This level of detail was not available for the information used to develop the MACT floor emission limits.

Consequently, since fuel substitution has been determined not to be an appropriate MACT floor control technology, EPA still considers the fabric filter to be the best performing control for non-mercury metallic HAP, PM, and mercury and only emissions information for fabric filters was used to develop emission limits.

For existing unit subcategories where less than 12 percent of units in the subcategory use any type of control technology, we could not use the same approach to identify the average level of control achieved by the top 12 percent. Therefore, we looked to see if we could estimate the central tendency of the best controlled units by looking at the median unit of the top 12 percent (the unit at the 94th percentile). Under such circumstances, if the median unit of the top 12 percent is using some control technology, we might use the measured emission performance of that individual unit as the basis for estimating an appropriate average level of control of the top 12 percent. For subcategories where even the median unit is using no control technology, the average control of the top 12 percent of units is no emissions reductions.

A detailed discussion of the MACT floor methodology is presented in the memorandum ‘‘MACT Floor Analysis for the Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants’’ in the docket.

1. Existing Solid Fuel Boilers and Process Heaters

a. Large Units—Heat Inputs Greater than 10 MMBtu/hr. The most effective control technologies identified for removing non-mercury metallic HAP and PM are fabric filters. About 14 percent of solid fuel-fired boilers and process heaters use fabric filters. Because greater than 12 percent of units in the category use this technology, and because there are no options reasonably available for reducing HAP emissions other than add-on control, we consider sources with fabric filters to be the best controlled sources in this subcategory for purposes of metallic HAP and PM emissions. Thus, it is appropriate to use the measured performance of sources with fabric filters as the basis for establishing the MACT floor for non-mercury metallic HAP and PM for existing boilers and process heaters in this subcategory.

As described earlier, a PM level is set as a surrogate for non-mercury metallic HAP. The MACT floor emission level based on PM test data from the solid fuel units with fabric filters representing the top 12 percent, and incorporating operational variability (using results from multiple tests on best performing units), is 0.07 lb PM/MMBtu. We are also providing an alternative metals limit of 0.001 lb metals/MMBtu which can be used to show compliance in cases where metal HAP emissions are low in proportion to PM emissions. This is because, according to the emissions database, some biomass units have low metals content but high PM emissions. The emission level for metals was selected from metals test data associated with PM emission tests from fabric filters that met the MACT floor PM emission level.

The most effective control technologies identified for removing inorganic HAP that are acid gases, such as HCl, are wet scrubbers and packed bed scrubbers. These technologies are used by about 13 percent of the boilers and process heaters in the large solid fuel subcategory. About 12 percent of solid fuel-fired boilers and process heaters use wet or dry scrubbers, and approximately 1 percent use packed bed scrubbers.

Because greater than 12 percent of units in the category use this technology, and because there are no options reasonably available for reducing HAP emission other than add-on control, we consider sources with wet or dry scrubbers and packed bed scrubbers to be the best controlled sources in this subcategory for purposes of inorganic HAP emissions. Thus, it is appropriate to use the measured performance of sources with wet or dry scrubbers and packed bed scrubbers as the basis for establishing the MACT floor for inorganic HAP for existing boilers and process heaters in this subcategory. The MACT floor emission level based on HCl emissions test data from units using wet or dry scrubbers and packed bed scrubbers representing the top 12 percent, and incorporating operational variability, is 0.09 lb HCl/MMBtu.

Based on test information on utility boilers, we have concluded that fabric filters are the most effective technology for controlling mercury emissions. As discussed previously, approximately 14 percent of sources in the subcategory use fabric filters. The MACT floor emission level for mercury, based on the measured performance of units with fabric filters representing the top 12 percent, and incorporating operational variability, is 0.000007 lb mercury/MMBtu.

Although EPA used information from utility boilers to conclude that fabric filters are the most effective control technology for controlling mercury emissions, this same information suggests that different fuel characteristics (*e.g.* mercury and chlorine content of the fuel burned) can lead to both different outlet mercury (Hg) concentrations and different control efficiencies for equivalent control devices.[1] We have emissions test results for mercury emissions from seven industrial boilers and process heaters equipped with fabric filters. The Agency has information about the general type of fuel being burned during

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[1] The speciation of mercury in the flue gas is believed to affect the amount of mercury captured by control devices. Mercury can be present in both vapor form (as insoluble elemental mercury and as soluble oxidized mercury (such as, mercury chloride)) and in particulate form. The capture of elemental mercury is reportedly more difficult than the capture of oxidized mercury or mercury in particulate form.

the emission tests, such as coal, wood, or some mixture of fuel types. However, we have no detailed information about the specific characteristics (such as mercury or chlorine content) of the fuel being burned during those emissions tests. Nonetheless, we believe that the use of variability factors adequately accounts for potential variations in fuel mercury and chloride content.

However, because we have very limited data on actual emissions from industrial boilers and process heaters, the Agency is soliciting comment on whether the variability analysis in the current proposal adequately addresses the impact that fuel characteristics (such as mercury and chlorine content) can have on mercury emissions from a source equipped with fabric filters. As discussed earlier, the Agency is not currently considering fuel switching as a control option in setting the MACT floor. Therefore, the Agency requests specific information regarding both the mercury and chlorine content characteristics of the fuel used in, and the mercury emissions from, industrial boilers and process heaters equipped with well designed and operated fabric filters.

Comments on this issue should include specific data regarding both the characteristics of the fuel burned (including mercury and chlorine content along with any other pertinent characteristics) and current mercury emissions of these industrial boilers and process heaters.

For organic HAP, we attempted to determine the level of control being achieved by the top 12 percent of units within the subcategory, however, less than 6 percent of the units in this subcategory use any type of organic HAP control (by limiting CO emissions). Thus, while a small proportion of units in the subcategory monitor and control their CO emissions (and, therefore, limit emissions of organic HAP), the majority of units in the subcategory (and in the top 12 percent) do not control these emissions. Because so few units control emissions of organic HAP, we could not calculate an average limitation achieved by the top 12 percent as we did for metallic HAP/PM, inorganic HAP/HCl, and mercury. We looked then at whether the median unit of the top 12 percent might provide some indication of the central tendency of the top 12 percent. However, because fewer than 6 percent of units are controlled, the median unit reflects no emissions reductions for organic HAP. Therefore, we concluded that the MACT floor for existing sources in this subcategory is no emissions reductions for organic HAP.

Consequently, EPA determined that, in general, the combination of fabric filter and wet scrubber control technologies forms the basis for the MACT floor level of control for existing large solid fuel boilers or process heaters. We recognize that some boilers and process heaters that use technologies other than those used as the basis of the MACT floor can achieve the MACT floor emission levels. For example, emission test data show that many boilers with well designed and operated ESP can meet the MACT floor emission levels for non-mercury metallic HAP and PM, even though the floor emission level for these pollutants is based on units using a fabric filters (however, we would not expect that all units using ESP would be able to meet the emission limits in the proposed rule).

b. Small Units—Heat Inputs Less than or Equal to 10 MMBtu/hr. For each pollutant group (non-mercury metallic HAP and PM, mercury, inorganic HAP/HCl, and organic HAP), less than 6 percent of the units in this subcategory used control techniques that limit emissions. Because so few units in the subcategory control emissions of HAP, we could not calculate an average limitation achieved by the top 12 percent for any HAP grouping. We looked then at whether the median unit of the top 12 percent might provide some indication of the central tendency of the top 12 percent for any HAP grouping. However, because fewer than 6 percent of units in each HAP grouping used controls or limited emissions, the median unit for each HAP grouping reflects no emissions reduction.

Therefore, we determined that the MACT floor emission level for existing units for each of the pollutant categories in this subcategory is no emissions reductions.

c. Limited Use Units—Capacity Utilizations Less than or Equal to 10 Percent. The most effective control technologies identified for removing non-mercury metallic HAP and PM are ESP and fabric filters. Less than 2 percent of limited use solid fuel-fired boilers and process heaters use fabric filters, and 14 percent use ESP. Therefore, we used the measured performance of units using ESP and fabric filters as the basis for the MACT floor for non-mercury metallic HAP and PM. We established a PM level as a surrogate for non-mercury metallic HAP control, reflecting the emission test data from units using ESP and fabric filters that were representative of the top 12 percent of units in the subcategory.

The emissions test database did not contain test data for limited use boilers and process heaters. In order to develop emission levels for this subcategory, we decided to use information from units in the large solid fuel subcategory. We considered this to be an appropriate methodology because although the units in this subcategory are different enough to warrant their own subcategory (*i.e.*, different purposes and operation), emissions of the specific types of HAP for which limits are being proposed (HCl and non-mercury metals) are expected to be related more to the type of fuel burned and the type of control used, than to unit operation. Consequently, we determined that emissions information from the large solid fuel subcategory could be used to establish MACT floor levels for this subcategory because the fuels and controls are similar. The MACT floor emission level based on this test data, considering operational variability, is 0.02 lb PM/MMBtu. We are also providing an alternative metals limit of 0.001 lb metals/MMBtu which can be used to show compliance in cases where metal HAP emissions are low in proportion to PM emissions. The emissions database indicates that some biomass units have low metals content but high PM emissions. The emission level for metals was selected from metals test data associated with PM emission tests from fabric filters that met the MACT floor PM emission level.

Similar control technology analyses were done for the boilers and process heaters in this subcategory for the other pollutant groups of interest, including inorganic HAP, organic HAP and mercury. For each of these pollutant groups, less than 6 percent of the units in this subcategory used control techniques that limit emissions. Because so few units in the subcategory control emissions of these HAP, we could not calculate an average limitation achieved by the top 12 percent for inorganic HAP, organic HAP and mercury. We looked then at whether the median unit of the top 12 percent might provide some indication of the central tendency of the top 12 percent for any of these HAP groupings. However, because fewer than 6 percent of units in each HAP grouping used controls or limited emissions, the median unit for each HAP grouping reflects no emission reductions. Therefore, we concluded that the MACT floor for inorganic HAP, organic HAP and mercury in this subcategory is no emissions reductions. Consequently, we determined that ESP and fabric filters, which achieve non-mercury metallic HAP and PM control, form the basis for the MACT floor level of control for existing solid fuel boilers and process heaters in this subcategory.

2. Existing Liquid Fuel Boilers and Process Heaters

Emission data for liquid subcategories were inadequate to identify the best performing sources for reasons described previously in this preamble. We also found no State regulations or permits which specifically limit HAP emissions from these sources. Therefore, we examined control technology information to identify a MACT floor. We found that less than 6 percent of the units in each of the liquid subcategories used control techniques that would reduce non-mercury metallic HAP and PM, mercury, organic HAP, or acid gases, (such as HCl). Therefore, we concluded, for each subcategory of liquid fueled boilers and process heaters, that the MACT floor is no emission reductions for non-mercury metallic HAP, mercury, inorganic HAP, and organic HAP.

3. Existing Gaseous Fuel Boilers and Process Heaters

Emission data for gas subcategories were inadequate to identify the best performing sources for reasons described in section III.D of this preamble. We also found no State regulations or permits that specifically limit HAP emissions from these sources. Therefore, we examined control technology information to identify a MACT floor. We found that no existing units in the gaseous fuel-fired subcategories were using control technologies that achieve consistently lower emission rates than uncontrolled sources for any of the pollutant groups of interest. Therefore, we are unable to identify the best performing 12 percent of units in the subcategories. Consequently, EPA determined that no existing source MACT floor based on control technologies could be identified for gaseous fuel-fired units. Therefore, we concluded the MACT floor for existing sources in this subcategory is no emissions reductions for non-mercury metallic HAP, mercury, inorganic HAP, and organic HAP.

E. How Did EPA Consider Beyond-the-Floor Options for Existing Units?

Once the MACT floor determinations were done for each subcategory, EPA considered various regulatory options more stringent than the MACT floor level of control (*i.e.*, technologies or other work practices that could result in lower emissions) for the different subcategories.

Maintaining and monitoring CO levels was identified as a possible control for organic HAP. In addition to looking at whether CO limits should be a part of the MACT floor, we looked at this option as a beyond-the-floor option. However, information was not available to estimate the HAP emissions reductions that would be associated with CO monitoring and emission limits. This option would also require a high cost to install and operate CO monitors. Given the cost and the uncertain emissions reductions that might be achieved, we chose to not require CO monitoring and emission limits as MACT.

The following sections discuss the beyond-the-floor options analyzed to control emissions of metallic HAP, mercury, and inorganic HAP. Based on the analysis in these sections, EPA decided to not go beyond the MACT floor level of control for the proposed rule for any of the subcategories of existing sources. A detailed description of the beyond-the-floor consideration is in the memorandum ‘‘Methodology for Estimating Cost and Emissions Impacts for Industrial, Commercial, Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants’’ in the docket.

1. Existing Solid Fuel Units

a. Large Units—Heat Inputs Greater than 10 MMBtu/hr. Besides fuel switching, we identified a better designed and operated fabric filter (the MACT floor for new units) as a control technology that could achieve greater emissions reductions of metallic HAP and PM emissions than the MACT floor level of control. Consequently, EPA analyzed the emissions reductions and additional cost of adopting an emission limit representative of the performance of a unit with a better designed and operated fabric filter. The additional annualized cost to comply with this emission limit was estimated to be approximately 500 million dollars with an additional emission reduction of approximately 100 tons of metallic HAP. The results indicated that while additional emissions reductions would be realized, the costs would be too high to consider it a feasible beyond-the-floor option. Nonair quality health, environmental impacts, and energy effects were not significant factors, because there would be little difference in the nonair quality health and environmental impacts of replacing existing fabric filters with improved performance fabric filters. Therefore, we did not select these controls as MACT. Fuel switching was not considered a feasible beyond-the-floor option for the same reasons described previously in this preamble.

We identified packed bed scrubbers as a control technology that could achieve greater emissions reductions of inorganic HAP, like HCl, than the MACT floor level of control. Consequently, EPA analyzed the emissions reductions and additional cost of adopting an emission limit representative of the performance of a unit with a packed bed scrubber. The additional annualized cost to comply with this emission limit (using a packed bed scrubber) was estimated to be approximately 900 million dollars with an additional emission reduction of approximately 20,000 tons of HCl. The results indicated that while additional emissions reductions would be realized, the costs would be too high to consider it a feasible beyond-the-floor option. Nonair quality health, environmental impacts, and energy effects were not significant factors, because there would be little difference in the nonair quality health and environmental impacts between packed bed scrubbers and the technology that is likely to be used to meet the MACT floor level of control. Therefore, we did not select these controls as MACT.

In reviewing potential regulatory options for existing sources, EPA identified one existing industrial boiler that was using a technology, carbon injection, used in other industries to achieve greater control of mercury emissions than the MACT floor level of control. However, emission data indicated that this unit was not achieving mercury emission reduction. The EPA does not have information that would show carbon injection is effective for reducing mercury emissions from industrial, commercial, and institutional boilers and process heaters. Therefore, carbon injection was not evaluated as a regulatory options.

However, EPA requests comments on whether carbon injection should be considered as a beyond-the-floor option and whether existing industrial, commercial, or institutional boilers and process heaters could use carbon injection technology, or other control techniques to consistently achieve mercury emission levels that are lower than levels from similar sources with the MACT floor level of control. Comments should include information on emissions, current demonstrated applications, and costs, including retrofit costs. The EPA is aware that research continues on ways to improve mercury capture by PM controls, sorbent injection, and the development of novel techniques. The EPA requests comment and information on the effectiveness of such control technologies in reducing mercury emissions.

b. Small Units—Heat Inputs Less than or Equal to 10 MMBtu/hr. The MACT floor for this subcategory is no emission reductions. To control non-mercury metallic HAP and mercury, we analyzed the beyond-the-floor option of a fabric filter which was identified, generally, as the most effective control device for non-mercury metallic HAP and mercury. To control inorganic HAP such as HCl, we analyzed the beyond-the-floor option of a wet scrubber since it was identified as the least cost option.

The total annualized cost of complying with the fabric filter option was estimated to be 10 million dollars, with an estimated emission reduction of 1.9 tons per year of non-mercury metallic HAP and 0.003 tons of mercury. The annualized cost of complying with the wet scrubber option was estimated to be 11 million dollars, with an emission reduction of 48 tons per year of HCl. The results of this analysis indicated that while additional emissions reductions could be realized, the costs would be too high to consider them feasible options. Therefore, we did not select these controls as MACT. Nonair quality health, environmental impacts, and energy effects were not significant factors.

c. Limited Use Units—Capacity Utilizations Less than or Equal to 10 Percent. The MACT floor level for this subcategory for non-mercury metallic HAP control is 0.2 lb PM/MMBtu (this level of control can generally be achieved by using an ESP or fabric filter). Although fabric filters were identified as being more effective, many ESP can achieve similar levels. Any additional emission reduction from using a fabric filter would be minimal and costly considering retrofit costs for existing units that already have ESP. Therefore, a beyond-the-floor option for metallic HAP was not analyzed in detail. However, a beyond-the-floor option based on the level of performance of a fabric filter was analyzed for mercury control. The total annualized costs of the fabric filter option was estimated to be an additional 21 million dollars, with an estimated emission reduction of 0.04 tons of mercury.

The MACT floor for inorganic HAP in this subcategory was no emission reductions. For beyond-the-floor control of inorganic HAP, we analyzed the level of performance generally achievable by a wet scrubber since it was identified as the least cost option. The total annualized costs of the wet scrubber option was estimated to be 49 million dollars, with an estimated emission reduction of 463 tons per year of HCl.

The results of the beyond-the-floor analyses indicated that while additional emissions reductions could be realized, the costs would be too high to consider them feasible options. Therefore, we did not select these controls as MACT. Nonair quality health, environmental impacts, and energy effects were not significant factors.

2. Existing Liquid Fuel Units

The MACT floor for each liquid fuel subcategory is no emission reductions. For beyond-the-floor options for the liquid subcategory, EPA identified several PM controls (*e.g.*, fabric filters, ESP, and venturi scrubbers) that would reduce non-mercury metallic HAP emissions. For the beyond-the-floor analysis, we analyzed the cost and emission reduction of applying a high efficiency PM control device, such as a fabric filter, since these would be more likely to be installed for units firing liquid fuel. We identified wet scrubbers as a technology beyond-the-floor option for reduction of inorganic HAP, such as HCl. We identified fabric filters as a beyond-the-floor technology option for reduction of mercury. Consequently, EPA analyzed the emissions reductions and additional cost of applying high efficiency PM controls and wet scrubbers on liquid fuel-fired units. The additional total annualized cost of a high efficiency PM control device (such as a fabric filter) was estimated to be 460 million dollars, with an additional estimated emission reduction of 1,500 tons per year for non-mercury metallic HAP and 3 tons per year for mercury. The annualized cost of a wet scrubbers was estimated to be an additional 480 million dollars, with an additional HCl reduction of 30 tons per year. The results indicated that while additional emissions reductions would be realized, the costs would be too high to consider them feasible options. Nonair quality health, environmental impacts, and energy effects were not significant factors. Therefore, EPA chose to not select these controls as MACT for existing liquid units.

3. Existing Gas-Fired Units

The MACT floor for each gaseous fuel subcategory is no emission reductions. The great majority, if not all, of the emissions from gas-fired units are organic HAP. As discussed previously in this preamble, CO monitoring and emission limits were considered as a beyond-the-floor option, but were not selected as MACT given the costs and uncertain HAP reductions achieved. Therefore, no beyond-the-floor control technique was analyzed for organic HAP, and MACT is no emission reduction of non-mercury metallic HAP, mercury, inorganic HAP, and organic HAP.

4. Fuel Switching as a Beyond-the-Floor Option

For the solid fuel and liquid fuel subcategories, fuel switching to natural gas is a regulatory option more stringent than the MACT floor level of control that would reduce mercury, metallic HAP, and inorganic HAP emissions. We determined that fuel switching was not an appropriate beyond-the-floor option for the reasons discussed previously in this preamble. For example, natural gas supplies are not available in some areas, and supplies to industrial customers can be limited during periods when natural gas demand exceeds supply. Furthermore, in some cases, organic HAP would be increased by fuel switching. Additionally, the estimated emissions reductions that would be achieved if solid and liquid fuel units switched to natural gas were compared with the estimated cost of converting existing solid fuel and liquid fuel units to fire natural gas. The annualized cost of fuel switching was estimated to be $12 billion. The additional emission reduction associated with fuel switching was estimated to be 1,500 tons per year for metallic HAP, 11 tons per year for mercury, and 13,000 tons per year for inorganic HAP. Additional detail on the calculation procedures is provided in the memorandum ‘‘Development of Fuel Switching Costs and Emissions Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants’’ in the docket.

F. Should EPA Consider Different Subcategories for Solid Fuel Boilers and Process Heaters?

The boilers and process heaters source category is tremendously heterogeneous. The EPA has attempted to identify subcategories that provide the most reasonable basis for grouping and estimating the performance of generally similar units using the available data. We believe that the subcategories we selected are appropriate, given the variety and combination of fuels that sources in the category burn and the fact that any individual unit may use a different combination of fuels over time.

However, among the solid fuel units, the available emission test data could suggest that units burning only wood might perform sufficiently similar to each other, and sufficiently differently from other (fossil fuel burning) solid fuel units, to warrant additional subcategorization. Nonetheless, we believe, for purposes of today's proposal, that it is appropriate to treat wood burning and non-wood burning solid fuel units as a single category. We believe, given the available data, that this approach most reasonably accounts for variations in emissions that can occur as a result of different fuels and/or fuel combinations, and changes in fuel use over time, and that it provides a reasonable basis for establishing an appropriate standard.

However, if we were to create a separate subcategory for wood burning units, we would establish MACT in a manner consistent with the approach taken for other solid fuel units. We would identify the types of emission control used by the best controlled source (and the top 12 percent of units in the subcategory), and we would estimate the performance of the best controlled units by looking at representative emission test data and applying an appropriate variability factor. A preliminary review of the wood burning units in the database suggests that the MACT floors for such units would probably be related to the performance of ESP and/or scrubbers.

The EPA requests comments on whether additional or different subcategories should be considered. Comments should include detailed information regarding why a new or different subcategory is appropriate (based on the available data or adequate data submitted with the comment), how EPA should define any additional/different subcategories, how EPA should account for varied or changing fuel mixtures, and how EPA should use the available data to determine the MACT floor for any new or different categories.

G. How Did EPA Determine the Proposed Emission Limitations for New Units?

All standards established pursuant to section 112 of the CAA must reflect MACT, the maximum degree of reduction in emissions of air pollutants that the Administrator, taking into consideration the cost of achieving such emissions reductions, and any nonair quality health and environmental impacts and energy requirements, determines is achievable for each category. The CAA specifies that MACT for new boilers and process heaters shall not be less stringent than the emission control that is achieved in practice by the best-controlled similar source—this minimum level of stringency is the MACT floor for new units. However, EPA may not consider costs or other impacts in determining the MACT floor. The EPA must consider cost, nonair quality health and environmental impacts, and energy requirements in connection with any standards that are more stringent than the MACT floor (beyond-the-floor controls).

H. How Did EPA Determine the MACT Floor for New Units?

Similar to the MACT floor process used for existing units, we considered several approaches to identifying MACT floors for new industrial, commercial, and institutional boilers and process heaters. First, we considered using only the emission test data from boilers and process heaters to set the MACT floor. However, as discussed previously in this preamble, we determined that it was inappropriate in the proposed rulemaking to develop MACT floor emission limits based on HAP emissions test information alone.

We then considered using HAP emission limits contained in State regulations and permits as a surrogate to actual emission data in order to identify the emissions levels from the best performing units in the category for purposes of establishing MACT standards. However, we found no State regulations or State permits which specifically limit HAP emissions from these sources.

Consequently, we concluded that the most appropriate approach for identifying the top performing units in each subcategory of boilers and process heaters is to look at the control technologies used by the units within each subcategory. Information was available on the add-on control technologies employed by the population of boilers identified by the EPA. We considered several possible control options (*i.e.*, factors that influence emissions), including fuel substitution, process changes and work practices, and add-on control technologies.

We considered first whether fuel switching would be an appropriate control option for sources in each subcategory. We considered the feasibility of both fuel switching to other fuels used in the subcategory and to fuels from other subcategories. This consideration included determining whether switching fuels would achieve lower HAP emissions. A second consideration was whether fuel switching could be technically achieved by boilers and process heaters in the subcategory based on design considerations. We also considered the availability of various types of fuel.

As discussed previously in this preamble, we determined that fuel switching was not an appropriate control technology for purposes of determining the MACT floor level of control for any subcategory. This decision was based on the overall effect of fuel switching on HAP emissions, technical and design considerations discussed previously in this preamble, and concerns about fuel availability. Additional discussion of fuel switching is presented previously in this preamble and in the memorandum ''Development of Fuel Switching Costs and Emission Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' located in the docket.

Based on the data available in the emissions database, we determined that while fuel switching would decrease some HAP, emissions of some organic HAP would increase, resulting in uncertain benefits. We believe that it is inappropriate in a MACT rulemaking to consider as MACT a control option that potentially will decrease emissions of one HAP while increasing emissions of another HAP. A detailed discussion of the consideration of fuel switching is discussed previously in this preamble.

We also concluded that process changes or work practices were not appropriate criteria for identifying the MACT floor level of control for units in the boilers and process heaters category. The HAP emissions from boilers and process heaters are primarily dependent upon the composition of the fuel. Fuel dependent HAP are metals, including mercury, and acid gases. Fuel dependent HAP are typically controlled by removing them from the flue gas after combustion. Therefore, they are not affected by the operation of the boiler or process heater. Consequently, process changes would be ineffective in reducing these fuel-related emissions.

On the other hand, organic HAP can be formed from incomplete combustion of the fuel. Combustion is defined as the rapid chemical combination of oxygen with the combustible elements of a fuel. The objective of good combustion is to release all the energy in the fuel while minimizing losses from combustion imperfections and excess air. The combination of the fuel with the oxygen requires temperature (high enough to ignite the fuel constituents), mixing or turbulence (to provide intimate oxygen-fuel contact), and sufficient time (to complete the process), sometimes referred to the three Ts of combustion. Good combustion practice, in terms of boilers and process heaters, could be defined as the system design and work practices expected to minimize organic HAP emissions. The GCP control strategy could include a number of combustion conditions and work practices which are applied collectively to achieve this goal.

While few sources in EPA's database specifically reported using good combustion practices, the data that we have suggests that boilers and process heaters within each subcategory might use any of a wide variety of different work practices, depending on the characteristics of the individual unit. The lack of information, and lack of a uniform approach to assuring combustion efficiency, is not surprising given the extreme diversity of boilers and process heaters, and given the fact that no applicable Federal standards, and most applicable State standards, do not include work practice requirements for boilers and process heaters. Even those States that do have such requirements do not require the same work practices.

Consequently, EPA was unable to identify any uniform requirements or set of work practices that would meaningfully reflect the use of good combustion practices, or that could be meaningfully implemented across any subcategory of boilers and process heaters. Therefore, EPA is not establishing combustion practice requirements as a part of the MACT floor for new units. However, we have considered the appropriateness of such requirements in the context of evaluating possible above the floor options.

In general, boilers and process heaters are designed for good combustion. Facilities have an economic incentive to ensure that fuel is not wasted, and the combustion device operates properly and is appropriately maintained. In fact, existing boilers and process heaters are used as high efficiency control devices to control (reduce) emission streams containing organic compounds from various process operations. Therefore, EPA's inability to establish a combustion practice requirements as a part of the MACT floor for new sources in this category should not reduce the incentive for owners and operators to run their boilers and process heaters at top efficiency.

Nonetheless, we consider monitoring and maintaining CO emission levels to be associated with minimizing emissions of organic HAP. Carbon monoxide is generally an indicator of incomplete combustion because CO will burn to carbon dioxide if adequate oxygen is available. Therefore, controlling CO emissions can be a mechanism for ensuring combustion efficiency and may be viewed as a kind of GCP. As discussed previously in this preamble, CO is considered a surrogate for organic HAP emissions in the proposed rule.

To determine if CO monitoring would be the basis of the new source MACT floor for organic emissions control, we examined available information. The population databases did not contain information on existing units monitoring CO emissions. We reviewed State regulations applicable to boilers and process heaters that required the use of CO monitoring to maintain a specific CO limit. We then matched the applicability of each of the State regulations with information on the locations and characteristics of the boilers and process heaters in the population database for each subcategory to determine if each subcategory would have at least one unit that would be required to meet the CO requirements. The analysis of the State regulations indicated that at least one of the boilers and process heaters in the large and limited use subcategories for solid fuel, liquid fuel, and gaseous fuel were required to monitor CO emissions and meet a CO limit of 400 parts per million. Therefore, the new source MACT floor level of control includes a CO work practice standard of 400 parts per million for large and limited use units, reflecting the MACT floor level of control for emissions of organic HAP.

We concluded for new units that, except for CO monitoring for organic HAP, add-on control technology is the only factor that significantly controls emissions. To determine the MACT floor for new sources, EPA reviewed the population database of existing major sources. Data for units not meeting the definition of an industrial, commercial, or institutional boiler or process heater were removed from the database. Also, boilers and process heaters that would not be covered by the proposed rule, including units located at area source facilities, were not included in the analyses. As with the existing source analysis, the remaining units in the population database were first divided into three subcategories: gaseous fuel-fired units, liquid fuel-fired units, and solid fuel-fired units. They were further divided into normal use units (units with greater than 10 percent capacity utilization) and limited use units (units with less than or equal to 10 percent capacity utilization) based on hours of operation and additional descriptions provided in the population database. Units were further divided into large units (greater than 10 MMBtu/hr heat input) and small units (less than or equal to 10 MMBtu/hr heat input).

Based upon the emission reduction potential of existing air pollution control devices, EPA listed all the boilers and process heaters in the population database in order of decreasing control device effectiveness for each subcategory and each type of pollutant. Once the ranking of all existing boilers and process heaters was completed for each subcategory and type of pollutant, EPA identified, for each grouping, the control technology used by the best controlled unit. Then, for each pollutant type in each subcategory, we used the available emission test data from units using the best control technology to identify the single unit with the best average measured performance. We then calculated an emission limit, based on the measured performance of this single unit, by applying an appropriate variability factor to account for unavoidable variations in emissions due to uncontrollable variations in fuel characteristics.

The approach that we use to calculate the MACT floors for new sources is somewhat different from the approach that we use to calculate the MACT floors for existing sources. While the MACT floors for existing units are intended to reflect the average performance achieved by a representative group of sources, the MACT floors for new units are meant to reflect the emission control that is achieved in practice by the best controlled source. Thus, for existing units, we are concerned about estimating the central tendency of a set of multiple units, while for new units, we are concerned about estimating the level of control that is representative of that achieved by a single best controlled source. As with the analysis for existing sources the new unit analysis must account for variability. To accomplish this for new sources, for the fuel dependent HAP emissions, we attempt to determine what the best controlled source can achieve in light of the inherent and unavoidable variations in the HAP content of the fuel that such unit might potentially use. For non-fuel dependent HAP emissions, on the other hand, we look at the inherent variability of the control technology used by sources in the category. These approaches, respectively, represent the most reasonable way to estimate performance for purposes of establishing MACT floors for new units, given the data available.

Thus, for new units, after identifying the best control technology for each pollutant group within each subcategory (based on the control technology rankings), EPA examined the emissions data available for boilers and process heaters controlled by these technologies to determine achievable emission levels for PM (as a surrogate for non-mercury metallic HAP), total selected non-mercury metallic HAP, mercury, HCl (as a surrogate for inorganic HAP), and CO (as a surrogate for organic HAP). First, we identified the units using the best control technology for which we had emissions data. We then averaged the emission data for any unit with multiple test results, and rank these units based on the unit by unit average measured emissions performance. Then, we identified the unit with the best average measured emissions performance. Finally, to estimate the emission control achievable by this unit, we applied a variability factor to the average measured emissions performance of the best unit. For fuel dependent HAP emissions (mercury and HCl), we calculated the variability factor by looking at data on HAP variability in coal from an analysis of coal properties obtained through a utility-related information collection request. We derived the fuel dependent variability factor by dividing the highest observed HAP concentration by the lowest observed HAP concentration from the utility coal analysis. There is no reason to expect that utilities use significantly different coal than is available to industrial boilers and process heaters, and coal is the solid fuel that is routinely used in such units that has generally the greatest degree of HAP variability. Once we calculated the fuel dependent variability factors, we applied these factors to the average measured emissions performance of the unit with the best data to derive the MACT floor level of control. This approach reasonably estimates the best source's level of control, adjusted for unavoidable variation in fuel characteristics which have a direct impact on emissions.

For non-fuel dependent HAP emissions (PM/metallic HAP), we calculated the appropriate variability factor in the same general manner as we did for existing units. We calculated a variability factor for each unit using the same control technology as the unit with the best emissions data, and then calculated the overall variability in the measured emissions from units using this technology by averaging all the individual unit variability factors. Finally, we applied this overall variability factor to the average measured emissions performance of the unit with the best emissions data.

For new unit subcategories where no units in the subcategory employed any type of control technology, we could not identify data to represent the level of control of the best controlled similar unit. Accordingly, the MACT floor level of control for such subcategories is no emissions reductions.

A detailed description of the MACT floor determination is in the memorandum ''MACT Floor Analysis for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' in the docket.

1. New Solid Fuel-Fired Units

a. Large Units—Heat Inputs Greater than 10 MMBtu/hr. The most effective control technology identified for removing non-mercury metallic HAP and PM is fabric filters. Therefore, because there are no options reasonably available for reducing non-mercury metallic HAP emissions other than add-on control, we consider a source with a fabric filter to be the best controlled similar unit in this subcategory for purposes of non-mercury metallic HAP and PM emissions. Thus, it is appropriate to use the measured performance of the best controlled source with a fabric filter as the basis for establishing the MACT floor for non-mercury metallic HAP and PM for new boilers and process heaters in this subcategory.

As described earlier, a PM level is set as a surrogate for non-mercury metallic HAP. The MACT floor emission level based on PM test data from the solid fuel unit with a fabric filter representing the best controlled similar unit, and incorporating operational variability, is 0.026 lb PM/MMBtu. We are also providing an alternative metals limit of 0.0001 lb metals/MMBtu which can be used to show compliance in cases where metals HAP emissions are low in proportion to PM emissions. This is because, according to the emissions database, some biomass units have low metals content but high PM emissions. The emission level for metals was selected from metals test data associated with PM emission tests from fabric filters that met the MACT floor PM emission level.

The most effective control technologies identified for removing inorganic HAP including acid gases, such as HCl, are wet or dry scrubbers. Wet scrubbers is a generic term that is most often used to describe venturi scrubbers, but can include packed bed scrubbers, impingement scrubbers, etc. One percent of boilers and process heaters in this subcategory reported using a packed bed scrubber. Emission test data from other industries suggests that packed bed scrubbers achieve consistently lower emission levels than other types of wet scrubbers. Because there are no options reasonably available for reducing HCl emissions other than add-on control, we consider a source with a packed bed scrubber to be the best controlled similar source in this subcategory for purpose of HCl emissions. The MACT floor emission level based on HCl test data from the solid fuel unit with a wet scrubber representing the best controlled similar unit, and incorporating operational variability, is 0.02 lb HCl/MMBtu.

For mercury control, one technology, carbon injection, that has demonstrated mercury reductions in other source categories (*i.e.*, municipal waste combustors), was identified as being used on one existing industrial boiler. However, test data on this carbon injection system indicated that this unit was not achieving mercury emissions reductions. Therefore, we did not consider carbon injection to be a MACT floor control technology for industrial, commercial, and institutional boilers and process heaters. Data from electric utility boilers indicate that fabric filters are the most effective technology for controlling mercury emissions. Therefore, we consider a source with a fabric filter to be the best controlled similar source in this subcategory for purpose of mercury emissions. The MACT floor emission level based on mercury test data from the solid fuel unit with a fabric filter representing the best controlled similar unit, and incorporating operational variability, is 0.000003 lb mercury/MMBtu.

Although EPA used information from utility boilers to conclude that fabric filters are the most effective control technology for controlling mercury emissions, this same information suggests that different fuel characteristics (*e.g.* mercury and chlorine content of the fuel burned) can lead to different outlet Hg concentrations and different control efficiencies for equivalent control devices. We have information about the general type of fuel being burned during the emission tests. However, we have no detailed information about the specific characteristics (such as mercury or chlorine content) of the fuel being burned during the emissions tests for the best controlled source. Nonetheless, EPA believes that the use of variability factors adequately accounts for potential variations in fuel mercury and chloride content.

However, because we have very limited data on actual emissions from industrial boilers and process heaters, the Agency is soliciting comment on whether the variability analysis in the current proposal adequately addresses the impact that fuel characteristics (such as mercury and chlorine content) can have on mercury emissions from sources equipped with fabric filters. As discussed earlier, the Agency is not currently considering fuel switching as a control option in setting the MACT floor. Therefore, the Agency requests specific information regarding both the mercury and chlorine content characteristics of the fuel used in, and the mercury emissions from, industrial boilers and process heaters equipped with well designed and operated fabric filters.

Comments on this issue should include specific data regarding both the characteristics of the fuel burned (including mercury and chlorine content along with any other pertinent characteristics) and current mercury emissions of these industrial boilers and process heaters.

Similar control technology analysis was done for the boilers and process heaters in this subcategory for organic HAP. One control technique, controlling inlet temperature to the PM control device, that has demonstrated controlling downstream formation of dioxins in other source categories (*e.g.*, municipal waste combustors) was analyzed for industrial boilers. Inlet and outlet dioxins test data were available on four boilers controlled with PM control devices. In all cases, no increase in dioxins emissions were indicated across the PM control device even at high inlet temperatures. However, we are requesting comment on controls that would achieve reductions of organic HAP, including any additional data that might be available. The EPA did find that CO monitoring can reduce organic HAP emissions, and has included it in the new source MACT floors as described previously in this preamble.

In light of this analysis, EPA determined that, in general, the combination of a fabric filter, a packed bed scrubber, and CO monitoring forms the basis for the MACT floor level of control for new solid fuel boilers and process heaters in this subcategory.

b. Small Units—Heat Inputs Less than or Equal to 10 MMBtu/hr. The most effective control technology identified for removing non-mercury metallic HAP and PM is fabric filters. Because there are no options reasonably available for reducing non-mercury metallic HAP emissions other than add-on control, we consider a source with a fabric filter to be the best controlled similar unit in this subcategory for purposes of non-mercury metallic HAP and PM emissions. The most effective control technology identified for units in this subcategory for removing acid gases, such as HCl, is wet scrubbers. The most effective control technology identified for removing mercury is fabric filters.

The EPA identified no control technology being used in the existing population of boilers and process heaters that consistently achieved lower emission rates than uncontrolled levels, such that a best controlled similar source for organic HAP could be identified. Therefore, we concluded that the MACT floor for new sources in this subcategory is no emissions reductions for organic HAP. Furthermore, CO monitoring is not required for small boilers and process heaters by any State rules.

Consequently, EPA determined that the combination of a fabric filter and a wet scrubber forms the basis for the MACT floor level of control for new solid fuel boilers and process heaters in this subcategory.

The emissions database did not contain test data for boilers and process heaters less than 10 MMBtu/hr heat input. In order to develop emission levels for this subcategory, we decided to use test data from units in the large solid subcategory. We considered this to be an appropriate methodology because although the units in this subcategory are different enough to warrant their own subcategory (*i.e.*, different designs and emissions), emissions of the specific HAP for which limits are being proposed (HCl, mercury, PM and metals) are expected to be related more to the type of fuel burned and the type of control used than to the unit design. Consequently, we determined that emissions test data from units greater than 10 MMBtu/hr heat input could be used to establish the MACT floor levels for this subcategory for HCl, PM, non-mercury metallic HAP (using PM as a surrogate), and mercury because the fuels and controls are similar.

The MACT floor emission levels based on emissions data from the unit representing the best controlled similar source, and incorporating operational variability, are 0.026 lb PM/MMBtu or 0.0001 lb selected non-mercury metals/MMBtu, 0.000003 lb mercury/MMBtu, and 0.02 lb HCl/MMBtu. We are requesting comment on using emission data from another subcategory to develop emission levels for this subcategory. We are also requesting any available emissions information for this subcategory.

c. Limited Use Units—Capacity Utilizations Less than or Equal to 10 Percent. The most effective control technology identified for removing non-mercury metallic HAP, PM, and mercury is fabric filters. Therefore, we consider a source with a fabric filter to be the best controlled similar unit in this subcategory for purposes of non-mercury metallic HAP, PM, and mercury emissions. The most effective control technology identified for units in this subcategory for removing acid gases, such as HCl, is wet scrubbers.

The EPA did find that monitoring CO is used by at least one unit and can minimize organic HAP emissions, and has included it in the new source MACT floor for this subcategory as described previously in this preamble.

Therefore, based on this analysis, EPA determined that the combination of a fabric filter, a wet scrubber, and CO monitoring forms the basis for the MACT floor level of control for new solid fuel boilers and process heaters in this subcategory.

The emissions test database did not contain test data for limited use boilers and process heaters. In order to develop emission levels for this subcategory, we decided to use test data from units in the large solid fuel subcategory. We considered this to be an appropriate methodology because although the units in this subcategory are different enough to warrant their own subcategory (*i.e.*, different purposes and operation), emissions of the specific types of HAP for which limits are being proposed (HCl, mercury, and metals) are expected to be related more to the type of fuel burned and the type of control used, than to unit operation. Consequently, we determined that emissions information from the large solid fuel subcategory could be used to establish MACT floor levels for this subcategory because the fuels and controls are similar. The MACT floor emission levels based on test data from unit representing the best controlled similar source, and incorporating operational variability, are 0.026 lb PM/MMBtu or 0.0001 lb metals/MMBtu, 0.000003 lb mercury/MMBtu, and 0.02 lb HCl/MMBtu. We are requesting comment on using emission data from another subcategory to develop emission levels for this subcategory. We are also requesting any available emissions information for this subcategory.

2. New Liquid Fuel-Fired Units

a. Large Units—Heat Inputs Greater than 10 MMBtu/hr. The most effective control technology identified for removing non-mercury metallic HAP and PM is ESP. Therefore, because there are no options reasonably available for reducing non-mercury metallic HAP emissions other than add-on control, we consider a source with an ESP to be the best controlled similar unit in this subcategory for purposes of non-mercury metallic HAP and PM emissions.

As discussed earlier, a PM level is set as a surrogate for non-mercury metallic HAP. The emissions database did not contain test data for boilers and process heaters with ESP. In order to develop a PM emission level for this subcategory, we decided to use test data from oil-fired utility boilers controlled with ESP. We considered this to be an appropriate methodology because although the units in this subcategory are generally smaller than utility boilers, emissions of the specific HAP for which limits are being proposed (PM as a surrogate for metals) are expected to be related more to the type of fuel burned and the type of control used than to the size of the unit. Consequently, we determined that emissions test data from oil-fired utility boilers could be used to establish the MACT floor levels for this subcategory for non-mercury metallic HAP (using PM as a surrogate) because the fuels and controls are similar.

The MACT floor emission level based on PM emissions data from the unit representing the best controlled similar source, and incorporating operational variability, is 0.03 lb PM/MMBtu. Unlike for solid fuel subcategories, we are not aware of any liquid fuels that are low in metals but would have high PM emissions. Therefore, we are not proposing an alternative metals standard for the liquid subcategories.

The most effective control technology identified for removing inorganic HAP that are acid gases, such as HCl, are packed bed scrubbers. Because there are no options reasonably available for reducing HCl emissions other than add-on control, we consider a source with a packed bed scrubber to be the best controlled similar source in this subcategory for purpose of HCl emissions. The emissions database did not contain HCl test data for liquid fuel boilers and process heaters. In order to develop a HCl emission level for this subcategory, we decided to use available fuel analysis data from oil-fired units and emission reduction performance of well designed and operated packed bed scrubbers. We considered this to be an appropriate methodology because this approach reasonably estimates the best source's level of control, adjusted for unavoidable variation in fuel characteristics which have a direct impact on emissions. The MACT floor emission level based on the estimated performance from a liquid fuel unit with a packed scrubber representing the best controlled similar unit, and incorporating operational variability, is 0.0005 lb HCl/MMBtu.

Similar control technology analyses were done for the boilers and process heaters in this subcategory for mercury and organic HAP.

Information in the emissions database or from other source categories does not show that control technologies, such as fabric filters, ESP, or wet scrubbers, achieve reductions in mercury emissions from liquid fuel-fired industrial, commercial, and institutional boilers and process heaters. Therefore, EPA identified no control technology being used in the existing population of boilers and process heaters in these subcategories that consistently achieved lower emission rates than uncontrolled levels, such that a best controlled similar source for organic HAP could be identified. However, we did find that monitoring CO is a good combustion practice that can reduce organic HAP emissions, and have included it in the new source MACT floor as described previously in this preamble. We concluded the MACT floor for new sources in this subcategory is no emissions reductions for mercury.

In light of this analysis, the EPA determined that, in general, the combination of an ESP, a packed bed scrubber, and CO monitoring forms the basis for the MACT floor level of control for new liquid fuel boilers and process heaters in this subcategory.

b. Small Units—Heat Inputs Less than or Equal to 10 MMBtu/hr. The most effective control technology identified for removing non-mercury metallic HAP used by units in this subcategory is ESP. Therefore, because there are no options reasonably available for reducing non-mercury metallic HAP emissions other than add-on control, we consider a source with an ESP to be the best controlled similar unit in this subcategory for purposes of non-mercury metallic HAP and PM emissions. The most effective control technology identified for units in this subcategory for removing acid gases, such as HCl, is wet scrubbers.

Information in the emissions database or from other source categories does not show that control technologies, such as fabric filters, ESP, or wet scrubbers, achieve reductions in mercury emissions from liquid fuel-fired industrial, commercial, and institutional boilers and process heaters. Therefore, EPA could not identify a control technology being used in the existing population of boilers and process heaters that consistently achieved lower emission rates than uncontrolled levels, such that a best controlled similar source for mercury or organic HAP could be identified. We concluded the MACT floor for new sources in this subcategory is no emissions reductions for mercury or organic HAP.

Thus, EPA determined that the combination of a fabric filter and a wet scrubber forms the basis for the MACT floor level of control for new liquid fuel boilers and process heaters in this subcategory.

The emissions test database did not contain test data for liquid fuel boilers and process heaters less than 10 MMBtu/hr heat input capacity. In order to develop emission levels for this subcategory, we decided to use information from units in the large liquid fuel subcategory. We considered this to be an appropriate methodology because although the units in this subcategory are different enough to warrant their own subcategory (*i.e.*, different designs and emissions), emissions of the specific types of HAP for which limits are being proposed (HCl and metals) are expected to be more related to the type of fuel burned and the type of control than to unit design. Consequently, we determined that emissions information from units greater than 10 MMBtu/hr heat input capacity could be used to establish MACT floor levels for this subcategory because the fuels and controls are similar. The MACT floor emission level based on PM test data from a liquid fuel unit with an ESP representing the best controlled similar unit, and incorporating operational variability, is 0.03 lb PM/MMBtu. The MACT floor emission level based on a liquid fuel unit with a wet scrubber representing the best controlled similar unit, and incorporating operational variability, is 0.0009 lb HCl/MMBtu. We are requesting comment on using emission data from another subcategory to develop emission levels for this subcategory. We are also requesting any available emissions information for this subcategory.

c. Limited Use Units—Capacity Utilizations Less than or Equal to 10 Percent. The most effective control technology identified for removing non-mercury metallic HAP used by units in this subcategory is ESP. Therefore, because there are no options reasonably available for reducing non-mercury metallic HAP emissions other than add-on control, we consider a source with an ESP to be the best controlled similar unit in this subcategory for purposes of non-mercury metallic HAP and PM emissions. The most effective control technology identified for units in this subcategory for removing acid gases, such as HCl, is wet scrubbers.

Information in the emissions database or from other source categories does not show that other control technologies, such as fabric filters, ESP, or wet scrubbers, achieve reductions in mercury emissions from liquid fuel-fired industrial, commercial, and institutional boilers and process heaters. The EPA identified no control technology being used in the existing population of boilers and process heaters that consistently achieved lower emission rates than uncontrolled levels, such that a best controlled similar source for mercury could be identified. We concluded the MACT floor for new sources in this subcategory is no emissions reductions for mercury.

We did find that monitoring CO can reduce organic HAP emissions and is used by at least one unit in this subcategory, and have included it in the new source MACT floor as described previously in this preamble.

Therefore, based on this analysis, EPA determined that the combination of a fabric filter, a wet scrubber, and CO monitoring forms the basis for the MACT floor level of control for new liquid fuel boilers and process heaters in this subcategory.

The emissions test database did not contain test data for limited use liquid fuel boilers and process heaters. In order to develop emission levels for this subcategory, we decided to use information from units in the large liquid fuel subcategory. We considered this to be an appropriate methodology because although the units in this subcategory are different enough to warrant their own subcategory (*i.e.*, different purposes and operation), emissions of the specific HAP for which limits are being proposed (HCl and metals) are more related to the type of fuel burned and the type of control used than to unit operation. Consequently, we determined that emissions information from units greater than 10 MMBtu/hr heat input capacity could be used to establish MACT floor levels for this subcategory because the fuels and controls are similar. The MACT floor emission level based on PM test data from a liquid fuel unit with an ESP representing the best controlled similar unit, and incorporating operational variability, is 0.03 lb PM/MMBtu. The MACT floor emission level based on a liquid fuel unit with a wet scrubber representing the best controlled similar unit, and incorporating operational variability, is 0.0009 lb HCl/MMBtu. We are requesting comment on using emission data from another subcategory to develop emission levels for this subcategory. We are also requesting any available emissions information for this subcategory.

3. Gaseous Fuel Subcategories

No existing units were using control technologies that achieve consistently lower emission rates than uncontrolled sources for any of the pollutant groups of interest, except organic HAP. At least one unit in the population database in the large and limited use gaseous fuel subcategories is required to monitor CO. Therefore, the MACT floor for gaseous fuel-fired units includes a CO monitoring requirement and emission limit, as described previously in this preamble, but it does not include any emission limits for PM, metallic HAP, mercury, or inorganic HAP based on the utilization of add-on control technology.

I. How Did EPA Consider Beyond-the-Floor for New Units?

The MACT floor level of control for new units is based on the emission control that is achieved in practice by the best controlled similar source within each of the subcategories. No technologies were identified that would achieve non-mercury metals reduction greater than the new source floors for the liquid and solid subcategories or CO monitoring for the solid, liquid, and gaseous subcategories. For inorganic HAP control, we determined that packed bed scrubbers achieve higher emissions reductions than MACT floors consisting of a wet scrubber. Packed bed scrubbers are the technology basis of the MACT floor for the large unit subcategory, but wet scrubbers were the technology basis of the floors for the small unit and limited unit subcategories. Therefore, we examined the cost and emission reduction benefits of applying a packed bed scrubber as a beyond-the-floor option for new solid and liquid units within the small and limited use subcategories. The results of this analysis indicated that annualized costs would be an additional 2 million dollars per year for additional reductions of approximately three tons of HCl per year. We determined that costs were excessive for the limited emissions reductions that would be achieved. Nonair quality health, environmental impacts, and energy effects were not significant factors, because there would be little difference in the nonair quality health and environmental impacts between packed bed scrubbers and wet scrubbers. Therefore, EPA did not select this beyond-the-floor option, and the proposed new source MACT level of control for PM, metallic HAP, and inorganic HAP (HCl) is the same as the MACT floor level of control for all of the subcategories.

In reviewing potential regulatory options beyond the new source MACT floor level of control, EPA identified one existing solid fuel-fired industrial boiler that was using carbon injection technology for mercury control. However, emission data obtained from this unit indicated that it was not achieving mercury emission reduction from the uncontrolled levels. Moreover, we do not have information to otherwise show that carbon injection is effective for reducing mercury emissions from industrial, commercial, and institutional boilers and process heaters. Information in the emissions database or from other source categories does not show that other control technologies, such as fabric filters, ESP, or wet scrubbers, achieve reductions in mercury emissions from liquid fuel-fired industrial, commercial, and institutional boilers and process heaters. Therefore, carbon injection, for solid fuel units, and other control techniques, for liquid fuel units, were not evaluated as regulatory options. However, EPA requests comments on whether carbon injection and/or other control techniques should be considered as beyond-the-floor options and whether new industrial, commercial, or institutional boilers and process heaters could use carbon injection technology, or other control techniques to consistently achieve mercury emission levels that are lower than levels from similar sources without such controls. Comments should include information on emissions, current demonstrated applications, and costs.

For the solid fuel and liquid fuel subcategories, fuel switching to natural gas is a potential regulatory option beyond the new source floor level of control that would reduce mercury and metallic HAP emissions. However, based on current trends within the industry, EPA projects that the majority of new boilers and process heaters will be built to fire natural gas as opposed to solid and liquid fuels such that the overall emissions reductions associated with this option would be minimal while the total cost of fuel switching would be approximately 600 million dollars. The additional emissions reductions would be 30 tons per year of HCl, 90 tons per year of inorganic HAP and 120 tons per year of total non-mercury metallic HAP. Section III.D of this preamble provides additional rationale for not going beyond the floor to require fuel switching. For example, natural gas supplies are not available in some areas, and supplies to industrial customers can be limited during periods when natural gas demand exceeds supply. Thus, this potential control option may be unavailable to many sources in practice. Furthermore, organic HAP may be increased by fuel switching. Limited emissions reductions in combination with the high cost of fuel switching and considerations about the availability and technical feasibility of fuel switching makes this an unreasonable regulatory option that was not considered further. Nonair quality health, environmental impacts, and energy effects were not significant factors. No beyond-the-floor options for gas-fired boilers were identified.

Based on the analysis discussed above, EPA decided to not go beyond the MACT floor level of control for new sources for MACT in the proposed rule. A detailed description of the beyond-the-floor consideration is in the memorandum ''Methodology for Estimating Cost and Emissions Impacts for Industrial, Commercial, Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' in the docket.

J. How Did EPA Determine Testing and Monitoring Requirements for the Proposed Rule?

The CAA requires us to develop regulations that include monitoring and testing requirements. The purpose of these requirements is to allow us to determine whether an affected source is operating in compliance with the proposed rule. The proposed monitoring and testing requirements are discussed below.

1. Testing

The proposed rule requires you to perform an initial performance test for PM (or total selected metals), mercury, and HCl if you are required to meet an emission limit. Additionally, the proposed rule requires annual performance tests to ensure on an ongoing basis that the air pollution control device is operating properly and its performance has not deteriorated. The majority of emissions tests upon which the proposed emission limits are based were conducted using approved EPA test methods.

If you conduct a performance test, you would also determine parameter operating limits during the tests. The majority of test methods that the proposed rule would require for the performance tests have been required under many other EPA standards. No applicable voluntary consensus standards were identified.

If you are required to meet an HCl emission limit and do not have a scrubber or elect to take no credit for the scrubber emissions reductions, you must record the average chlorine content level in the input fuel as an operating limit. However, if you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supply than what was burned during the initial performance test, then you must recalculate the chlorine input. If the results of recalculating the chlorine input exceeds the average chlorine level established during the initial performance test, you must conduct a new performance test to demonstrate compliance with the emission level.

We are also allowing you to record the mercury in the input fuels as an operating limit if you elect to take no credit for the control device emission reduction. However, if you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supply than what was burned during the initial performance test, then you must recalculate the mercury input. If the results of the recalculation exceed the average level established during the initial performance test, you must conduct a new performance test to demonstrate compliance with the mercury emission level.

We are also allowing you to record the total selected metals in the input fuels as an operating limit if you choose to comply with the metals emission limit instead of the PM limit. However, if you plan to burn a new fuel, a fuel from a new mixture, or a fuel from a new supply than what was burned during the initial performance test, then you must recalculate the total selected metals input. If the results of the recalculation exceed the average level established during the initial performance test, you must conduct a new performance test to demonstrate compliance with the metals emission level.

2. Continuous Monitoring

The most direct means of ensuring compliance with emission limits is the use of continuous emission monitoring systems (CEMS). We consider other options when CEMS are not available or when the impacts of including such requirements are considered unreasonable. When monitoring options other than CEMS are considered, it is often necessary for us to balance more reasonable costs against the quality or accuracy of the actual emissions monitoring data. Although monitoring of operating parameters cannot provide a direct measurement of emissions, it is often a suitable substitute for CEMS. The information provided can be used to ensure that air pollution control equipment is operating properly. Because the parameter requirements are calibrated during the initial and annual stack tests, they provide a reasonable surrogate for direct monitoring of emissions. This information reasonably assures the public that the reductions envisioned by the proposed rule are being achieved.

The EPA evaluated the cost of applying HCl CEMS to boilers and process heaters. For HCl CEM monitoring, capital costs were estimated to be $88,000 per unit and annualized costs were estimated to be $33,000 per unit. We determined the costs would make them an unreasonable monitoring option. In addition, toxic metals are not directly measurable with CEMS, and CEMS for PM have not been demonstrated in the United States for the purpose of determining compliance.

To ensure continuous compliance with the proposed emission limits and/or operating limits, the proposed rule would require continuous parameter monitoring of control devices and recordkeeping. We selected the following requirements based on reasonable cost, ease of execution, and usefulness of the resulting data to both the owners or operators and EPA for ensuring continuous compliance with the emission limits and/or operating limits.

We are proposing that certain parameters be continuously monitored for the types of control devices commonly used in the industry. These parameters include opacity monitoring except for wet scrubbers; pH, pressure drop and liquid flow-rate for wet scrubbers; and sorbent injection rate for dry scrubbers. You must also install a bag leak detection system for fabric filters. If you cannot monitor opacity for control systems with an ESP then you must monitor the secondary current and voltage or total power input for the ESP. These monitoring parameters have been used in other standards for similar industries. The values of these parameters are established during the initial or most recent performance test that demonstrates compliance. These values are your operating limits for the control device.

You would be required to set parameters based on 1-hour block averages during the compliance test, and demonstrate continuous compliance by monitoring 3-hour block average values for most parameters. We selected this averaging period to reflect operating conditions during the performance test to ensure the control system is continuously operating at the same or better level as during a performance test demonstrating compliance with the emission limits.

To demonstrate continuous compliance with the emission and operating limits, you would also need daily records of the quantity, type, and origin of each fuel burned and hours of operation of the affected source. If you are complying with the chlorine or total selected metals fuel input option, you must keep records of the calculations supporting your determination of the chlorine and total selected metals content in the fuel.

K. How Did EPA Determine Compliance Times for the Proposed Rule?

Section 112 of the CAA specifies the dates by which affected sources must comply with the emission standards. New or reconstructed units must be in compliance with the proposed rule immediately upon startup or [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], whichever is later. Existing sources are allowed 3 years to comply with the final rule. This is the maximum period allowed by the CAA. We believe that 3 years for compliance is necessary to allow adequate time to design, install and test control systems that will be retrofitted onto existing boilers, as well as obtain permits for the use of add-on controls.

L. How Did EPA Determine the Required Records and Reports for the Proposed Rule?

You would be required to comply with the applicable requirements in the NESHAP General Provisions, subpart A of 40 CFR part 63, as described in Table 10 of the proposed subpart DDDDD. We evaluated the General Provisions requirements and included those we determined to be the minimum notification, recordkeeping, and reporting necessary to ensure compliance with, and effective enforcement of, the proposed rule.

We are also requiring that you keep daily records of the total fuel use by each affected source, subject to an emission limit or work practice standard, along with a description of the fuel, the total fuel usage amounts and units of measure, and information on the supplier and original source of the fuel. This information is necessary to ensure that the affected source is complying with the emission limits from the correct subcategory.

We are requiring additional recordkeeping if you choose to comply with the chlorine, mercury or total selected metals fuel input option. You will need to keep records of the calculations and supporting information used to develop the chlorine, mercury, or total selected metals fuel input operating limit.

M. How Does the Proposed Rule Affect Permits?

The CAA requires that sources subject to the proposed rule be operated pursuant to a permit issued under EPA-approved State operating permit program. The operating permit programs are developed under title V of the CAA and the implementing regulations under 40 CFR parts 70 and 71. If you are operating in the first 3 years of your operating permit, you will need to obtain a revised permit to incorporate the proposed rule. If you are in the last 2 years of your operating permit, you will need to incorporate the proposed rule into the next renewal of your permit.

N. What Alternative Provisions Are Being Considered?

The EPA is considering a bubbling compliance alternative for determining compliance with the non-mercury metallic HAP, HCl, mercury, and PM standards for existing sources. The bubbling compliance alternative would allow owners and operators to set non-mercury metals, mercury, HCl, and PM emissions limits for each existing boiler or process heater in the same subcategory such that if these limits are met, the total emissions from all existing boilers or process heaters in the subcategory are less than or equal to a subcategory specific bubble limit. The subcategory specific bubble limit would be the proposed emissions limits for non-mercury metallic HAP, mercury, HCl, and PM.

The bubbling compliance alternative would not be applicable to new sources and could only be used between boilers and process heaters in the same subcategory. For example, bubbling between a solid fuel-fired boiler greater than 10 million Btu/hour could only be conducted with other solid fuel-fired boilers or process heaters with heat input capacities greater than 10 million Btu/hour. Also, owners or owners of existing sources subject to the Industrial Boiler New Source Performance Standards (NSPS) (40 CFR part 60, subparts Db and Dc) would be required to continue to meet the PM emission standard of that NSPS regardless of whether they are complying with the bubbling alternative or not (because the NSPS is a separate regulatory requirement which remains in place).

Owners or operators that would choose to comply with the HAP metals, mercury, HCl, or PM standards using the bubbling compliance alternative would be required to submit HAP metals, mercury, HCl, and/or PM emissions limits to the Administrator for approval for each existing source included in the bubbling compliance alternative. Before emissions limits would be approved, the owner or operator would need to submit documentation demonstrating that if the emissions limits for each source (*e.g.*, each boiler or heater) are met, the entire group of sources within the bubbling compliance alternative would be in compliance with the subcategory-wide allowable non-mercury metallic HAP, mercury, HCl, and PM emission levels. Once approved by the Administrator, the non-mercury metallic HAP, mercury, HCl, and PM emissions levels would be incorporated into the operating permit for the source. Thereafter, the owner and operator of the facility would demonstrate compliance with the standards by demonstrating that each boiler or process heater included in the bubbling compliance alternative emits less than or equal to the approved non-mercury metallic HAP, mercury, HCl, and PM emissions limits for that source.

The EPA is considering this bubbling compliance alternative as part of the EPA's general policy of encouraging the use of flexible compliance approaches where they can be properly monitored and enforced. Emissions averaging can provide sources the flexibility to comply in the least costly manner while still maintaining regulation that is workable and enforceable. However, to implement this alternative, the final rule will need to define the affected source more broadly to include all the existing boilers and process heaters for each subcategory located at the same facility. Therefore, EPA is soliciting comments on the bubbling compliance alternative, whether EPA should specify this bubbling compliance alternative in the final rule, and whether new units added to an existing affected source should be included as part of, and applicable to, the existing source bubble limit. Comments should include information on the potential cost savings a facility could expect from implementation of the bubbling compliance provision, along with supporting documentation for this estimated cost saving.

IV. Impacts of the Proposed Rule

A. What Are the Air Impacts?

Table 2 of this preamble illustrates, for each subcategory, the emissions reductions achieved by the proposed rule (*i.e.*, the difference in emissions between a boiler or process heater controlled to the floor level of control and boilers or process heaters at the current baseline) for new and existing sources. Nationwide emissions of selected HAP (*i.e.*, HCl, hydrogen fluoride, lead, and nickel) will be reduced by 58,500 tons per year for existing units and 73 tons per year for new units. Emissions of HCl will be reduced by 42,000 tons per year for existing units and 72 tons per year for new units. Emissions of mercury will be reduced by 1.9 tons per year for existing units and 0.006 tons per year for new units. Emissions of PM will be reduced by 565,000 tons per year for existing units and 480 tons per year for new units. Emissions of total selected non-mercury metals (*i.e.*, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium) will be reduced by 1,100 tons per year for existing units and will be reduced by 1.4 tons per year for new units. In addition, emissions of sulfur dioxide are established to be reduced by 113,000 tons per year for existing sources and 110 tons per year for new sources. A discussion of the methodology used to estimate emissions and emissions reductions is presented in ''Estimation of Baseline Emissions and Emissions Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters'' in the docket.

TABLE 2.—SUMMARY OF EMISSIONS REDUCTIONS FOR EXISTING AND NEW SOURCES

[Tons/yr]

Source	Subcategory	HCl	PM	Non mercury metals [a]	Mercury
Existing Units	Large solid units	42,100	560,000	1,100	2
	Small solid units	0	0	0	0
	Limited use solid units	0	2,800	8	0.002
	Liquid units	0	0	0	0
	Gaseous units	0	0	0	0
New Units	Large solid units	70	31	0.01	0.006
	Small solid units	2.4	440	1.4	0.0006
	Limited use solid units	0.2	11	0.02	0.00002
	Liquid units	0	0	0	0
	Gaseous units	0	0	0	0

[a] Includes arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium.

B. What Are the Water and Solid Waste Impacts?

The EPA estimated the additional water usage that would result from the MACT floor level of control to be 110 million gallons per year for existing sources and 0.6 million gallons per year for new sources. In addition to the increased water usage, an additional 3.7 million gallons per year of wastewater would be produced for existing sources and 0.6 million gallons per year for new sources. The costs of treating the additional wastewater are $18,000 for existing sources and $2,300 for new sources. These costs are accounted for in the control costs estimates.

The EPA estimated the additional solid waste that would result from the MACT floor level of control to be 102,000 tons per year for existing sources and 1 ton per year for new sources. The costs of handling the additional solid waste generated are $1.5 million for existing sources and $17,000 for new sources. These costs are also accounted for in the control costs estimates.

A discussion of the methodology used to estimate impacts is presented in ''Estimation of Impacts for Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP'' in the Docket.

C. What Are the Energy Impacts?

The EPA expects an increase of approximately 1,130 million kilowatt hours (kWh) in national annual energy usage as a result of the proposed rule. Of this amount, 1,120 million kWh would be from existing sources and 13 million kWh are estimated from new sources. The increase results from the electricity required to operate control devices installed to meet the proposed rule, such as wet scrubbers and fabric filters.

D. What Are the Control Costs?

To estimate the national cost impacts of the proposed rule for existing sources, EPA developed several model boilers and process heaters and determined the cost of control equipment for these model boilers. The EPA assigned a model boiler or heater to each existing unit in the database based on the fuel, size, design, and current controls. The analysis considered all air pollution control equipment currently in operation at existing boilers and process heaters. Model costs were then assigned to all existing units that could not otherwise meet the proposed emission limits. The resulting total national cost impact of the proposed rule is 1,790 million dollars in capital expenditures and 860 million dollars per year in total annual costs. The total capital and annual costs include costs for testing, monitoring, and recordkeeping and reporting. Table 3 of this preamble shows the capital and annual cost impacts for each subcategory. Costs include testing and monitoring costs, but not recordkeeping and reporting costs.

TABLE 3.—SUMMARY OF CAPITAL AND ANNUAL COSTS FOR NEW AND EXISTING SOURCES

Source	Subcategory	Estimated/projected number of affected units	Annualized cost (10^6 $/yr)	Capital costs (10^6 $)
Existing Units	Large solid units	3,481	814	1,605
	Small solid units	327	0	0
	Limited use solid units	249	23	105
	Liquid units	7,251	0	0
	Gaseous units	46,892	0	0

TABLE 3.—SUMMARY OF CAPITAL AND ANNUAL COSTS FOR NEW AND EXISTING SOURCES—Continued

Source	Subcategory	Estimated/projected number of affected units	Annualized cost (10^6 $/yr)	Capital costs (10^6 $)
New Units	Large solid units	211	10	21
	Small solid units	25	3	3
	Limited use solid units	11	1	1
	Large liquid units	90	1	3
	Small liquid units	164	0	0
	Limited use liquid units	51	0.3	2
	Gaseous units	3,463	11	51

Using Department of Energy projections on fuel expenditures, the number of additional boilers that could be potentially constructed was estimated. The resulting total national cost impact of the proposed rule in the 5th year is 58 million dollars in capital expenditures and 18.6 million dollars per year in total annual costs. Costs are mainly for testing and monitoring.

A discussion of the methodology used to estimate cost impacts is presented in ''Methodology and Results of Estimating the Cost of Complying with the Industrial, Commercial, and Institutional Boiler and Process Heater NESHAP'' in the Docket.

E. Can We Achieve the Goals of the Proposed Rule in a Less Costly Manner?

We have made every effort in developing this proposal to minimize the cost to the regulated community and allow maximum flexibility in compliance options consistent with our statutory obligations. We recognize, however, that the proposal may still require some facilities to take costly steps to further control emissions even though those emissions may not result in exposures which could pose an excess individual lifetime cancer risk greater than one in one million or which exceed thresholds determined to provide an ample margin of safety for protecting public health and the environment from the effects of hazardous air pollutants. We are, therefore, specifically soliciting comment on whether there are further ways to structure the proposed 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.

Representatives of the plywood and composite wood products industry provided EPA with descriptions of three mechanisms that they believed could be used to implement more cost-effective reductions in risk. The docket for today's proposed rule contains white papers prepared by industry that outline their proposed approaches. These approaches could be effective in focusing regulatory controls on facilities that pose significant risks and avoiding the imposition of high costs on facilities that pose little risk to public health or the environment, and we are seeking public comment on the utility of each of these approaches with respect to this rule.

One of the approaches, an applicability cutoff for threshold pollutants, would be implemented under the authority of CAA section 112(d)(4); the second approach, subcategorization and delisting, would be implemented under the authority of CAA sections 112(c)(1) and 112(c)(9); and, the third approach, would involve the use of a concentration-based applicability threshold. We are seeking comment on whether these approaches are legally justified and, if so, we ask for information that could be used to support such approaches.

The maximum achievable control technology, or MACT, program outlined in CAA section 112(d) is intended to reduce emissions of HAP through the application of MACT to major sources of toxic air pollutants. Section 112(c)(9) of the CAA is intended to allow EPA to avoid setting MACT standards for categories or subcategories of sources that pose less than a specified level of risk to public health and the environment. The EPA requests comment on whether the proposals described here appropriately rely on these provisions of CAA section 112. While both approaches focus on assessing the inhalation exposures of HAP emitted by a source, EPA specifically requests comment on the appropriateness and necessity of extending these approaches to account for non-inhalation exposures or to account for adverse environmental impacts. In addition to the specific requests for comment noted in this section, we are also interested in any information or comment concerning technical limitations, environmental and cost impacts, compliance assurance, legal rationale, and implementation relevant to the identified approaches. We also request comment on appropriate practicable and verifiable methods to ensure that sources' emissions remain below levels that protect public health and the environment. We will evaluate all comments before determining whether either of the three approaches will be included in the final rule.

1. Industry Emissions and Potential Health Effects

To estimate the potential baseline risks posed by the Industrial Boiler and Process Heater source category, EPA performed a crude risk analysis of the source category that focused only on cancer risks. The results of the analysis are based on approaches for estimating cancer incidence that carry significant assumptions, uncertainties, and limitations. Based on the assessment, if the proposed rule is implemented at all facilities in the source category, cancer incidence in the U.S. may be reduced by as many as tens of cases per year. Due to the uncertainties associated with the analysis, this analysis should be regarded as one perspective on the estimate of annual cancer incidence reduction; the true risk reductions are unknown. (Details of this assessment are available in two memoranda in the docket: Memorandum on ''Method for Approximate (''Top Down'') Estimates of Aggregate Cancer Risk Associated with Two Maximum Achievable Control Technology (MACT) Source Categories: Reciprocating Internal Combustion Engines (RICE) and Industrial/Commercial/Institutional Boilers'' and Memorandum on ''Additional Perspectives on (''Top Down'') Estimates of Aggregate Cancer Risk Associated with Industrial/Commercial/Institutional Boilers''.)

2. Applicability Cutoffs for Threshold Pollutants Under Section 112(d)(4) of the CAA

The first approach is an applicability cutoff for threshold pollutants that is based on EPA's authority under CAA section 112(d)(4) to establish standards for HAP which are threshold pollutants. A threshold pollutant is one for which there is a concentration or dose below which adverse effects are not expected to occur over a lifetime of exposure. For such pollutants, CAA section 112(d)(4) allows EPA to consider the threshold level, with an ample margin of safety, when establishing emission standards. Specifically, CAA section 112(d)(4) allows EPA to establish emission standards that are not based upon the maximum achievable control technology specified under CAA section 112(d)(2) for pollutants for which a health threshold has been established. Such standards may be less stringent than MACT. Historically, EPA has interpreted CAA section 112(d)(4) to allow categories of sources that emit only threshold pollutants to avoid further regulation if those emissions result in ambient levels that do not exceed the threshold, with an ample margin of safety.[2]

A different interpretation would allow us to exempt individual facilities within a source category that meet the CAA section 112(d)(4) requirements. There are three potential scenarios under this interpretation of the CAA section 112(d)(4) provision. One scenario would allow an exemption for individual facilities that emit only threshold pollutants and can demonstrate that their emissions of threshold pollutants would not result in air concentrations above the threshold levels, with an ample margin of safety, even if the category is otherwise subject to MACT. A second scenario would allow the CAA section 112(d)(4) provision to be applied to both threshold and nonthreshold pollutants, using the one in a million cancer risk level for decision making for nonthreshold pollutants.

A third scenario would allow a CAA section 112(d)(4) exemption at a facility that emits both threshold and nonthreshold pollutants. For those emission points where only threshold pollutants are emitted and where emissions of the threshold pollutants would not result in air concentrations above the threshold levels, with an ample margin of safety, those emission points could be exempt from the MACT standard. The MACT standard would still apply to nonthreshold emissions from other emission points at the source. For this third scenario, emission points that emit a combination of threshold and nonthreshold pollutants that are co-controlled by MACT would still be subject to the MACT level of control. However, any threshold HAP eligible for exemption under CAA section 112(d)(4) that are controlled by control devices different from those controlling non-threshold HAP would be able to use the exemption, and the facility would still be subject to the parts of the standard that control nonthreshold pollutants or that control both threshold and nonthreshold pollutants.

a. Estimation of hazard quotients and hazard indices. Under the CAA section 112(d)(4) approach, EPA would have to determine that emissions of each of the threshold pollutants emitted by industrial boiler and process heater sources at the facility do not result in exposures which exceed the threshold levels, with an ample margin of safety. The common approach for evaluating the potential hazard of a threshold air pollutant is to calculate a hazard quotient by dividing the pollutant's inhalation exposure concentration (often assumed to be equivalent to its estimated concentration in air at a location where people could be exposed) by the pollutant's inhalation Reference Concentration (RfC). An RfC is defined as an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure that, over a lifetime, likely would not result in the occurrence of adverse health effects in humans, including sensitive individuals. The EPA typically establishes an RfC by applying uncertainty factors to the critical toxic effect derived from the lowest- or no-observed-adverse-effect level of a pollutant.[3] A hazard quotient less than one means that the exposure concentration of the pollutant is less than the RfC, and, therefore, presumed to be without appreciable risk of adverse health effects. A hazard quotient greater than one means that the exposure concentration of the pollutant is greater than the RfC. Further, EPA guidance for assessing exposures to mixtures of threshold pollutants recommends calculating a hazard index (HI) by summing the individual hazard quotients for those pollutants in the mixture that affect the same target organ or system by the same mechanism.[4] Hazard index values would be interpreted similarly to hazard quotients; values below one would generally be considered to be without appreciable risk of adverse health effects, and values above one would generally be cause for concern.

For the determinations discussed herein, EPA would generally plan to use RfC values contained in EPA's toxicology database, the Integrated Risk Information System (IRIS). When a pollutant does not have an approved RfC in IRIS, or when a pollutant is a carcinogen, EPA would have to determine whether a threshold exists based upon the availability of specific data on the pollutant's mode or mechanism of action, potentially using a health threshold value from an alternative source, such as the Agency for Toxic Substances and Disease Registry (ATSDR) or the California Environmental Protection Agency (CalEPA). Table 4 of this preamble provides RfC, as well as unit risk estimates, for the HAP emitted by facilities in the industrial boiler and process heater source category. A unit risk estimate is defined as the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 microgram per cubic meter (µg/m3) in air.

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[2] *See* 63 FR 18754, 18765–66 (April 15, 1998) (Pulp and Paper Combustion Sources Proposal NESHAP).

[3] ''Methods for Derivation of Inhalation Reference Concentrations and Applications of Inhalation Dosimetry.'' EPA–600/8–90–066F, Office of Research and Development, USEPA, October 1994.

[4] ''Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures. Risk Assessment Forum Technical Panel,'' EPA/630/R–00/002. USEPA, August 2000. *http://www.epa.gov/nceawww1/pdfs/chem mix/chem mix 08 2001.pdf.*

TABLE 4.—DOSE-RESPONSE ASSESSMENT VALUES FOR HAP REPORTED EMITTED BY THE INDUSTRIAL BOILER AND PROCESS HEATER SOURCE CATEGORY

Chemical name	CAS No.	Reference concentration[a] (mg/m^3)	Unit risk estimate[b] (1/(µg/m^3))
Acetaldehyde	75–07–0	9.0E–IRIS 03	2.2E–06 IRIS
Acrolein	107–02–8	2.0E–IRIS 05	
Arsenic compounds	7440–38–2	3.0E–CAL 05	4.3E–03 IRIS
Benzene	71–43–2	6.0E–CAL 02	7.8E–06 IRIS
Beryllium compounds	7440–41–7	2.0E–IRIS 05	2.4E–03 IRIS
Cadmium compounds	7440–43–9	2.0E–CAL 05	1.8E–03 IRIS
Chromium (VI) compounds	18540–29–9	1.0E–IRIS 04	1.2E–02 IRIS
Dibenzofuran	132–64–9		
Dibutylphthalate	84–74–2		
p-Dichlorobenzene	106–46–7	8.0E–IRIS 01	1.1E–05 CAL
Ethyl benzene	100–41–4	1.0E+0 IRIS 0	
Formaldehyde	50–00–0	9.8E–ATSDR 03	1.3E–05 IRIS
Hydrochloric acid	7647–01–0	2.0E–IRIS 02	
Hydrogen fluoride	7664–39–3	3.0E–P–CAL 02	
Lead compounds	7439–92–1	1.5E–EPA 03 ORD	1.2E–05 CAL
Manganese compounds	7439–96–5	5.0E–IRIS 05	
Mercury compounds	HG_CMPDS	9.0E–CAL 05	
Methyl chloroform	71–55–6	1.0E+0 CAL 0	
Methyl ethyl ketone	78–93–3	1.0E+0 IRIS 0	
Methylene chloride	75–09–2	1.0E+0 ATSDR 0	4.7E–07 IRIS
Nickel compounds	7440–02–0	2.0E–ATSDR 04	
Nickel subsulfide	12035–72–2		4.8E–04 IRIS
PAHs (shown below as 7-PAH)			
Benzo (a) anthracene	56–55–3		1.1E–04 CAL
Benzo (b) fluoranthene	205–99–2		1.1E–04 CAL
Benzo (k) fluoranthene	207–08–9		1.1E–04 CAL
Benzo (a) pyrene	50–32–8		1.1E–03 CAL
Chrysene	218–01–9		1.1E–05 CAL
Dibenz (a,h) anthracene	53–70–3		1.2E–03 CAL
Indeno (1,2,3-cd) pyrene	193–39–5		1.4E–04 CAL
Phosphorus[c]			
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746–01–6	4.0E–CAL 08	3.3E+01 EPA ORD
Toluene	108–88–3	4.0E–IRIS 01	
m-Xylene[c]	108–38–3		
o-Xylene[c]	95–47–6		
Xylenes (mixed)	1330–20–7	4.3E–ATSDR 01	

[a] Reference Concentration: An estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups which include children, asthmatics and the elderly) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

[b] Unit Risk Estimate: The upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 µg/m^3 in air. The interpretation of the Unit Risk Estimate would be as follows: if the Unit Risk Estimate = 1.5 × 10–6 per µg/m^3, 1.5 excess tumors are expected to develop per 1,000,000 people if exposed daily for a lifetime to 1 µg of the chemical in 1 cubic meter of air. Unit Risk Estimates are considered upper bound estimates, meaning they represent a plausible upper limit to the true value. (Note that this is usually not a true statistical confidence limit.) The true risk is likely to be less, but could be greater.

[c] No dose-response assessment is available.

Sources:

IRIS = EPA Integrated Risk Information System (*http://www.epa.gov/iris/subst/index.html*).

ATSDR = U.S. Agency for Toxic Substances and Disease Registry (*http://www.atsdr.cdc.gov/mrls.html*).

CAL = California Office of Environmental Health Hazard Assessment (*http://www.oehha.ca.gov/air/hot_spots/index.html*).

To establish an applicability cutoff under CAA section 112(d)(4), EPA would need to define ambient air exposure concentration limits for any threshold pollutants involved. There are several factors to consider when establishing such concentrations. First, we would need to ensure that the concentrations that would be established would protect public health with an ample margin of safety. As discussed above, the approach EPA commonly uses when evaluating the potential hazard of a threshold air pollutant is to calculate the pollutant's hazard quotient, which is the exposure concentration divided by the RfC.

EPA's ''Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures'' suggests that the noncancer health effects associated with a mixture of pollutants ideally are assessed by considering the pollutants' common mechanisms of toxicity. The guidance also suggests, however, that when exposures to mixtures of pollutants are being evaluated, the risk assessor may calculate a HI. The recommended method is to calculate multiple hazard indices for each exposure route of interest, and for a single specific toxic effect or toxicity to a single target organ. The default approach recommended by the guidance is to sum the hazard quotients for those pollutants that induce the same toxic effect or affect the same target organ. A mixture is then assessed by several HI, each representing one toxic effect or target organ. The guidance notes that the pollutants included in the HI calculation are any pollutants that show the effect being assessed, regardless of the critical effect upon which the RfC is based. The guidance cautions that if the target organ or toxic effect for which the HI is calculated is different from the RfC's critical effect, then the RfC for that chemical will be an overestimate, that is, the resultant HI potentially may be overprotective. Conversely, since the calculation of an HI does not account for the fact that the potency of a mixture of HAP can be more potent than the sum of the individual HAP potencies, an HI may potentially be underprotective in some situations.

b. *Options for establishing a hazard index limit.* One consideration in establishing a hazard index limit is whether the analysis considers the total ambient air concentrations of all the emitted HAP to which the public is exposed.[5] There are at least several options for establishing a hazard index limit for the CAA section 112(d)(4) analysis that reflect, to varying degrees, public exposure.

One option is to allow the hazard index posed by all threshold HAP emitted from sources at the facility to be no greater than one. This approach is protective if no additional threshold HAP exposures would be anticipated from other sources in the vicinity of the facility or through other routes of exposure (*e.g.*, through ingestion).

A second option is to adopt a default percentage approach, whereby the hazard index limit of the HAP emitted by the facility is set at some percentage of one (*e.g.*, 20 percent or 0.2). This approach recognizes the fact that the facility in question is only one of many sources of threshold HAP to which people are typically exposed every day. Because noncancer risk assessment is predicated on total exposure or dose, and because risk assessments focus only on an individual source, establishing a hazard index limit of 0.2 would account for an assumption that 20 percent of an individual's total exposure is from that individual source. For the purposes of this discussion, we will call all sources of HAP, other than the facility in question, background sources. If the facility is allowed to emit HAP such that its own impacts could result in HI values of one, total exposures to threshold HAP in the vicinity of the facility could be substantially greater than one due to background sources, and this would not be protective of public health, since only HI values below one are considered to be without appreciable risk of adverse health effects. Thus, setting the hazard index limit for the facility at some default percentage of one will provide a buffer which would help to ensure that total exposures to threshold HAP near the facility (*i.e.*, in combination with exposures due to background sources) will generally not exceed one, and can generally be considered to be without appreciable risk of adverse health effects.

The EPA requests comment on using the default percentage approach and on setting the default hazard index limit at 0.2. The EPA is also requesting comment on whether an alternative HI limit, in some multiple of one would be a more appropriate applicability cutoff.

A third option is to use available data (from scientific literature or EPA studies, for example) to determine background concentrations of HAP, possibly on a national or regional basis. These data would be used to estimate the exposures to HAP from non-industrial boiler and process heater sources in the vicinity of an individual facility. For example, the EPA's National-scale Air Toxics Assessment (NATA)[6] and ATSDR's Toxicological Profiles[7] contain information about background concentrations of some HAP in the atmosphere and other media. The combined exposures from these sources and from other sources (as determined from the literature or studies) would then not be allowed to exceed a hazard index limit of one. The EPA requests comment on the appropriateness of setting the hazard index limit at one for such an analysis.

A fourth option is to allow facilities to estimate or measure their own facility-specific background HAP concentrations for use in their analysis. With regard to the third and fourth options, the EPA requests comment on how these analyses could be structured. Specifically, EPA requests comment on how the analyses should take into account background exposure levels from air, water, food and soil encountered by the individuals exposed to emissions from industrial boilers and process heaters. In addition, we request comment on how such analyses should account for potential increases in exposures due to the use of new HAP or the increased use of a previously emitted HAP, or the effect of other nearby sources that release HAP.

EPA requests comment on the feasibility and scientific validity of each of these or other approaches. Finally, EPA requests comment on how we should implement the CAA section 112(d)(4) applicability cutoffs, including appropriate mechanisms for applying cutoffs to individual facilities. For example, would the title V permit process provide an appropriate mechanism?

c. *Tiered analytical approach for predicting exposure.* Establishing that a facility meets the cutoffs established under CAA section 112(d)(4) will necessarily involve combining estimates of pollutant emissions with air dispersion modeling to predict exposures. The EPA envisions that we would promote a tiered analytical approach for these determinations. A tiered analysis involves making successive refinements in modeling methodologies and input data to derive successively less conservative, more realistic estimates of pollutant concentrations in air and estimates of risk.

As a first tier of analysis, EPA could develop a series of simple look-up tables based on the results of air dispersion modeling conducted using conservative input assumptions. By specifying a limited number of input parameters, such as stack height, distance to property line, and emission rate, a facility could use these look-up tables to determine easily whether the emissions from their sources might cause a hazard index limit to be exceeded.

A facility that does not pass this initial conservative screening analysis could implement increasingly more site-specific but more resource-intensive tiers of analysis using EPA-approved modeling procedures, in an attempt to demonstrate that exposure to emissions from the facility does not exceed the hazard index limit. The EPA's guidance could provide the basis for conducting such a tiered analysis.[8]

The EPA requests comment on methods for constructing and implementing a tiered analytical approach for determining applicability of the CAA section 112(d)(4) criterion to specific industrial boiler and process heater sources. It is also possible that ambient monitoring data could be used to supplement or supplant the tiered modeling approach described above. It is envisioned that the appropriate monitoring to support such a determination could be extensive. The EPA requests comment on the appropriate use of monitoring in the determinations described above.

d. Accounting for dose-response relationships. In the past, EPA routinely treated carcinogens as nonthreshold pollutants. The EPA recognizes that

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[5] Senate Debate on Conference Report (October 27, 1990), reprinted in "A Legislative History of the Clean Air Act Amendments of 1990," Comm. Print S. Prt. 103–38 (1993) ("Legis. Hist.") at 868.

[6] *See http://www.epa.gov/ttn/atw/nata.*

[7] *See http://www.atsdr.cdc.gov/toxpro2.html.*

[8] "A Tiered Modeling Approach for Assessing the Risks due to Sources of Hazardous Air Pollutants." EPA–450/4–92–001. David E. Guinnup, Office of Air Quality Planning and Standards, USEPA, March 1992.

advances in risk assessment science and policy may affect the way EPA differentiates between threshold and nonthreshold HAP. The EPA's draft Guidelines for Carcinogen Risk Assessment[9] suggest that carcinogens be assigned non-linear dose-response relationships where data warrant. Moreover, it is possible that dose-response curves for some pollutants may reach zero risk at a dose greater than zero, creating a threshold for carcinogenic effects. It is possible that future evaluations of the carcinogens emitted by this source category would determine that one or more of the carcinogens in the category is a threshold carcinogen or is a carcinogen that exhibits a non-linear dose-response relationship but does not have a threshold.

The dose-response assessments for formaldehyde and acetaldehyde are currently undergoing revision by the EPA. As part of this revision effort, EPA is evaluating formaldehyde and acetaldehyde as potential non-linear carcinogens. The revised dose-response assessments will be subject to review by the EPA Science Advisory Board, followed by full consensus review, before adoption into the EPA Integrated Risk Information System. At this time, EPA estimates that the consensus review will be completed by the end of 2003. The revision of the dose-response assessments could affect the potency factors of these HAP, as well as their status as threshold or nonthreshold pollutants. At this time, the outcome is not known. In addition to the current reassessment by EPA, there have been several reassessments of the toxicity and carcinogenicity of formaldehyde in recent years, including work by the World Health Organization and the Canadian Ministry of Health.

The EPA requests comment on how we should consider the state of the science as it relates to the treatment of threshold pollutants when making determinations under CAA section 112(d)(4). In addition, EPA requests comment on whether there is a level of emissions of a nonthreshold carcinogenic HAP (*e.g.*, benzene, methylene chloride) at which it would be appropriate to allow a facility to use the approaches discussed in this section.

If the CAA section 112(d)(4) approach were adopted, the proposed rulemaking would likely indicate that the requirements of the rule do not apply to any source that demonstrates, based on a tiered approach that includes EPA-approved modeling of the affected source's emissions, that the anticipated HAP exposures do not exceed the specified hazard index limit.

3. Applicability Cutoffs From Hydrogen Chloride Controls Under CAA Section 112(d)(4) of the CAA

This approach is an applicability cutoff for the threshold pollutant hydrogen chloride that is based on EPA's authority under CAA section 112(d)(4). Industry's suggested approach interprets this provision to allow EPA to exempt, from the hydrogen chloride controls, individual facilities that can demonstrate that their emissions of hydrogen chloride will not result in air concentrations above the inhalation reference concentration for hydrogen chloride, even if the category is otherwise subject to MACT.

If this approach were adopted, the proposed rulemaking would likely indicate that the requirements of the rule pertaining to hydrochloric acid do not apply to any source that demonstrates, based on EPA-approved modeling of the affected source's emissions, that the anticipated hydrochloric acid exposures do not exceed the inhalation reference concentration for hydrochloric acid.

4. Subcategory Delisting Under Section 112(c)(9)(B) of the CAA

The EPA is authorized to establish categories and subcategories of sources, as appropriate, pursuant to CAA section 112(c)(1), in order to facilitate the development of MACT standards consistent with section 112 of the CAA. Further, CAA section 112(c)(9)(B) allows EPA to delete a category (or subcategory) from the list of major sources for which MACT standards are to be developed when the following can be demonstrated: (1) In the case of carcinogenic pollutants, that ''no source in the category * * * emits (carcinogenic) air pollutants in quantities which may cause a lifetime risk of cancer greater than one in one million to the individual in the population who is most exposed to emissions of such pollutants from the source''; (2) in the case of pollutants that cause adverse noncancer health effects, that ''emissions from no source in the category or subcategory * * * exceed a level which is adequate to protect public health with an ample margin of safety''; and (3) in the case of pollutants that cause adverse environmental effects, that ''no adverse environmental effect will result from emissions from any source.''

Given these authorities and the suggestions from the white paper prepared by industry representatives (see docket number OAR–2002–0058), EPA is considering whether it would be possible to establish a subcategory of facilities within the larger industrial boiler and process heater source category that would meet the risk-based criteria for delisting. Such criteria would likely include the same requirements as described previously for the second scenario under the CAA section 112(d)(4) approach, whereby a facility would be in the low-risk subcategory if its emissions of threshold pollutants do not result in exposures which exceed the HI limits and if its emissions of nonthreshold pollutants do not result in exposures which exceed a cancer risk level of 10^{-6}. The EPA requests comment on what an appropriate HI limit would be for a determination that a facility be included in the low-risk subcategory.

Since each facility in such a subcategory would be a low-risk facility (*i.e.*, if each met these criteria), the subcategory could be delisted in accordance with CAA section 112(c)(9), thereby limiting the costs and impacts of the proposed rule to only those facilities that do not qualify for subcategorization and delisting.

Facilities seeking to be included in the delisted subcategory would be responsible for providing all data required to determine whether they are eligible for inclusion. Facilities that could not demonstrate that they are eligible to be included in the low-risk subcategory would be subject to MACT and possible future residual risk standards. The EPA solicits comment on implementing a risk-based approach for establishing subcategories of industrial boiler and process heater facilities.

Establishing that a facility qualifies for the low-risk subcategory under CAA section 112(c)(9) will necessarily involve combining estimates of pollutant emissions with air dispersion modeling to predict exposures. The EPA envisions that we would employ the same tiered analytical approach described earlier in the CAA section 112(d)(4) discussion for these determinations.

One concern that EPA has with respect to this CAA section 112(c)(9) approach is the effect that it could have on the MACT floors. If many of the facilities in the low-risk subcategory are well-controlled, that could make the MACT floor less stringent for the remaining facilities. One approach that has been suggested to mitigate this effect would be to establish the MACT floor now based on controls in place for the

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[9] ''Draft Revised Guidelines for Carcinogen Risk Assessment.'' NCEA–F–0644. USEPA, Risk Assessment Forum, July 1999. pp 3–9ff. *http://www.epa.gov/ncea/raf/pdfs/cancer_gls.pdf.*

entire category and to allow facilities to become part of the low-risk subcategory in the future, after the MACT based standards are established. This would allow low risk facilities to use the CAA section 112(c)(9) exemption without affecting the MACT floor calculation. The EPA requests comment on this suggested approach.

Another approach under CAA section 112(c)(9) would be to define a subcategory of facilities within the industrial boiler and process heater source category based upon technological differences, such as differences in production rate, emission vent flow-rates, overall facility size, emissions characteristics, processes, or air pollution control device viability. The EPA requests comment on how we might establish industrial boiler and process heater subcategories based on these, or other, source characteristics. If it could then be determined that each source in this technologically-defined subcategory presents a low risk to the surrounding community, the subcategory could then be delisted in accordance with CAA section 112(c)(9). The EPA requests comment on the concept of identifying technologically-based subcategories that may include only low-risk facilities within this source category.

If this CAA section 112(c)(9) approach were adopted, the rulemaking would likely indicate that the rule does not apply to any source that demonstrates that it belongs in a subcategory which has been delisted under CAA section 112(c)(9).

F. What Are the Economic Impacts?

The economic impact analysis shows that the expected price increase for output in the 40 affected industries would be no more than 0.04 percent as a result of the proposed rule for industrial boilers and process heaters. The expected change in production of affected output is a reduction of only 0.03 percent or less in the same industries. In addition, impacts to affected energy markets show that prices of petroleum, natural gas, electricity and coal should increase by no more than 0.05 percent as a result of implementation of the proposed rule, and output of these types of energy should decrease by no more than 0.01 percent. Therefore, it is likely that there is no adverse impact expected to occur for those industries that produce output affected by the proposed rule, such as lumber and wood products, chemical manufacturers, petroleum refining, and furniture manufacturing.

G. What Are the Social Costs and Benefits of the Proposed Rule?

Our assessment of costs and benefits of the proposed rule is detailed in the ''Regulatory Impact Analysis for the Proposed Industrial, Commercial, and Institutional Boilers and Process Heaters MACT.'' The Regulatory Impact Analysis (RIA) is located in the Docket.

It is estimated that 3 years after implementation of the proposed requirements, HAP would be reduced by 58,500 tons/yr (53,200 megagrams per year (Mg/yr)) due to reductions in hydrochloric acid, arsenic, mercury, hydrofluoric acid, and several other HAP from existing affected emission sources. Of these reductions, 42,000 tons/yr (38,200 Mg/yr) are of hydrochloric acid. In addition to these reductions, there are 73 tons/yr (66 Mg/yr) of HAP reductions expected from new sources. Of these reductions, virtually all of them are of hydrochloric acid. The health effects associated with these HAP are discussed earlier in this preamble. While it is beneficial to society to reduce these HAP, we are unable to quantify and provide a monetized estimate of the benefits at this time.

Despite our inability to quantify and provide monetized benefit estimates from HAP reductions, it is possible to derive rough estimates for one of the more important benefit categories, *i.e.*, the potential number of cancer cases avoided and cancer risk reduced as a result of the imposition of the MACT level of control on this source category. Our analysis suggests that imposition of the MACT level of control would reduce cancer cases by possibly tens of cases per year, on average, starting some years after implementation of the standard. This risk reduction estimate is uncertain and should be regarded as an extremely rough estimate, and should be viewed in the context of the full spectrum of unquantified noncancer effects associated with the HAP reductions. Noncancer effects associated with the HAP are presented earlier in this preamble.

The control technologies used to reduce the level of HAP emitted from affected sources are also expected to reduce emissions of PM (PM_{10}, $PM_{2.5}$), and sulfur dioxide (SO_2). It is estimated that PM_{10} emissions reductions total approximately 562,000 tons/yr (510,000 Mg/yr), $PM_{2.5}$ emissions reductions total approximately 159,000 tons/yr (145,000 Mg/yr), and SO_2 emissions reductions total approximately 102,670 Mg/yr (113,000 tons/yr). These estimated reductions occur from existing sources in operation 3 years after the implementation of the requirements of the proposed rule and are expected to continue throughout the life of the sources.

Human health effects associated with exposure to PM_{10} and $PM_{2.5}$ include premature mortality (short-term exposure to PM_{10} and long-term exposure to $PM_{2.5}$), chronic bronchitis, additional hospital admissions from respiratory and cardiovascular causes, acute respiratory symptoms, and other effects. Welfare effects associated with PM_{10} and $PM_{2.5}$ emissions include impaired recreational and residential visibility, household soiling, and materials damage. As SO_2 emissions transform into PM, they can lead to the same health and welfare effects listed above.

For PM_{10} and $PM_{2.5}$, we did provide a monetary estimate for the benefits associated with the reduction of the emissions, and we have conducted several analyses recently that estimate the monetized benefits of PM reductions, including: the RIA of the PM/Ozone national ambient air quality standards (NAAQS) (1997), the Nitrogen Oxide (NO_X) State Implementation Plan (SIP) Call (1998), the CAA section 126 RIA (1999), a study conducted for section 812(b) of the CAA (1999), the Tier 2/Gasoline Sulfur Standards (1999), and the Heavy Duty Engine/Diesel Fuel Standards (2000).

On September 26, 2002, the National Academy of Sciences (NAS) released a report on its review of the Agency's methodology for analyzing the health benefits of measures taken to reduce air pollution. The report focused on EPA's approach for estimating the health benefits of regulations designed to reduce concentrations of airborne particulate matter (PM).

In its report, the NAS said that EPA has generally used a reasonable framework for analyzing the health benefits of PM-control measures. It recommended, however, that the Agency take a number of steps to improve its benefits analysis. In particular, the NAS stated that the Agency should:

—Include benefits estimates for a range of regulatory options;
—Estimate benefits for intervals, such as every 5 years, rather than a single year;
—Clearly state the projected baseline statistics used in estimating health benefits, including those for air emissions, air quality, and health outcomes;
—Examine whether implementation of proposed regulations might cause unintended impacts on human health or the environment;

—When appropriate, use data from non-U.S. studies to broaden age ranges to which current estimates apply and to include more types of relevant health outcomes; and

—Begin to move the assessment of uncertainties from its ancillary analyses into its primary analyses by conducting probabilistic, multiple-source uncertainty analyses. This assessment should be based on available data and expert judgment.

Although the NAS made a number of recommendations for improvement in EPA's approach, it found that the studies selected by EPA for use in its benefits analysis were generally reasonable choices. In particular, the NAS agreed with EPA's decision to use cohort studies to derive benefits estimates. It also concluded that the Agency's selection of the American Cancer Society (ACS) study for the evaluation of PM-related premature mortality was reasonable, although it noted the publication of new cohort studies that should be evaluated by the Agency.

Several of the NAS recommendations addressed the issue of uncertainty and how the Agency can better analyze and communicate the uncertainties associated with its benefits assessments. In particular, the Committee expressed concern about the Agency's reliance on a single value from its analysis and suggested that EPA develop a probabilistic approach for analyzing the health benefits of proposed regulatory actions. The Agency agrees with this suggestion and is working to develop such an approach for use in future rulemakings.

In this benefits analysis for the proposed rule, the Agency has used an interim approach that shows the impact of several important alternative assumptions about the estimation and valuation of reductions in premature mortality and chronic bronchitis. This approach, which was developed in the context of the Agency's Clear Skies analysis, provides an alternative estimate of health benefits using the time series studies in place of cohort studies, as well as alternative valuation methods for mortality and chronic bronchitis risk reductions.

For the proposed rule, we conducted an air quality assessment to determine the change in ambient concentrations of PM_{10} and $PM_{2.5}$ that result from reductions of PM and SO_2 at existing affected facilities. Our air quality analysis was conducted using the source-receptor (S–R) matrix model, a model that provides changes in PM_{10} and $PM_{2.5}$ concentrations based on changes in PM and/or PM precursor emissions. Unfortunately, our data is not able to define the exact location of the reductions for every affected boiler and process heater. The air quality analysis was conducted for emissions reductions from those emissions sources that have a known link to a specific control device, which represents approximately 50 percent of the total emissions reductions mentioned above. Using this subset of information, we utilized the S–R matrix to determined the air quality change nationwide. The results of the air quality assessment served as input to a model that estimates the total monetary value of benefits of the health effects listed above. Total benefits associated with this portion of the analysis are $8.2 billion in the year 2005 (presented in 1999 dollars).

For those emissions reductions from affected sources that do not have a known link to a specific control device, the results of the air quality analysis serve as a reasonable approximation of air quality changes to transfer to the remaining emissions reductions of the proposed rule. Because there is not a reasonable way to apportion the total benefits of the combined impact of the PM and SO_2 reductions from the air quality and benefit analyses completed above, we performed two additional S–R matrix analyses. One analysis was performed to evaluate the impact on air quality of the PM reductions alone (holding SO_2 unchanged), and one to evaluate the impact on air quality from the SO_2 reductions alone (holding PM unchanged). With independent PM and SO_2 air quality assessments, we can determine the total benefit associated with each component of total pollutant reductions. The total benefit associated with the PM and SO_2 reductions with unspecified location are $7.9 billion.

Every benefit-cost analysis examining the potential effects of a change in environmental protection requirements is limited to some extent by data gaps, limitations in model capabilities (such as geographic coverage), and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Deficiencies in the scientific literature often result in the inability to estimate changes in health and environmental effects, such as potential increases in premature mortality associated with increased exposure to carbon monoxide. Deficiencies in the economics literature often result in the inability to assign economic values even to those health and environmental outcomes which can be quantified. While these general uncertainties in the underlying scientific and economics literatures are discussed in detail in the RIA and its supporting documents and references, the key uncertainties which have a bearing on the results of the benefit-cost analysis of today's action are the following:

1. The exclusion of potentially significant benefit categories (*e.g.*, health and ecological benefits of reduction in hazardous air pollutants emissions);
2. Errors in measurement and projection for variables such as population growth;
3. Uncertainties in the estimation of future year emissions inventories and air quality;
4. Uncertainties associated with the extrapolation of air quality monitoring data to some unmonitored areas required to better capture the effects of the standards on the affected population;
5. Variability in the estimated relationships of health and welfare effects to changes in pollutant concentrations; and
6. Uncertainties associated with the benefit transfer approach.

Despite these uncertainties, we believe the benefit-cost analysis provides a reasonable indication of the expected economic benefits of the industrial boilers and process heaters MACT under two different sets of assumptions.

We have used two approaches (base and alternative estimates) to provide benefits in health effects and in monetary terms. They differ in the method used to estimate and value reduced incidences of mortality and chronic bronchitis, which is explained in detail in the RIA. While there is a substantial difference in the specific estimates, both approaches show that the industrial boilers and process heaters MACT may provide benefits to public health, whether expressed as health improvements or as economic benefits. These include prolonging lives, reducing cases of chronic bronchitis and hospital admissions, and reducing thousands of cases in other indicators of adverse health effects, such as work loss days, restricted activity days, and days with asthma attacks. In addition, there are a number of health and environmental effects which we were unable to quantify or monetize. These effects, denoted by ''B'' are additive to the both the base and alternative estimates of benefits. Results also reflect the use of two different discount rates for the valuation of reduced incidences of mortality; a 3 percent rate which is recommended by EPA's Guidelines for Preparing Economic Analyses (U.S.

EPA, 2000a), and 7 percent which is recommended by OMB Circular A–94 (OMB, 1992).

More specifically, the base estimate of benefits reflects the use of peer-reviewed methodologies developed for earlier risk and benefit-cost assessments related to the Clean Air Act, such as the regulatory assessments of the Heavy Duty Diesel and Tier II rules and the section 812 Report to Congress. The alternative estimate explores important aspects of the key elements underlying estimates of the benefits of reducing PM and SO_2 emissions, specifically focusing on estimation and valuation of mortality risk reduction and valuation of chronic bronchitis. The alternative estimate of mortality reduction relies on recent scientific studies finding an association between increased mortality and short-term exposure to particulate matter over days to weeks, while the base estimate relies on a recent reanalysis of earlier studies that associate long-term exposure to fine particles with increased mortality. The alternative estimate differs in the following ways: it explicitly omits any impact of long-term exposure on premature mortality, it uses different data on valuation and makes adjustments relating to the health status and potential longevity of the populations most likely affected by PM, it also uses a cost-of-illness method to value reductions in cases of chronic bronchitis while the base estimate is based on individual's willingness to pay (WTP) to avoid a case of chronic bronchitis. In addition, one key area of uncertainty is the value of a statistical life (VSL) for risk reductions in mortality, which is also the category of benefits that accounts for a large portion of the total benefit estimate. The adoption of a value for the projected reduction in the risk of premature mortality is the subject of continuing discussion within the economic and public policy analysis community. There is general agreement that the value to an individual of a reduction in mortality risk can vary based on several factors, including the age of the individual, the type of risk, the level of control the individual has over the risk, the individual's attitude toward risk, and the health status of the individual.

The Environmental Economics Advisory Committee (EEAC) of the EPA Science Advisory Board (SAB) recently issued an advisory report which states that ''the theoretically appropriate method is to calculate willingness to pay for individuals whose ages correspond to those of the affected population, and that it is preferable to base these calculations on empirical estimates of WTP by age.'' (EPA–SAB–EEAC–00–013). In developing our base estimate of the benefits of premature mortality reductions, we have appropriately discounted over the lag period between exposure and premature mortality. However, the empirical basis for adjusting the current $6 million VSL for other factors does not yet justify including these in our base estimate. A discussion of these factors is contained in the RIA and supporting documents. The EPA recognizes the need for additional research by the scientific community to develop additional empirical support for adjustments to VSL for the factors mentioned above. Furthermore, EPA prefers not to draw distinctions in the monetary value assigned to the lives saved even if they differ in age, health status, socioeconomic status, gender or other characteristic of the adult population.

Given the advice from the SAB, we employed the suggested approach for the benefit analysis of the Heavy Duty Engine/Diesel Fuel standards conducted in 2000 to the Industrial, Commercial, and Institutional Boiler and Process Heater MACT discussed in this preamble. A full discussion of considerations made in our presentation of benefits is summarized in the preamble of the Final Heavy Duty Diesel Program issued in December 2000, and in all supporting documentation and analyses of the Heavy Duty Diesel Program, and in the RIA for the proposed rulemaking.

In addition to the presentation of mortality valuation, our estimate also includes a ''B'' to represent those additional health and environmental benefits which could not be expressed in quantitative incidence and/or economic value terms. A full listing of the benefit categories that could not be quantified or monetized in our estimate are provided in the RIA for the proposed rule. A full appreciation of the overall economic consequences of the proposed industrial boiler and process heater standards requires consideration of all benefits and costs expected to result from today's proposed rule, not just those benefits and costs which could be expressed here in dollar terms. A full listing of the benefit categories that could not be quantified or monetized in our estimate are provided in Table 5 of this preamble.

TABLE 5.—UNQUANTIFIED BENEFIT CATEGORIES

	Unquantified benefit categories associated with HAP	Unquantified benefit categories associated with PM
Health Categories	Airway responsiveness Pulmonary inflammation Increased susceptibility to respiratory infection Acute inflammation and respiratory cell damage Chronic respiratory damage/Premature aging of lungs Emergency room visits for asthma	Changes in pulmonary function. Morphological changes. Altered host defense mechanisms. Cancer. Other chronic respiratory disease. Emergency room visits for asthma. Emergency room visits for non-asthma respiratory and cardiovascular causes. Lower and upper respiratory symptoms. Acute bronchitis. Shortness of breath. Increased school absence rates.
Welfare Categories	Ecosystem and vegetation effects Damage to urban ornamentals (*e.g.*, grass, flowers, shrubs, and trees in urban areas) Commercial field crops Fruit and vegetable crops Reduced yields of tree seedlings, commercial and non- commercial forests Damage to ecosystems Materials damage	Materials damage. Damage to ecosystems (*e.g.*, acid sulfate deposition). Nitrates in drinking water. Visibility in recreational and residential areas.

In summary, the base estimate using the VSL approach yields a total monetized benefit estimate of $16.1 billion + B (1999 dollars) in 2005 when using a 3 percent interest rate (or approximately $15.4 billion + B when using a 7 percent interest rate). The alternative estimate totals approximately $2.4 billion + B when using a 3 percent interest rate (or approximately $2.6 billion + B when using a 7 percent interest rate).

Using the results of the benefit analysis, we can use benefit-cost comparison (or net benefits) as another tool to evaluate the reallocation of society's resources needed to address the pollution externality created by the operation of industrial boilers and process heaters. The additional costs of internalizing the pollution produced at major sources of emissions from industrial boilers and process heaters are compared to the improvement in society's well-being from a cleaner and healthier environment. Comparing benefits of the proposed rule to the costs imposed by alternative ways to control emissions optimally identifies a strategy that results in the highest net benefit to society. In the case of the proposed rule, we are proposing only one option, the minimal level of control mandated by the CAA, or the MACT floor. Other alternatives that lead to higher levels of control (or beyond-the-floor alternatives) lead to higher estimates of benefits net of costs, but also lead to additional economic impacts including more substantial impacts to small entities. For more details, please refer to the RIA for the proposed rule.

Table 6 of this preamble presents a summary of costs, benefits, and net benefits (*i.e.*, benefits minus costs). Based on estimated compliance costs associated with the proposed rule and the predicted change in prices and production in the affected industries, the estimated social costs of the proposed rule are $780 million (1999 dollars). Social costs are different from compliance costs in that social costs take into account the interactions between affected producers and the consumers of affected products in response to the imposition of the compliance costs.

Therefore, the Agency's base estimate of monetized benefits net of costs is $15.2 billion + B (1999 dollars) in 2005 when using a 3 percent discount rate (or approximately $15 billion + B when using a 7 percent discount rate). However, using the more conservative alternative estimate of benefits, net benefits are $1.5 billion + B (1999 dollars) under a 3 percent discount rate (or approximately $1.7 billion + B when using a 7 percent discount rate).

In both cases, net benefits would be greater if all the benefits of the HAP and other pollutant reductions could be quantified. Notable omissions to the net benefits include all benefits of HAP reductions, including reduced cancer incidences, toxic morbidity effects, and cardiovascular and CNS effects. It is also important to note that not all benefits of SO_2 and PM reductions have been monetized.

TABLE 6.—ANNUAL NET BENEFITS OF THE INDUSTRIAL BOILERS AND PROCESS HEATERS NESHAP IN 2005 [A]

	MACT floor (million 1999$)	Beyond the MACT floor (million 1999$)
Social Costs [B]	$837	$1,923
Social Benefits: [B, C, D]		
HAP-related health and welfare benefits	Not monetized	Not monetized.
PM-related welfare benefits	Not monetized	Not monetized.
SO_2– and PM-related health benefits:		
Primary Estimate		
—Using 3% Discount Rate	$16,300 + B	$17,230 + B.
Using 7% Discount Rate	$15,430 + B	$16,310 + B.
Alternative Estimate		
—Using 3% Discount Rate	$2,350 + B	$2,380 + B.
—Using 7% Discount Rate	$2,585 + B	$2,620 + B.
Net Benefits (Benefits − Costs): [C, D]		
Primary Estimate		
—Using 3% Discount Rate	$15,465	$15,305 + B.
—Using 7% Discount Rate	$14,595	$14,385 + B.
Alternative Estimate		
—Using 3% Discount Rate	$1,515	$455 + B.
—Using 7% Discount Rate	$1,750	$700 + B.

[A] All costs and benefits are rounded to the nearest $5 million. Thus, figures presented in this table may not exactly equal benefit and cost numbers presented in earlier sections of the chapter.

[B] Note that costs are the total costs of reducing all pollutants, including HAP as well as SO_2 and PM_{10}. Benefits in this table are associated only with PM and SO_2 reductions.

[C] Not all possible benefits or disbenefits are quantified and monetized in this analysis. Potential benefit categories that have not been quantified and monetized are listed in Table 8–13. B is the sum of all unquantified benefits and disbenefits.

[D] Monetized benefits are presented using two different discount rates. Results calculated using 3 percent discount rate are recommended by EPA's *Guidelines for Preparing Economic Analyses* (U.S. EPA, 2000a). Results calculated using 7 percent discount rate are recommended by OMB Circular A–94 (OMB, 1992).

V. Public Participation and Requests for Comment

The ICCR Federal Advisory Committee (*i.e.*, the Coordinating Committee), which is discussed previously in this preamble, was designed and created to foster active participation from stakeholders, including environmental groups, regulated industries, local governments, Federal agencies, and State and local regulatory agencies. The stakeholders were able to participate in the development of FACA committee recommendations on many regulatory issues.

The ICCR Coordinating Committee also encouraged the public to provide input on its data and recommendations throughout the 2-year charter. To enhance the public's ability to participate, EPA maintained a bulletin board on the Technology Transfer Network to disseminate information on the ICCR Coordinating Committee and Work Group meeting schedules and minutes, works in progress, and final recommendations. The public could submit comments on any information posted on the bulletin board to members of the ICCR Coordinating Committee or Work Group. Individuals could also attend the ICCR Coordinating Committee and Work Group meetings and comment on the information being presented and discussed. After the FACA charter expired, individual stakeholders and members of the public were encourage to submit individual comments and information to EPA staff. On several occasions after the FACA charter expired, EPA met with individual stakeholder groups to discuss the status of the proposed rulemaking and to hear their concerns and comments regarding the proposed rulemaking.

To continue participation of stakeholders in the rulemaking process, EPA is requesting comments and data to support the proposed rule. The EPA requests comments on all aspects of the proposed rule from all interested parties.

VI. Administrative Requirements

A. Executive Order 12866, Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the Agency 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, the Agency has determined that the proposed rule is a ''significant regulatory action'' because it has an annual effect on the economy of over $100 million. As such, this proposed action was submitted to OMB for review.

B. Executive Order 13132, Federalism

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

The proposed 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 agency is required by section 112 of the CAA, to establish the standards in the proposed rule. The proposed rule primarily affects private industry, and does not impose significant economic costs on State or local governments. The proposed rule does not include an express provision preempting State or local regulations. Thus, the requirements of section 6 of the Executive Order do not apply to the proposed rule.

Although section 6 of Executive Order 13132 does not apply to the proposed rule, we consulted with representatives of State and local governments to enable them to provide meaningful and timely input into the development of the proposed rule. This consultation took place during the ICCR FACA committee meetings where members representing State and local governments participated in developing recommendations for EPA's combustion-related rulemakings, including the proposed rule. The concerns raised by representatives of State and local governments were considered during the development of the proposed rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on the proposed rule from State and local officials.

C. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 9, 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.'' The proposed rule does not have tribal implications, as specified in Executive Order 13175.

The proposed rule does not significantly or uniquely affect the communities of Indian tribal governments. We do not know of any industrial-commercial-institutional boilers or process heaters owned or operated by Indian tribal governments. However, if there are any, the effect of the proposed rule on communities of tribal governments would not be unique or disproportionate to the effect on other communities. Thus, Executive Order 13175 does not apply to the proposed rule. The EPA specifically solicits additional comment on the proposed rule from tribal officials.

D. 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, the Agency must evaluate the environmental health or safety effects of the proposed rule on children, and explain why the proposed rule is preferable to other potentially effective and reasonably feasible alternatives.

The EPA interprets 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 proposed rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks.

E. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Pub. L.

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.

We have determined that the proposed rule contains a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, we have prepared a written statement entitled ''Unfunded Mandates Reform Act Analysis for the Proposed Industrial Boilers and Process Heaters NESHAP'' under section 202 of the UMRA which is summarized below.

1. Statutory Authority

As discussed in section I of this preamble, the statutory authority for the proposed rulemaking is section 112 of the CAA. Title III of the CAA Amendments was enacted to reduce nationwide air toxic emissions. Section 112(b) of the CAA lists the 188 chemicals, compounds, or groups of chemicals deemed by Congress to be HAP. These toxic air pollutants are to be regulated by NESHAP.

Section 112(d) of the CAA directs us to develop NESHAP which require existing and new major sources to control emissions of HAP using MACT based standards. This NESHAP applies to all industrial, commercial, and institutional boilers and process heaters located at major sources of HAP emissions.

In compliance with section 205(a) of the UMRA, we identified and considered a reasonable number of regulatory alternatives. Additional information on the costs and environmental impacts of these regulatory alternatives is presented in the docket.

The regulatory alternative upon which the proposed rule is based represents the MACT floor for industrial boilers and process heaters and, as a result, it is the least costly and least burdensome alternative.

2. Social Costs and Benefits

The regulatory impact analysis prepared for the proposed rule including the Agency's assessment of costs and benefits, is detailed in the ''Regulatory Impact Analysis for the Proposed Industrial Boilers and Process Heaters MACT'' in the docket. Based on estimated compliance costs associated with the proposed rule and the predicted change in prices and production in the affected industries, the estimated social costs of the proposed rule are $780 million (1999 dollars).

It is estimated that 5 years after implementation of the proposed rule, HAP will be reduced by 58,500 tons per year due to reductions in arsenic, beryllium, dioxin, hydrochloric acid, and several other HAP from industrial boilers and process heaters. Studies have determined a relationship between exposure to these HAP and the onset of cancer, however, there are some questions remaining on how cancers that may result from exposure to these HAP can be quantified in terms of dollars. Therefore, the Agency is unable to provide a monetized estimate of the benefits of the HAP reduced by the proposed rule at this time. However, there are significant reductions in PM and in SO_2 that occur. Reductions of 560,000 tons of PM with a diameter of less than or equal to 10 micrometers (PM_{10}), 159,000 tons of PM with a diameter of less than or equal to 2.5 micrometers (PM_{10}), and 112,000 tons of SO_2 are expected to occur. These reductions occur from existing sources in operation 5 years after the implementation of the regulation and are expected to continue throughout the life of the affected sources. The major health effect that results from these PM and SO_2 emissions reductions is a reduction in premature mortality. Other health effects that occur are reductions in chronic bronchitis, asthma attacks, and work-lost days (*i.e.*, days when employees are unable to work).

While we are unable to monetize the benefits associated with the HAP emissions reductions, we are able to monetize the benefits associated with the PM and SO_2 emissions reductions. For SO_2 and PM, we estimated the benefits associated with health effects of PM but were unable to quantify all categories of benefits (particularly those associated with ecosystem and environmental effects). Unquantified benefits are noted with ''B'' in the estimates presented below. Our base estimate of the monetized benefits in 2005 associated with the implementation of the proposed alternative is $16.1 billion (1999 dollars) when using a 3 percent discount rate (or approximately $15.4 billion + B when using a 7 percent discount rate). This estimate, at a 3 percent discount rate, is about $15 billion (1999 dollars) higher than the estimated social costs shown earlier in this section. The alternative estimate of benefits is $2.4 billion (1999 dollars) when using a 3 percent discount rate (or approximately $2.6 billion + B when using a 7 percent discount rate). This estimate, at a 3 percent discount rate, is about $1.5 billion higher than the estimated social costs. The general approach to value benefits is discussed in more detail earlier in this preamble. For more detailed information on the benefits estimated for the proposed rulemaking, refer to the RIA in the docket.

3. Future and Disproportionate Costs

The Unfunded Mandates Act requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by the proposed rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of the proposed rule are discussed previously in this preamble.

We do not believe that there will be any disproportionate budgetary effects of the proposed rule on any particular areas of the country, State or local governments, types of communities (*e.g.*, urban, rural), or particular industry segments. This is true for the 257 facilities owned by 54 different government bodies and is borne out by the results of the ''Economic Impact Analysis of the Proposed Industrial Boilers and Process Heaters NESHAP,'' the results of which are discussed previously in this preamble.

4. Effects on the National Economy

The Unfunded Mandates Act requires that we estimate the effect of the proposed rule on the national economy. To the extent feasible, we must estimate the effect on productivity, economic growth, full employment, creation of productive jobs, and international competitiveness of the U.S. goods and services, if we determine that accurate estimates are reasonably feasible and that such effect is relevant and material.

The nationwide economic impact of the proposed rule is presented in the ‘‘Economic Impact Analysis for the Industrial Boilers and Process Heaters MACT’’ in the docket. This analysis provides estimates of the effect of the proposed rule on some of the categories mentioned above. The results of the economic impact analysis are summarized previously in this preamble. The results show that there will be little impact on prices and output from the affected industries, and little impact on communities that may be affected by the proposed rule. In addition, there should be little impact on energy markets (in this case, coal, natural gas, petroleum products, and electricity). Hence, the potential impacts on the categories mentioned above should be minimal.

5. Consultation with Government Officials

The Unfunded Mandates Act requires that we describe the extent of the Agency's prior consultation with affected State, local, and tribal officials, summarize the officials' comments or concerns, and summarize our response to those comments or concerns. In addition, section 203 of the UMRA requires that we develop a plan for informing and advising small governments that may be significantly or uniquely impacted by a proposal. Although the proposed rule does not affect any State, local, or Tribal governments, we have consulted with State and local air pollution control officials. We also have held meetings on the proposed 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 these meetings.

In addition, we have determined that the proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments. While some small governments may have some sources affected by the proposed rule, the impacts are not expected to be significant. Therefore, today's proposed rule is not subject to the requirements of section 203 of the UMRA.

F. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's proposed rule on small entities, small entity is defined as: (1) A small business according to Small Business Administration (SBA) size standards by the North American Industry Classification System category of the owning entity. The range of small business size standards for the 40 affected industries ranges from 500 to 1,000 employees, except for petroleum refining and electric utilities. In these latter two industries, the size standard is 1,500 employees and a mass throughput of 75,000 barrels/day or less, and 4 million kilowatt-hours of production or less, respectively; (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.

After considering the economic impact of the proposed rule on small entities, EPA certifies that this action will not have a significant impact on a substantial number of small entities. Based on SBA size definitions for the affected industries and reported sales and employment data, the Agency identified 185 of the 576 companies, or 32 percent, owning affected facilities as small businesses. Although small businesses represent 32 percent of the companies within the source category, they are expected to incur 4 percent of the total compliance costs of $862.7 million (1998 dollars). There are only ten small firms with compliance costs equal to or greater than 3 percent of their sales. In addition, there are 24 small firms with cost-to-sales ratios between 1 and 3 percent.

An economic impact analysis was performed to estimate the changes in product price and production quantities for the proposed rule. As mentioned in the summary of economic impacts, the estimated changes in prices and output for affected firms is no more than 0.05 percent.

This analysis indicates that the proposed rule should not generate a significant impact on a substantial number of small entities for following reasons. First, there are 34 small firms (or 18 percent of all affected small firms) with compliance costs equal to or greater than 1 percent of their sales. Of these, ten small firms (or 5 percent of all affected small firms) with compliance costs equal to or greater than 3 percent of their sales. Second, the results of the economic impact analysis show minimal impacts on prices and output from affected firms, including small entities, due to the implementation of the proposed rule. For more information, consult the docket for the proposed rule.

The proposed rule will not have a significant economic impact on a substantial number of small entities as a result of several decisions EPA made regarding the development of the rule which resulted in limiting the impact of the rule on small entities. First, as mentioned earlier in this preamble, EPA identified small units (heat input of 10 MMBtu/hr or less) and limited use boilers (operate less than 10 percent of the time) as separate subcategories different from large units. Many small and limited use units are located at small entities. As also discussed earlier, the results of the MACT floor analysis for these subcategories of existing sources was that no MACT floor could be identified except for the limited use solid fuel subcategory which is less stringent than the MACT floor for large units. Furthermore, the results of the beyond-the-floor analysis for these subcategories indicated that the costs would be too high to consider them feasible options. Consequently, the proposed rule contains no emission limitations for any of the existing small and limited use subcategories except the existing limited use solid fuel subcategory. In addition, the proposed alternative metals emission limit resulted in minimizing the impacts on small entities since some of the potential entities burning a fuel containing very little metals are small entities. We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

G. Paperwork Reduction Act

The information collection requirements in the proposed rule will be submitted for approval to the Office of Management and Budget under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 2028.01) and a copy may be obtained from Susan Auby by mail at the Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Avenue NW., Washington, DC 20460, by e-mail at *auby.susan@epa.gov,* or by calling (202) 566–1672. A copy may also be downloaded off the Internet at *http://www.epa.gov/icr.*

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 proposed rule would require maintenance inspections of the control devices but would 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 standards) is estimated to be $165 million. This includes 2.7 million labor hours per year at a total labor cost of $142 million per year, and total non-labor capital costs of $24 million per year. This estimate includes a one-time performance test, semiannual excess emission reports, maintenance inspections, notifications, and recordkeeping. Monitoring costs were also included in the cost estimates presented in the control costs impacts estimates in section IV.D of this preamble. The total burden for the Federal government (averaged over the first 3 years after the effective date of the standard) is estimated to be 346,000 hours per year at a total labor cost of $14 million per year.

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 our regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., NW., Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence.

Since OMB is required to make a decision concerning the ICR between 30 and 60 days after January 13, 2003, a comment to OMB is best assured of having its full effect if OMB receives it by February 12, 2003. The final rule will respond to any OMB or public comments on the information collection requirements contained in the proposed rule.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law 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, with explanations when an agency does not use available and applicable voluntary consensus standards.

This rulemaking involves technical standards. The EPA cites the following standards in the proposed rule: EPA Methods 1, 2, 2F, 2G, 3A, 3B, 4, 5, 5D, 17, 19, 26, 26A, 29 of 40 CFR part 60. 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 Methods 2F, 2G, 5D, and 19. The search and review results have been documented and are placed in the docket for the proposed rule.

The three voluntary consensus standards described below were identified as acceptable alternatives to EPA test methods for the purposes of the proposed rule.

The voluntary consensus standard ASME PTC 19–10–1981—Part 10, ''Flue and Exhaust Gas Analyses,'' is cited in the proposed rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ASME PTC 19–10–1981—Part 10 is an acceptable alternative to Method 3B.

The voluntary consensus standard ASTM D6522–00, ''Standard Test Method for the Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers and Process Heaters Using Portable Analyzers'' is an acceptable alternative to EPA Method 3A for identifying carbon monoxide and oxygen concentrations for the proposed rule when the fuel is natural gas.

The voluntary consensus standard ASTM Z65907, ''Standard Method for Both Speciated and Elemental Mercury Determination,'' is an acceptable alternative to EPA Method 29 (portion for mercury only) for the purpose of the proposed rule. This standard can be used in the proposed rule to determine the mercury concentration in stack gases for boilers with rated heat input capacities of greater than 250 MMBtu per hour.

In addition to the voluntary consensus standards EPA uses in the proposed rule, the search for emissions measurement procedures identified 15 other voluntary consensus standards.

The EPA determined that 13 of these 15 standards identified for measuring emissions of the HAP or surrogates subject to emission standards in the proposed 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. The reasons for this determination for the 13 methods are discussed below.

The voluntary consensus standard ASTM D3154–00, ''Standard Method for Average Velocity in a Duct (Pitot Tube Method),'' is impractical as an alternative to EPA Methods 1, 2, 3B, and 4 for the purposes of the proposed rulemaking since the standard appears to lack in quality control and quality assurance requirements. Specifically, ASTM D3154–00 does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (*e.g.*, magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors.

The voluntary consensus standard ASTM D3464–96 (2001), ''Standard Test Method Average Velocity in a Duct Using a Thermal Anemometer,'' is impractical as an alternative to EPA Method 2 for the purposes of the proposed rule primarily because applicability specifications are not clearly defined, *e.g.*, range of gas composition, temperature limits. Also, the lack of supporting quality assurance data for the calibration procedures and specifications, and certain variability issues that are not adequately addressed by the standard limit EPA's ability to make a definitive comparison of the method in these areas.

The voluntary consensus standard ISO 10780:1994, ''Stationary Source Emissions-Measurement of Velocity and Volume Flow-Rate of Gas Streams in Ducts,'' is impractical as an alternative to EPA Method 2 in the proposed rule. The standard recommends the use of an L-shaped pitot, which historically has not been recommended by EPA. The EPA specifies the S-type design which has large openings that are less likely to plug up with dust.

The voluntary consensus standard, CAN/CSA Z223.2–M86 (1999), ''Method for the Continuous Measurement of Oxygen, Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen in Enclosed Combustion Flue Gas Streams,'' is unacceptable as a substitute for EPA Method 3A since it does not include quantitative specifications for measurement system performance, most notably the calibration procedures and instrument performance characteristics. The instrument performance characteristics that are provided are nonmandatory and also do not provide the same level of quality assurance as the EPA methods. For example, the zero and span/calibration drift is only checked weekly, whereas the EPA methods requires drift checks after each run.

Two very similar voluntary consensus standards, ASTM D5835–95 (2001), ''Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration,'' and ISO 10396:1993, ''Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations,'' are impractical alternatives to EPA Method 3A for the purposes of the proposed rule because they lack in detail and quality assurance/quality control requirements. Specifically, these two standards do not include the following: (1) Sensitivity of the method; (2) acceptable levels of analyzer calibration error; (3) acceptable levels of sampling system bias; (4) zero drift and calibration drift limits, time span, and required testing frequency; (5) a method to test the interference response of the analyzer; (6) procedures to determine the minimum sampling time per run and minimum measurement time; and (7) specifications for data recorders, in terms of resolution (all types) and recording intervals (digital and analog recorders, only).

The voluntary consensus standard ISO 12039:2001, ''Stationary Source Emissions—Determination of Carbon Monoxide, Carbon Dioxide, and Oxygen—Automated Methods,'' is not acceptable as an alternative to EPA Method 3A. This ISO standard is similar to EPA Method 3A, but is missing some key features. In terms of sampling, the hardware required by ISO 12039:2001 does not include a 3-way calibration valve assembly or equivalent to block the sample gas flow while calibration gases are introduced. In its calibration procedures, ISO 12039:2001 only specifies a two-point calibration while EPA Method 3A specifies a three-point calibration. Also, ISO 12039:2001 does not specify performance criteria for calibration error, calibration drift, or sampling system bias tests as in the EPA method, although checks of these quality control features are required by the ISO standard.

The voluntary consensus standard ASME PTC–38–80 R85 (1985), ''Determination of the Concentration of Particulate Matter in Gas Streams,'' is not acceptable as an alternative for EPA Method 5 because ASTM PTC–38–80 is not specific about equipment requirements, and instead presents the options available and the pro's and con's of each option. The key specific differences between ASME PTC–38–80 and the EPA methods are that the ASME standard: (1) Allows in-stack filter placement as compared to the out-of-stack filter placement in EPA Methods 5 and 17; (2) allows many different types of nozzles, pitots, and filtering equipment; (3) does not specify a filter weighing protocol or a minimum allowable filter weight fluctuation as in the EPA methods; and (4) allows filter paper to be only 99 percent efficient, as compared to the 99.95 percent efficiency required by the EPA methods.

The voluntary consensus standard ASTM D3685/D3685M–98, ''Test Methods for Sampling and Determination of Particulate Matter in Stack Gases,'' is similar to EPA Methods 5 and 17, but is lacking in the following areas that are needed to produce quality, representative particulate data:

(1) Requirement that the filter holder temperature should be between 120°C and 134°C, and not just ''above the acid dew-point;'' (2) detailed specifications for measuring and monitoring the filter holder temperature during sampling; (3) procedures similar to EPA Methods 1, 2, 3, and 4, that are required by EPA Method 5; (4) technical guidance for performing the Method 5 sampling procedures, *e.g.*, maintaining and monitoring sampling train operating temperatures, specific leak check guidelines and procedures, and use of reagent blanks for determining and subtracting background contamination; and (5) detailed equipment and/or operational requirements, *e.g.*, component exchange leak checks, use of glass cyclones for heavy particulate loading and/or water droplets, operating under a negative stack pressure, exchanging particulate loaded filters, sampling preparation and implementation guidance, sample recovery guidance, data reduction guidance, and particulate sample calculations input.

The voluntary consensus standard ISO 9096:1992, ''Determination of Concentration and Mass Flow-Rate of Particulate Matter in Gas Carrying Ducts—Manual Gravimetric Method,'' is not acceptable as an alternative for EPA Method 5. Although sections of ISO 9096 incorporate EPA Methods 1, 2, and 5 to some degree, this ISO standard is not equivalent to EPA Method 5 for collection of particulate matter. The standard ISO 9096 does not provide applicable technical guidance for performing many of the integral procedures specified in Methods 1, 2, and 5. Major performance and operational details are lacking or nonexistent, and detailed quality assurance/quality control guidance for the sampling operations required to produce quality, representative particulate data (*e.g.*, guidance for maintaining and monitoring train operating temperatures, specific leak check guidelines and procedures, and sample preparation and recovery procedures) are not provided by the standard, as in EPA Method 5. Also, details of equipment and/or operational requirements, such as those specified in EPA Method 5, are not included in the ISO standard, *e.g.*, stack gas moisture measurements, data reduction guidance, and particulate sample calculations.

The voluntary consensus standard CAN/CSA Z223.1–M1977, ''Method for the Determination of Particulate Mass Flows in Enclosed Gas Streams,'' is not acceptable as an alternative for EPA Method 5. Detailed technical procedures and quality control measures that are required in EPA Methods 1, 2, 3, and 4 are not included in CAN/CSA Z223.1. Second, CAN/CSA Z223.1 does not include the EPA Method 5 filter weighing requirement to repeat weighing every 6 hours until a constant weight is achieved. Third, EPA Method 5 requires the filter weight to be reported to the nearest 0.1 mg, while CAN/CSA Z223.1 requires only to the nearest 0.5 mg. Also, CAN/CSA Z223.1 allows the use of a standard pitot for velocity measurement when plugging of the tube opening is not expected to be a problem. Whereas, EPA Method 5 requires an S-shaped pitot.

The voluntary consensus standard EN 1911–1,2,3 (1998), ''Stationary Source Emissions—Manual Method of Determination of HCl—Part 1: Sampling of Gases Ratified European Text—Part 2: Gaseous Compounds Absorption Ratified European Text—Part 3: Adsorption Solutions Analysis and Calculation Ratified European Text,'' is impractical as an alternative to EPA Methods 26 and 26A. Part 3 of this standard cannot be considered equivalent to EPA Method 26 or 26A because the sample absorbing solution (water) would be expected to capture both HCl and chlorine gas, if present, without the ability to distinguish between the two. The EPA Methods 26 and 26A use an acidified absorbing solution to first separate HCl and chlorine gas so that they can be selectively absorbed, analyzed, and reported separately. In addition, in EN 1911 the absorption efficiency for chlorine gas would be expected to vary as the pH of the water changed during sampling.

The voluntary consensus standard EN 13211 (1998), is not acceptable as an alternative to the mercury portion of EPA Method 29 primarily because it is not validated for use with impingers, as in the EPA method, although the method describes procedures for the use of impingers. This European standard is validated for the use of fritted bubblers only and requires the use of a side (split) stream arrangement for isokinetic sampling because of the low sampling rate of the bubblers (up to 3 liters per minute, maximum). Also, only two bubblers (or impingers) are required by EN 13211, whereas EPA Method 29 require the use of six impingers. In addition, EN 13211 does not include many of the quality control procedures of EPA Method 29, especially for the use and calibration of temperature sensors and controllers, sampling train assembly and disassembly, and filter weighing.

Two of the 15 voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of the proposed rule because they are under development by a voluntary consensus body: ASME/BSR MFC 13M, ''Flow Measurement by Velocity Traverse,'' for EPA Method 2 (and possibly 1); and ASME/BSR MFC 12M, ''Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters,'' for EPA Method 2.

Section 63.7520 and Tables 4A through 4D to subpart DDDDD, 40 CFR part 63, list the EPA testing methods included in the proposed rule. 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.

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

Executive Order 13211, (66 FR 28355, May 22, 2001), provides that agencies shall prepare and submit to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, a Statement of Energy Effects for certain actions identified as significant energy actions. Section 4(b) of Executive Order 13211 defines ''significant energy actions'' as ''any action by an agency (normally published in the **Federal Register**) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) that is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action.'' The proposed rule is not a ''significant regulatory action'' because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The basis for the determination is as follows.

The reduction in petroleum product output, which includes reductions in fuel production, is estimated at only 0.001 percent, or about 68 barrels per day based on 2000 U.S. fuel production nationwide. That is a minimal reduction in nationwide petroleum product output. The reduction in coal production is estimated at only 0.014 percent, or about 3.5 million tons per year (or less than 1,000 tons per day) based on 2000 U.S. coal production nationwide. The combination of the increase in electricity usage estimated in section IV. C of this preamble with the effect of the increased price of affected output yields an increase in electricity output estimated at only 0.012 percent, or about 0.72 billion kilowatt-hours per year based on 2000 U.S. electricity production nationwide. All energy price changes estimated show no increase in price more than 0.05 percent nationwide, and a similar result occurs for energy distribution costs. We also 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. All of the results presented above account for the pass through of costs to consumers, as well as the cost impact to producers. For more information on the estimated energy effects, please refer to the economic impact analysis for the proposed rule. The analysis is available in the public docket.

Therefore, we conclude that the proposed rule when implemented is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

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: November 26, 2002.

Christine Todd Whitman,

Administrator.

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

PART 63—[AMENDED]

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

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

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

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

What This Subpart Covers

Sec.

Emission Limitations and Work Practice Standards

General Compliance Requirements

Testing and Initial Compliance Requirements

Continuous Compliance Requirements

Notifications, Reports, and Records

Other Requirements and Information

Tables to Subpart DDDDD of Part 63

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

What This Subpart Covers

§ 63.7480 What is the purpose of this subpart?

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants emitted from industrial, commercial, and institutional boilers and process heaters. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§ 63.7485 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater that is located at, or is part of, a major source of hazardous air pollutants (HAP) emissions, except as specifically exempted in § 63.7490.

(a) An industrial, commercial, or institutional boiler is an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded. A process heater is an enclosed device using controlled flame with the unit's primary purpose being to transfer heat indirectly to process streams (liquids, gases, or solids) instead of generating steam.

(b) A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of

22.68 megagrams (25 tons) or more per year.

§ 63.7490 What parts of my facility does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing affected source.

(b) The affected source is each industrial, commercial, or institutional boiler or process heater, as defined in § 63.7485 that is not one of the types of combustion units listed in § 63.7490(b)(1) through (10).

(1) A municipal waste combustor covered by 40 CFR part 60, subpart AAAA, subpart BBBB, subpart Eb or subpart Cb.

(2) A hospital/medical/infectious waste incinerator covered by 40 CFR part 60, subpart Ce or subpart Ec.

(3) An electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

(4) A boiler or process heater required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR part 63, subpart EEE (*e.g.*, hazardous waste combustors).

(5) A commercial and industrial solid waste incineration unit covered by 40 CFR part 60, subpart CCCC or subpart DDDD.

(6) A recovery boiler or furnace covered by 40 CFR part 63, subpart MM.

(7) A boiler or process heater that is used specifically for research and development. This does not include units that only provide steam to a process at a research and development facility.

(8) A hot water heater as defined in this subpart.

(9) A refining kettle covered by 40 CFR part 63, subpart X.

(10) An ethylene cracking furnace covered by 40 CFR part 63, subpart YY.

(c) An affected source is a new affected source if you commenced construction of the affected source after January 13, 2003 and you meet the applicability criteria at the time you commenced construction.

(d) An affected source is reconstructed if you meet the criteria as defined in § 63.2.

(e) An affected source is existing if it is not new or reconstructed.

§ 63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraph (a)(1) or (2) of this section.

(1) If you start up your affected source before [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], then you must comply with the emission limitations and work practice standards for new and reconstructed sources in this subpart no later than [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER].

(2) If you startup your affected source after [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], then you must comply with the emission limitations and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(b) If you have an existing affected source, you must comply with the emission limitations for existing sources no later than 3 years after [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER].

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing facility must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing facility must be in compliance with this subpart within 3 years after the facility becomes a major source.

(d) You must meet the notification requirements in § 63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limitations and work practice standards in this subpart.

Emission Limitations and Work Practice Standards

§ 63.7500 What emission limitations and work practice standards must I meet?

(a) You must meet the requirements in paragraphs (a)(1) through (3) of this section.

(1) You must meet each emission limit in Table 1 to this subpart that applies to you.

(2) You must meet each operating limit in Tables 2.A and 2.B to this subpart that applies to you. If you use a control device or combination of control devices not covered in Tables 2.A or 2.B to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the Administrator for approval of alternative monitoring under § 63.8(f).

(3) You must meet each work practice standard in Table 3 to this subpart that applies to you.

(b) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories (the large liquid fuel subcategory, the limited use liquid fuel subcategory, or the small liquid fuel subcategory) and burns only fossil fuels and other gases and does not burn any residual oil, you are subject to the emission limits in Table 1 to this subpart, but you are not required to conduct a performance test to demonstrate compliance with the emission limits. However, you must meet all applicable requirements in §§ 63.7530 and 63.7535.

(c) As provided in § 63.6(g), the Environmental Protection Agency (EPA) may choose to grant you permission to use an alternative to the work practice standards in this section.

General Compliance Requirements

§ 63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).

(c) You must develop a site-specific monitoring plan according to the requirements in paragraphs (c)(1) through (4) of this section.

(1) For each monitoring system required in this section, you must develop and submit for approval a site-specific monitoring plan that addresses paragraphs (c)(1)(i) through (iii) of this section.

(i) Installation of the continuous monitoring system (CMS) sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (c)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1) and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(d) You must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

Testing and Initial Compliance Requirements

§ 63.7510 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) For each existing affected source, you must conduct performance tests, set operating limits, and conduct monitoring equipment performance evaluations by the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart.

(b) For each new or reconstructed affected source, you must conduct performance tests, set operating limits, and conduct monitoring equipment performance evaluations within 180 calendar days after the compliance date that is specified for your source in § 63.7495 and according to the provisions in § 63.7(a)(2) as cited in Table 10 to this subpart.

§ 63.7515 When must I conduct subsequent performance tests?

(a) You must conduct all applicable performance tests according to the procedures in § 63.7520 on an annual basis unless you follow the requirements listed in paragraphs (b) through (h) of this section. The first subsequent performance tests must be completed within 12 months of the initial performance test but no earlier than 10 months after the initial performance test and every 12 months thereafter, unless you follow the requirements listed in paragraphs (b) through (h) of this section.

(b) You can conduct performance tests less often for a given pollutant if you have test data for at least 3 years, and all stack tests for the pollutant (particulate matter, hydrogen chloride, mercury, or total selected metals) for over 3 consecutive years show that you comply with the emission limit. In this case, you do not have to conduct a stack test for that pollutant for the next 2 years. You must do a stack test during the third year and no more than 36 months following the previous stack test.

(c) If your boiler or process heater continues to meet the emission limit for particulate matter, hydrogen chloride, mercury, or total selected metals, you may choose to conduct stack tests for these pollutants every third year, but each such test must be within 36 months of the previous stack test.

(d) If a stack test shows noncompliance with an emission limit for particulate matter, hydrogen chloride, mercury, or total selected metals, you must conduct annual stack tests for that pollutant until all stack tests over a 3-year period show compliance.

(e) You are not required to conduct a performance test for total selected metals annually if you choose to comply with the alternative total selected metals emission limit instead of particulate matter, and your operating limit is the total selected metals fuel input. You must still meet all applicable continuous compliance requirements in § 63.7540.

(f) You are not required to conduct a performance test for hydrogen chloride annually if your operating limit for hydrogen chloride is chlorine fuel input. You must still meet all applicable continuous compliance requirements in § 63.7540.

(g) You are not required to conduct a performance test for mercury annually if your operating limit for mercury is mercury fuel input. You must still meet all applicable continuous compliance requirements in § 63.7540.

(h) You must report the results of annual performance tests within 60 days after the completion of the tests. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established as specified in Tables 4.A through 4.E to this subpart. The reports for all subsequent performance tests should include all applicable information required in § 63.7550.

§ 63.7520 What performance tests, design evaluations, and other procedures must I use?

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in § 63.7(c).

(b) You must conduct each performance test in Tables 4.A through 4.E to this subpart that applies to you.

(c) For boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil, you are not required to conduct a performance test to demonstrate compliance with the emission limits.

(d) You must conduct each performance test under the specific conditions listed in Tables 4.A through 4.E to this subpart. You must conduct performance tests at the representative process operating conditions that are expected to result in the highest emissions of hydrogen chloride, particulate matter, and mercury, and you must demonstrate initial compliance and establish your operating limits based on this test. This requirement could result in the need to conduct more than one performance test. If you choose to comply with the alternative total selected metals emission limit instead of particulate matter, you must conduct all performance tests at the representative process operating conditions that are expected to result in the highest emissions of hydrogen chloride, total selected metals and mercury.

(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction.

(f) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(g) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A of this part to convert the measured particulate matter concentrations, the measured hydrogen chloride concentrations, the measured total selected metals concentrations, and the measured mercury concentrations that result from the initial performance test to pound per million British thermal unit (MMBtu) heat input emission rates. Method 26A of appendix A of this part must be used for the hydrogen chloride performance test for those boilers and process heaters with wet scrubbers. All other boilers and process heaters must use Method 26 of appendix A of this part for the hydrogen chloride performance test.

(h) For performance tests using Method 5, Method 29, Method 26A and Method 17 of appendix A of this part, use Method 1 of appendix A of this part to select the sampling location and number of traverse points. For Method 26 of appendix A of this part, you must use a minimum of three traverse points.

(i) If you use a control device or combination of control devices not covered in Tables 4.A through 4.E to this subpart, or you wish to establish and monitor an alternative operating limit, you must apply to the Administrator for approval of alternative monitoring under § 63.8(f).

§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) Each continuous emissions monitoring system (CEMS) for carbon monoxide must be installed, operated, and maintained according to the procedures in paragraphs (a)(1) through (4) of this section by the compliance date.

(1) Each CEMS must be installed, operated, and maintained according to Performance Specification (PS) 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to § 63.7505(c).

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8 and according to PS 4A of 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2).

(b) Each continuous opacity monitoring system (COMS) must be installed, operated, certified and maintained according to the procedures in paragraphs (b)(1) through (7) of this section by the compliance date.

(1) Each COMS must be installed, operated, and maintained according to PS 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8 and according to PS 1 of 40 CFR part 60, appendix B.

(3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in § 63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). Identify periods the COMS is out-of-control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must determine and record all the 6-minute averages and 3-hour block averages collected for periods during which the COMS is not out-of-control.

(c) You must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the requirements in § 63.8 and the procedures in paragraphs (c)(1) through (5) of this section by the compliance date specified in § 63.7495.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for, monitoring malfunctions, associated repairs and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (c)(3) of this section.

(5) Record the results of each inspection, calibration, and validation check.

(d) For the equipment to monitor voltage and secondary current (or total power input) of the electrostatic precipitator (ESP), you must meet the requirements in paragraphs (c) and (d)(1) and (2) of this section.

(1) Use the ESP manufacturer's installed voltage and secondary current monitoring equipment to measure voltage and secondary current to the ESP.

(2) At least monthly, inspect all components of the CPMS for integrity and all electrical connections for continuity.

(e) For the equipment to monitor sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (c) and (e)(1) through (4) of this section.

(1) Locate the device in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Install and calibrate the device in accordance with manufacturer's procedures and specifications.

(3) At least monthly, inspect all components for integrity and all electrical connections for continuity.

(4) At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.

(f) If you use a fabric filter to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (f)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in ''Fabric Filter Bag Leak Detection Guidance,'' EPA–454/R–98–015, September 1997.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to

continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

§ 63.7530 How do I demonstrate initial compliance with the emission limitations and work practice standards?

(a) You must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to Tables 5.A through 5.E and 6 to this subpart.

(b) For new or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil, you are not required to conduct a performance test to demonstrate compliance with the emission limits.

(1) To demonstrate initial compliance, you must include a signed statement in the Notification of Compliance Status report required in § 63.7545(e) that indicates you burn only liquid fossil fuels other than residual oils either alone or in combination with gaseous fuels.

(2) You must also keep records, as required in § 63.7555, that demonstrate that you burn only liquid fossil fuels other than residual oils either alone or in combination with gaseous fuels.

(c) You must establish each site-specific operating limit in Tables 2.A and 2.B to this subpart that applies to you according to the requirements in § 63.7520, Tables 4.A through 4.E to this subpart, and paragraphs (c)(1) through (6) of this section, as applicable.

(1) If you do not use a wet or dry scrubber, you must set your operating limit for hydrogen chloride emissions based on the chlorine fuel input established during the initial performance test according to the procedures in paragraphs (c)(1)(i) and (ii) of this section.

(i) During the initial performance test for hydrogen chloride, you must measure the average hourly fuel input, average chlorine concentration, and average heat input of each fuel burned during the 3-hour performance test.

(ii) You must set your operating limit for hydrogen chloride using Equation 1 of this section:

$$Cl_{input} = \sum_{i=1}^{n} \left[\frac{(C_i)(Q_i)}{H_{v,i}} \right] \qquad \text{(Eq. 1)}$$

Where:

Cl_{input} = Average amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per Btu. This is the operating limit.

C_i = Average concentration of chlorine in fuel, i, during each of the three 1-hour test periods as measured using the test methods specified in Tables 4.C and 4.D to this subpart, in units of pound per pound for solid fuels, pounds per gallon for liquid fuels, or pound per dry standard cubic foot for gaseous fuels.

Q_i = Average hourly input of fuel, i, during each of the three 1-hour test periods in units of pound per hour for solid fuels, gallons per hour for liquid fuels, or dry standard cubic feet per hour for gaseous fuels. If you do not burn multiple fuels during the performance test, it is not necessary to determine the value of this term. Insert a value of "1" for Q_i.

$H_{v,i}$ = Average heat input of fuel, i, during each of the three 1-hour test periods in units of Btu per hour as measured by the test methods indicated in Tables 4.C and 4.D to this subpart.

n = Number of different fuel types in the worst-case fuel input stream burned during each of the three 1-hour performance tests.

(2) If you do not use a wet scrubber, you must establish an opacity operating limit during the initial performance test for particulate matter or total selected metals and mercury. This opacity level must not exceed 20 percent.

(3) If you use a wet scrubber and you conduct separate performance tests for particulate matter, hydrogen chloride, and mercury emissions, you must establish one set of operating limits for pH, liquid flow-rate, and pressure drop. The pH must be the level established during the hydrogen chloride performance test. The liquid flow-rate and pressure drop operating limits must be the highest of the values established during the performance tests.

(4) If you do not use a control device or do not want to take credit for the control device and you choose to comply with the alternative total selected metals emission limit instead of particulate matter, you must set your operating limit for total selected metals emissions based on the metals fuel input established during the initial performance test according to the procedures in paragraphs (c)(4)(i) and (ii) of this section.

(i) During the initial performance test for total selected metals, you must measure the average hourly fuel input if you burn a combination of multiple fuels, average total selected metals concentration of the fuel input, and average heat input of each fuel burned during the 3-hour performance test.

(ii) You must set your operating limit for total selected metals using Equation 2 of this section:

$$Metals_{input} = \sum_{i=1}^{n} \left[\frac{(M_i)(Q_i)}{H_{v,i}} \right] \qquad \text{(Eq. 2)}$$

Where:

$Metals_{input}$ = Average amount of total selected metals entering the boiler or process heater through fuels burned in units of pounds per Btu. This is the operating limit.

M_i = Average concentration of total selected metals in fuel, i, during each of the three 1-hour test periods as measured using the test methods specified in Table 4.E to this subpart, in units of pound per pound for solid fuels, pound per gallon for liquid fuels, or pound per dry standard cubic foot for gaseous fuels.

Q_i = Average hourly input of fuel, i, during each of the three 1-hour test periods in units of pounds per hour for solid fuels, gallons per hour for liquid fuels, or dry standard cubic feet per hour for gaseous fuels. If you do not burn multiple fuels during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

$H_{v,i}$ = Average heat input of fuel, i, during each of the three 1-hour test periods in units of Btu per hour as measured by the test methods indicated in Table 4.E to this subpart.

n = Number of different fuel types in the worst-case fuel input stream burned during the 3-hour performance test.

(5) If you do not use a control device or do not want to take credit for the control device, you must set your operating limit for mercury emissions based on the mercury fuel input established during the initial performance test according to the procedures in paragraphs (c)(5)(i) and (ii) of this section.

(i) During the initial performance test for mercury, you must measure the average hourly fuel input if you burn a combination of multiple fuels, average mercury concentration of the fuel input, and average heat input of each fuel burned during the 3-hour performance test.

(ii) You must set your operating limit for mercury using Equation 3 of this section:

$$\text{Mercury}_{\text{input}} = \sum_{i=1}^{n} \left[\frac{(HG_i)(Q_i)}{H_{v,i}} \right] \qquad \text{(Eq. 3)}$$

Where:

$\text{Mercury}_{\text{input}}$ = Average amount of mercury entering the boiler or process heater through fuels burned in units of pounds per Btu. This is the operating limit.

HG_i = Average concentration of mercury in fuel, i, during each of the three 1-hour test periods as measured using the test methods specified in Table 4.E to this subpart, in units of pound per pound for solid fuels, pound per gallon for liquid fuels, or pound per dry standard cubic foot for gaseous fuels.

Q_i = Average hourly input of fuel, i, during each of the three 1-hour test periods in units of pounds per hour for solid fuels, gallons per hour for liquid fuels, or dry standard cubic feet per hour for gaseous fuels. If you do not burn multiple fuels during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

$H_{v,i}$ = Average heat input of fuel, i, during each of the three 1-hour test periods in units of Btu per hour as measured by the test methods indicated in Table 4.E to this subpart.

n = Number of different fuel types in the worst-case fuel input stream burned during the 3-hour performance test.

(6) You must establish parameter operating limits according to paragraphs (c)(6)(i) through (v) of this section.

(i) To establish an opacity operating limit, you must set the maximum opacity operating limit equal to the maximum 1-hour average opacity value measured during the three-run performance test for particulate matter or total selected metals and mercury, or 20 percent, whichever is lower.

(ii) To establish operating limits for a wet scrubber, you must set the minimum operating limits for pH, liquid flow-rate, and pressure drop equal to the minimum 1-hour average values measured during the three-run performance test.

(iii) To establish operating limits for an electrostatic precipitator, you must set the minimum operating limits for voltage and secondary current (or total power input) equal to the minimum 1-hour average values measured during the three-run performance test.

(iv) To establish operating limits for a dry scrubber, you must set the minimum sorbent injection rate operating limit equal to the minimum 1-hour average value measured during the three-run performance test.

(v) The operating limit for fabric filters requires that a bag leak detection system be installed according to the requirements in § 63.7525, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(d) You must submit the Notification of Compliance Status report containing the results of the initial compliance demonstration according to the requirements in § 63.7545(e).

Continuous Compliance Requirements

§ 63.7535 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities, in data averages and calculations used to report emission or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

§ 63.7540 How do I demonstrate continuous compliance with the emission limitations and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1 through 3 to this subpart that applies to you according to the methods specified in Tables 7.A, 7.B, and 8 to this subpart and paragraphs (a)(1) through (9) of this section.

(1) For affected sources electing to comply with an emission limit based on fuel analysis, you must keep records of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuels used would result in lower emissions of particulate matter or total selected metals, lower emissions of hydrogen chloride, and lower emissions of mercury than the emissions from the worst-case fuel input that was burned during the initial performance test. You must also keep records that demonstrate that all fuels burned during the reporting period were obtained from the same suppliers as those fuels burned during the performance test.

(2) For new or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil, you are not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. To demonstrate continuous compliance with the emission limits, you must include a signed statement in each semiannual compliance report required in § 63.7550 that indicates you burned

only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period; and you must also keep records, as required in paragraph (a)(1) of this section and § 63.7555, that demonstrate that you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.

(3) If you plan to burn a new type of fuel, a fuel from a new supplier, or a new mixture of fuels and your operating limit for hydrogen chloride is chlorine input, you must demonstrate continuous compliance by recalculating the chlorine input using Equation 1 of § 63.7530 according to the procedures specified in paragraphs (a)(3)(i) through (iii) of this section.

(i) Determine for any new fuel the heating value and the chlorine concentration, based on supplier data or own fuel analysis, according to the provisions in the site-specific test plan developed according to the requirements in § 63.7520(a).

(ii) Estimate the maximum hourly input at which each fuel will be burned.

(iii) Recalculate the amount of chlorine that would be put into the boiler or process heater during an hour under these new conditions using Equation 1 of § 63.7530.

(4) If you plan to burn a new type of fuel, a fuel from a new supplier or a new mixture of fuels, your operating limit for hydrogen chloride is chlorine input, and the results of recalculating the chlorine input using Equation 1 of § 63.7530 are higher than the chlorine input operating limit established during the initial performance test, then you must conduct a new performance test according to the procedures in § 63.7520 to demonstrate that the hydrogen chloride emissions do not exceed the emission limitation. You must also establish a new operating limit based on this performance test according to the procedures in § 63.7530(c).

(5) If you plan to burn a new type of fuel, a fuel from a new supplier, or a new mixture of fuels and you choose to comply with the alternative total selected metals emission limit instead of particulate matter and your operating limit is the total selected metals fuel content, you must demonstrate continuous compliance with your operating limit by recalculating the total selected metals input using Equation 2 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) Determine for any new fuel the heating value and the total selected metals concentration, based on supplier data or own fuel analysis, according to the provisions in the site-specific test plan developed according to the requirements in § 63.7520(a).

(ii) Estimate the maximum hourly input at which each fuel will be burned.

(iii) Recalculate the amount of total selected metals that would be put into the boiler or process heater during an hour under these new conditions using Equation 2 of § 63.7530.

(6) If you plan to burn a new type of fuel, a fuel from a new supplier or a new mixture of fuels, you choose to comply with the alternative total selected metals emission limit instead of particulate matter, and the results of recalculating the total selected metals input using Equation 2 of § 63.7530 are higher than the total selected metals operating limit established during the initial performance test, then you must conduct a new performance test according to the procedures in § 63.7520 to demonstrate that the total selected metals emissions do not exceed the emission limit. You must also establish a new operating limit based on this performance test according to the procedures in § 63.7530(c).

(7) If you plan to burn a new type of fuel, a fuel from a new supplier, or a new mixture of fuels and your operating limit for mercury emissions is the mercury fuel content, you must demonstrate continuous compliance with your operating limit by recalculating the mercury input using Equation 3 of § 63.7530 according to the procedures specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) Determine for any new fuel the heating value and the mercury concentration, based on supplier data or own fuel analysis, according to the provisions in the site-specific test plan developed according to the requirements in § 63.7520(a).

(ii) Estimate the maximum hourly input at which each fuel will be burned.

(iii) Recalculate the amount of mercury that would be put into the boiler or process heater during an hour under these new conditions using Equation 3 of § 63.7530.

(8) If you plan to burn a new type of fuel, a fuel from a new supplier or a new mixture of fuels, and the results of recalculating the mercury input using Equation 3 of § 63.7530 are higher than the mercury operating limit established during the initial performance test, then you must conduct a new performance test according to the procedures in § 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish a new operating limit based on this performance test according to the procedures in § 63.7530(c).

(9) If your unit is controlled with a fabric filter, you must demonstrate continuous compliance with the operating limits for fabric filters by operating each fabric filter system such that the bag leak detection system does not sound more than 5 percent of the operating time during a 6-month period and by keeping records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

(b) You must report each instance in which you did not meet each emission limit and each operating limit in Tables 7.A and 7.B to this subpart that apply to you. This includes periods of startup, shutdown, and malfunction. You must also report each instance in which you did not meet the work practice requirements in Table 8 to this subpart that apply to you. These instances are deviations from the emission limitations and work practice standards in this subpart. These deviations must be reported according to the requirements in § 63.7550.

(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with the startup, shutdown, and malfunction plan as required in § 63.7505(d).

(d) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

Notifications, Reports, and Records

§ 63.7545 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.6(h)(4) and (5), 63.7(b) and (c), 63.8 (e), 63.8(f)(4) and

(6), and 63.9 (b) through (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you startup your affected source before [DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], you must submit an Initial Notification not later than 120 calendar days after [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER]. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of this section, as applicable.

(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by § 63.9(b)(2).

(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories (the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory), your Initial Notification must include the information required by § 63.9(b)(2) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

(c) As specified in § 63.9(b)(3), if you startup your new or reconstructed affected source on or after [DATE THE FINAL RULE IS PUBLISHED IN THE FEDERAL REGISTER], you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart. The Initial Notification must include the information required in paragraphs (c)(1) and (2) of this section, as applicable.

(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by § 63.9(b)(3).

(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, your Initial Notification must include the information required by § 63.9(b)(3) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

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

(e) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4.A through 4.E, 5.A through 5.E, or 6 to this subpart, you must submit a Notification of Compliance Status report according to § 63.9(h)(2)(ii) and the requirements specified in paragraphs (e)(1)(i) through (e)(1)(vii) of this section.

(1) For each initial compliance demonstration, you must submit the Notification of Compliance Status report, including all performance test results, before the close of business on the 60th calendar day following the completion of the performance test and/or other initial compliance demonstrations according to § 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(l)(i) through (vii) of this section, as applicable.

(i) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the worst-case fuel burned during the performance test.

(ii) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.

(iii) Identification of whether you are complying with the particulate matter emission limit or the alternative total selected metals emission limit.

(iv) A signed certification that you have met all applicable emission limitations and work practice standards.

(v) A summary of the carbon monoxide emissions monitoring data recorded during the performance test to show that you have met the work practice standard in Table 6 to this subpart, if applicable.

(vi) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, you must submit a signed statement certifying this in your Notification of Compliance Status report.

(vii) If you had a deviation from any emission limitation or work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

§ 63.7550 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.7495 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 that is specified for your source in § 63.7495.

(2) The first 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 first calendar half after the compliance date that is specified for your source in § 63.7495.

(3) Each subsequent 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 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 affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual 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) The compliance report must contain the information required in paragraphs (c) (1) through (11) of this section.

(1) Company name and address.

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

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

(4) The total fuel use by each affected source electing to comply with an emission limit based on fuel analysis for each calendar month within the

semiannual reporting period including, but not limited to, a description of the fuel, the total fuel usage amount with units of measure, and information on the supplier of the fuel and original source location of the fuel.

(5) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable.

(6) A signed statement indicating that you burned no new types of fuel, no fuels from a new supplier, or no new fuel mixture. Or, if you did burn a new type of fuel, a fuel from a new supplier, or a new fuel mixture and your operating limit for hydrogen chloride is fuel chlorine input, you must submit the calculation of chlorine input, using Equation 1 of § 63.7530, that demonstrates that your source is still within its operating limit for hydrogen chloride emissions. If you burned a new type of fuel, fuel from a new supplier, or a new fuel mixture and your operating limit for the alternative total selected metals emission limit is fuel total selected metals input, you must submit the calculation of total selected metals input, using Equation 2 of § 63.7530, that demonstrates that your source is still within its operating limit for total selected metals emissions. If you burned a new type of fuel, fuel from a new supplier, or a new fuel mixture and your operating limit for mercury is fuel mercury input, you must submit the calculation of mercury input, using Equation 3 of § 63.7530, that demonstrates that your source is still within its operating limit for mercury emissions.

(7) If you wish to burn a new type of fuel, a fuel from a new supplier, or a new fuel mixture, and you cannot demonstrate compliance with the hydrogen chloride operating limit using Equation 1 of § 63.7530, the total selected metals operating limit using Equation 2 of § 63.7530, or the mercury operating limit using Equation 3 of § 63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test under the new worst-case conditions.

(8) The average daily hours of operation by each source for each calendar month within the semiannual reporting period.

(9) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i).

(10) If there are no deviations from any emission limitations (emission limits or operating limits) in this subpart that apply to you and there are no deviations from the requirements for work practice standards in Table 8 to this subpart, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period.

(11) If there were no periods during which the CMS, including CEMS, COMS, and CPMS, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMS were out-of-control during the reporting period.

(d) For each deviation from an emission limitation (emission limits or operating limits) in this subpart and for each deviation from the requirements for work practice standards in Table 8 to this subpart that occurs at an affected source where you are not using CMS to comply with that emission limitation or work practice standard, the compliance report must contain the information in paragraphs (c) (1) through (11) of this section and the information required in paragraphs (d) (1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The total operating time of each affected source during the reporting period.

(2) A description of the deviation and which limitation you deviated from.

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

(4) A copy of the test report if the annual performance test showed a deviation from the emission limit for particulate matter or the alternative total selected metals limit, a deviation from the hydrogen chloride emission limit, or a deviation from the mercury emission limit.

(e) For each deviation from an emission limitation (emission limitation and operating limit) or work practice standard in this subpart occurring at an affected source where you are using a CMS to comply with that emission limitation or work practice standard, you must include the information in paragraphs (c) (1) through (11) of this section and the information required in paragraphs (e) (1) through (12) of this section. This includes periods of startup, shutdown, and malfunction and any deviations from your site-specific monitoring plan as required in § 63.7505(c).

(1) The date and time that each malfunction started and stopped and description of the nature of the deviation (*i.e.*, what you deviated from).

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

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

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

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

(8) An identification of each parameter that was monitored at the affected source for which there was a deviation, including opacity, carbon monoxide, and operating parameters for wet scrubbers and other control devices.

(9) A brief description of the source for which there was a deviation.

(10) A brief description of each CMS for which there was a deviation.

(11) The date of the latest CMS certification or audit for the system for which there was a deviation.

(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limitation (including any operating limit), or work practice standard in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report.

However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

§ 63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a) (1) through (3) of this section.

(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 or semiannual compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests or other compliance demonstrations, performance evaluations, and opacity observations as required in § 63.10(b)(2)(viii).

(b) For each CEMS, CPMS, and COMS, you must keep records according to paragraphs (b) (1) through (5) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for COMS during a performance evaluation as required in § 63.6(h)(7) (i) and (ii).

(3) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in § 63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in Tables 7.A, 7.B, and 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limitation, operating limit and work practice standard that applies to you.

(d) You must also keep the records in paragraphs (d) (1) through (5) of this section.

(1) You must keep records of daily fuel use by each source electing to comply with an emission limit based on fuel analysis, including the type(s) of fuel, amount(s) used, and the supplier(s) and original source location(s).

(2) You must keep records of daily hours of operation by each source.

(3) A copy of all calculations and supporting documentation of chlorine fuel input, using Equation 1 of § 63.7530, that were done to demonstrate continuous compliance with the hydrogen chloride emission limitation. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum fuel input.

(4) A copy of all calculations and supporting documentation of total selected metals fuel input, using Equation 2 of § 63.7530, that were done to demonstrate continuous compliance with the total selected metals emission limitation. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum fuel input.

(5) A copy of all calculations and supporting documentation of mercury fuel input, using Equation 3 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limitation. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum fuel input.

(e) If your boiler or process heater has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, you must keep the records in paragraphs (e) (1) and (2) of this section.

(1) A copy of the federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(2) Fuel use records for the days the boiler or process heater was operating.

§ 63.7560 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, 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 keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records offsite for the remaining 3 years.

Other Requirements and Information

§ 63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.7570 Who implements and enforces this subpart?

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

(b) In delegating implementation and enforcement authority to this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency. The U.S. EPA retains oversight of this rule and can take enforcement actions, as appropriate.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (5) of this section.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.7500(a) through (c) under § 63.6(g).

(2) Approval of alternative opacity emission limits in § 63.7500(a) under § 63.6(h)(9).

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

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

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

§ 63.7575 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, and in this section as follows:

Annual capacity factor means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity.

Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biomass fuel means wood, wood residue, and wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, slabs, millings, and shavings); vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388–77, ''Standard Specification for Classification of Coals by Rank,'' coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat including, but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures, are included in this definition for the purposes to this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

Commercial/Institutional boiler means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water.

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 (including any operating limit) or work practice standard;

(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; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D396–78, ''Standard Specifications for Fuel Oils.''

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material.

Electric utility steam generating unit means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

Electrostatic precipitator means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper.

Emission limitation means any emission limit or operating limit.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or 51.18 and 51.24.

Firetube boiler means a boiler in which hot gases of combustion pass through the tubes and water contacts the outside surfaces of the tubes.

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials.

Gaseous fuel includes, but is not limited to, natural gas, process gas, refinery gas and biogas.

Heat input means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

Hot water heater means a closed vessel in which water is heated by combustion of gaseous fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 pounds per square inch gauge (psig), including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Large gaseous fuel subcategory means any boiler or process heater that burns only gaseous fuels not combined with any liquid or solid fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Large liquid fuel subcategory means any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Large solid fuel subcategory means any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Limited use gaseous fuel subcategory includes any boiler or process heater that burns only gaseous fuels not combined with any liquid or solid fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Limited use liquid fuel subcategory includes any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Limited use solid fuel subcategory includes any boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Liquid fossil fuel means petroleum, distillate oil, residual oil and any form of liquid fuel derived from such material.

Liquid fuel includes, but is not limited to, distillate oil, residual oil, waste oil, and process liquids.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835–82, ''Standard Specification for Liquid Petroleum Gases.''

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Particulate matter means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process stream (liquid, gas, or solid) or to a heat transfer material for use in a process unit instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials.

Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396–78, ''Standard Specifications for Fuel Oils.''

Responsible official means responsible official as defined in § 70.2.

Small gaseous fuel subcategory includes any boiler or process heater that burns only gaseous fuels not combined with any liquid or solid fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Small liquid fuel subcategory includes any boiler or process heater that does not burn any solid fuel, and burns any liquid fuel either alone or in combination with gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Small solid fuel subcategory includes any firetube boiler that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and any other boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Solid fuel includes, but is not limited to, coal, wood, biomass, tires, plastics, and other nonfossil solid materials.

Total selected metals means the combination of the following metallic hazardous air pollutants: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

Waste heat boiler means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators.

Watertube boiler means a boiler in which water passes through the tubes and hot gases of combustion pass over the outside surfaces of the tubes.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter and/or to absorb and neutralize acid gases, such as hydrogen chloride.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Tables to Subpart DDDDD of Part 63

As stated in § 63.7500, you must comply with the following applicable emission limits:

TABLE 1 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS

For . . .	You must meet these emission limits . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.026 lb per MMBtu of heat input; or b. Emissions of total selected metals must not exceed 0.0001 lb per MMBtu of heat input. c. Emissions of hydrogen chloride must not exceed 0.02 lb per MMBtu of heat input. d. Emissions of mercury must not exceed 0.000003 lb per MMBtu of heat input.
2. Each new or reconstructed industrial, commercial, institutional boiler or process heater in the large liquid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.03 lb per MMBtu of heat input. b. emissions of hydrogen chloride must not exceed 0.0005 lb per MMBtu of heat input.
3. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.026 lb per MMBtu of heat input; or b. Emissions of total selected metals must not exceed 0.0001 lb per MMBtu of heat input c. Emissions of hydrogen chloride must not exceed 0.02 lb per MMBtu of heat input. d. Emissions of mercury must not exceed 0.000003 lb per MMBtu of heat input.
4. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the limited use liquid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.03 lb per MMBtu of heat input. b. Emissions of hydrogen chloride must not exceed 0.0009 lb per MMBtu of heat input.

TABLE 1 TO SUBPART DDDDD OF PART 63—EMISSION LIMITS—Continued

For . . .	You must meet these emission limits . . .
5. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the small solid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.026 lb per MMBtu of heat input; or b. Emissions of total selected metals must not exceed 0.0001 lb per MMBtu of heat input. c. Emissions of hydrogen chloride must not exceed 0.02 lb per MMBtu of heat input. d. Emissions of mercury must not exceed 0.000003 lb per MMBtu of heat input.
6. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the small liquid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.03 lb per MMBtu of heat input. b. emissions of hydrogen chloride must not exceed 0.0009 lb per MMBtu of heat input.
7. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory..	a. Emissions of particulate matter must not exceed 0.07 lb per MMBtu of heat input; or b. Emissions of total selected metals must not exceed 0.001 lb per MMBtu of heat input. c. Emissions of hydrogen chloride must not exceed 0.09 lb per MMBtu of heat input. d. Emissions of mercury must not exceed 0.000007 lb per MMBtu of heat input.
8. Each existing industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory.	a. Emissions of particulate matter must not exceed 0.21 lb per MMBtu of heat input; or b. Emissions of total selected metals must not exceed 0.001 lb per MMBtu of heat input.

As stated in § 63.7500, you must comply with the applicable operating limits:

TABLE 2.A TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	You must meet these operating limits . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. An add-on contol other than a wet scrubber or a dry scrubber	i. Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter and mercury or the opacity level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative emission limitation for total selected metals and the mercury emission limit; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride.
	b. A fabric filter either alone or in combination with an add-on control other than a wet scrubber or a dry scrubber.	i. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride.

TABLE 2.A TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must meet these operating limits . . .
	c. A wet scrubber	Maintain the minimum pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter, mercury, and hydrogen chloride or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride, mercury, and the alternative total selected metals emission limit.
	d. A wet scrubber in combination with a fabric filter.	i. Maintain the minimum pH, pressure drop, and liquid flow-rate of the wet scrubber at or above the operating levels established during the performance test according to provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter, hydrogen chloride, and mercury or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride, mercury, and the alternative total selected metals emission limit; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.
	e. A wet scrubber in combination with an electrostatic precipitator.	Maintain the minimum pH, pressure drop, and liquid flow-rate of the wet scrubber and the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter, hydrogen chloride, and mercury or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride, mercury, and the alternative total selected metals emission limit.
	f. A dry scrubber	i. Maintain the minimum sorbent injection rate of the dry scrubber at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride emissions; and ii. Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter and mercury emissions or the opacity level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative emission limits for total selected metals and the mercury emission limit.

TABLE 2.A TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must meet these operating limits . . .
	g. A dry scrubber in combination with a fabric filter.	i. Maintain minimum sorbent injection rate of the dry scrubber at or above the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride emissions; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or add-on controls for which you do not wish to take credit for any emission reduction of total selected metals or mercury.	i. Maintain the fuel total selected metals content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for total selected metals; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride; and iii. Maintain the fuel mercury content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for mercury.
3. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. An add-on control other than a wet scrubber or a dry scrubber.	i. Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter and mercury or the opacity level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative emission limit for total selected metals and the mercury emission limit; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride.
	b. A fabric filter either alone or in combination with an add-on control other than a wet scrubber or a dry scrubber.	i. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride.
	c. A wet scrubber	Maintain the minimum pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter, hydrogen chloride, and mercury emissions or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride, mercury, and the alternative total selected metals emission limit.

TABLE 2.A TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must meet these operating limits . . .
	d. A wet scrubber in combination with a fabric filter.	i. Maintain the minimum pH, pressure drop, and liquid flow-rate of the wet scrubber at or above the operating levels established during the performance test according to provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter, hydrogen chloride, and mercury emissions or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride, mercury, and the alternative total selected metals emission limit; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.
	e. A wet scrubber in combination with an electrostatic precipitator.	Maintain the minimum pH, pressure drop, and liquid flow-rate of the wet scrubber and the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter, hydrogen chloride, and mercury emissions or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride, mercury, and the alternative total selected metals emission limit.
	f. A dry scrubber	i. Maintain the minimum sorbent injection rate of the dry scrubber at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride emissions; and ii. Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter and mercury or the opacity level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative emission limit for total selected metals and the mercury emission limit.
	g. A dry scrubber in combination with a fabric filter.	i. Maintain minimum sorbent injection rate of the dry scrubber at or above the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride emissions; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.

TABLE 2.A TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must meet these operating limits . . .
4. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or add-on controls for which you do not wish to take credit for any emission reduction of total selected metals or mercury.	i. Maintain the fuel total selected metals content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for total selected metals; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride; and iii. Maintain the fuel mercury content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for mercury.
5. Each existing industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory.	a. An add-on control other than a wet scrubber.	Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter or the operating level established during the performance test that demonstrated compliance with the alternative emission limit for total selected metals.
	b. A fabric filter either alone or in combination with an add-on control other than a wet scrubber.	i. Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter or the operating level established during the performance test that demonstrated compliance with the alternative emission limit for total selected metals; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.
	c. A wet scrubber	Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter emissions or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative total selected metals emission limit.
	d. A wet scrubber in combination with a fabric filter.	i. Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter emissions or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative total selected metals emission limit; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.

TABLE 2.A TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must meet these operating limits . . .
	e. A wet scrubber in combination with an electrostatic c precipitator.	Maintain the minimum pressure drop and liquid flow-rate of the wet scrubber and the minimum voltage and secondary current of the electrostatic precipitator at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter emissions or the levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the alternative total selected metals emission limit.
6. Each existing industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	Either no add-on controls for which you do not wish to take credit for any emission reduction of total selected metals.	Maintain the fuel total selected metals content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for total selected metals.

As stated in § 63.7500, you must comply with the following applicable operating limits:

TABLE 2.B TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	You must meet these operating limits . . .
1. Each new or reconstructed industrial, commercial, institutional boiler or process heater in the large liquid fuel subcategory, the limited use liquid fuel subcategory, or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and gases and do not burn any residual oil are excluded from this operating limit).	a. An add-on control other than a wet scrubber or a dry scrubber.	i. Maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride.
	b. A fabric filter either alone or in combination with an add-on control other than a wet scrubber or a dry scrubber.	i. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained; and ii. Maintain the fuel chlorine content to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride.
	c. A wet scrubber	Maintain the minimum pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter emissions and hydrogen chloride emissions.
	d. A wet scrubber in combination with a fabric filter.	i. Maintain the minimum pH, pressure drop, and liquid flow-rate of the wet scrubber at or above the operating levels established during the performance test according to provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter emissions and hydrogen chloride emissions; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.

TABLE 2.B TO SUBPART DDDDD OF PART 63—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS IN THE LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must meet these operating limits . . .
	e. A wet scrubber in combination with an electrostatic precipitator.	Maintain the minimum pH, pressure drop, and liquid flow-rate of the wet scrubber and the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating levels established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for particulate matter emissions and hydrogen chloride emissions.
	f. A dry scrubber	i. Maintain the minimum sorbent injection rate of the dry scrubber at or above the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limits for hydrogen chloride emissions; and ii. maintain opacity to less than or equal to the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for particulate matter emissions.
	g. A dry scrubber in combination with a fabric filter.	i. Maintain the minimum sorbent injection rate of the dry scrubber at or above the operating level established during the performance test according to the provisions in § 63.7530(c) that demonstrated compliance with the emission limit for hydrogen chloride emissions; and ii. Maintain the fabric filter operation such that the operating limit established for fabric filters in § 63.7530(c)(6)(v) is maintained.

As stated in § 63.7500, you must comply with the following applicable work practice standards:

TABLE 3 TO SUBPART DDDDD OF PART 63—WORK PRACTICE STANDARDS

For each . . .	You must . . .
1. New or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the large liquid fuel subcategory, or the large gaseous fuel subcategory.	Continuously monitor carbon monoxide emissions according to the procedures in § 63.7525(a) to maintain carbon monoxide emissions at or below an exhaust concentration of 400 ppm by volume on a dry basis corrected to 3 percent oxygen. The averaging time shall be 1 calendar day.
2. New or reconstructed industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory.	Continuously monitor carbon monoxide emissions according to the procedures in § 63.7525(a) to maintain carbon monoxide emissions at or below an exhaust concentration of 400 ppm by volume on a dry basis corrected to 3 percent oxygen. The averaging time shall be 1 calendar day.

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

TABLE 4.A TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR PARTICULATE MATTER EMISSIONS OR TOTAL SELECTED METALS EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each new reconstructed, or existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Any type of device	1. Select sampling ports location and the number of traverse points.	Method 1 of 40 CFR part 60, appendix A.	

TABLE 4.A TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR PARTICULATE MATTER EMISSIONS OR TOTAL SELECTED METALS EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Determine velocity and volumetric flow-rate of the stack gas.	Either Method 2 in appendix A to part 60 of this chapter, Method 2F in appendix A to part 60 of this chapter, or Method 2G of appendix A to part 60 of this chapter..	
		iii. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter.	
		iv. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
	b. Any type of device except positive pressure fabric filters.	Measure the particulate matter emission concentrations.	Method 5 in appendix A to part 60 of this chapter or Method 17 in appendix A to part 60 of this chapter.	
	c. Positive pressure fabric filters.	Measure the particulate matter emission concentrations.	Method 5D in appendix A to part 60 of this chapter	
	d. Any type of device	Convert emissions concentrations to lb per MMBtu emission rates.	The F-factor methodology in Method 19 in appendix A to part 60 of this chapter.	
2. Each new reconstructed, or existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, limited use solid fuel subcategory, or the small solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of particulate matter.	Any type of device	Measure the total selected metals emissions concentrations.	Method 29 in appendix A to part 60 of this chapter.	
3. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. Establish a site-specific maximum opacity level according to provisions in § 63.7530(c).	(1) Data from the continuous opacity monitoring system and the PM or total selected metals performance test.	(a) You must collect opacity monitoring data every 10 seconds during the entire period of the three-run PM or total selected metals performance test; and (b) Determine the maximum opacity level of all the 1-hour averages taken during the three-run performance test.
	b. A wet scrubber	i. Establish a site-specific minimum pressure drop and minimum liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the PM or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the three-run PM or total selected metals performance test; and (b) determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	c. A wet scrubber in combination with a fabric filter.	i. Establish a site-specific minimum pressure drop and liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the PM or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber every 15 minutes during the entire period of the three-run PM or total selected metals performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

TABLE 4.A TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR PARTICULATE MATTER EMISSIONS OR TOTAL SELECTED METALS EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
	d. A wet scrubber in combination with an electrostatic precipitator.	i. Establish a site-specific minimum pressure drop and liquid flow-rate for the wet scrubber and minimum voltage and secondary current or total power input of the electrostatic precipitator according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors for the wet scrubber and from total current and voltage monitors for the electrostatic precipitator or and the PM or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator every 15 minutes during the entire period of the three-run PM or total selected metals performance test; and (b) Determine the average for each by computing the average of all 15-minute readings taken during the test run.
4. Each new or reconstructed industrial, commercial, institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	i. Establish a site-specific maximum inlet fuel total selected metals content operating limit according to the provisions in § 63.7530(c).	(1) The fuel total selected metals content analysis results and the calculations done according to the provisions in § 63.7530(c).	(a) You must collect one sample of the worst-case fuel stream entering the boiler or process heater for each test run during the three-run performance test; and (b) Determine the total selected metals content and heating value of the sample according to your site-specific test plan as required in § 63.7520(a); and (c) Determine the maximum total selected metals content operating limit according to the procedures in § 63.7530(c).
5. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory or the limited use solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. Establish a site-specific maximum opacity level according to provisions in § 63.7530(c).	(1) Data from the continuous opacity monitoring system and the PM or total selected metals performance test.	(a) You must collect opacity monitoring data every 10 seconds during the entire period of the three-run PM or total selected metals performance test; and (b) Determine the maximum opacity level for all the 1-hour averages taken during the three-run performance test.
	b. A wet scrubber	i. Establish a site-specific minimum pressure drop and minimum liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the PM or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the three-run PM or total selected metals performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	c. A wet scrubber in combination with a fabric filter.	i. Establish a site-specific minimum pressure drop and liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop liquid flow-rate monitors and the PM or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber every 15 minutes during the entire period of the three-run PM or total selected metals performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

Table 4.A to Subpart DDDDD of Part 63—Requirements for Performance Tests for Particulate Matter Emissions or Total Selected Metals Emissions From Boilers or Process Heaters in Large, Limited Use, or Small Solid Fuel Subcategories—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
	d. A wet scrubber in combination with an electro-static precipitator.	i. Establish a site-specific minimum pressure drop and liquid flow-rate for the wet scrubber and minimum voltage and secondary current or total power input of the electrostatic precipitator according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors for the wet scrubber and from the current and voltage monitors for the electrostatic precipitator and the PM or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator every 15 minutes during the entire period of the three-run PM or total selected metals performance test; and b. Determine the average for each by computing the average of all 15-minute readings taken during each test run.
6. Each existing industrial, commercial or institutional boiler or process heater in the large solid fuel subcategory or the limited use solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	i. Establish a site-specific maximum inlet fuel total selected metals content operating limit according to the provisions in § 63.7530(c).	(1) The fuel total selected metals content analysis results and the calculations done according to the provisions in § 63.7530(c).	(a) You must collect one sample of the worst-case fuel stream entering the boiler or process heater for each test run during the three-run performance test; and (b) Determine the total selected metals content and heating value of the sample according to your site-specific test plan as required in § 63.7520(a); and (c) Determine the maximum total selected metals content operating limit according to the procedures in § 63.7530(c).

As stated in § 63.7520, you must comply with the following requirements for performance tests for new or reconstructed affected sources:

Table 4.B to Subpart DDDDD of Part 63—Requirements for Performance Tests for Particulate Matter Emissions From Boilers or Process Heaters in Large, Limited Use, or Small Liquid Fuel Subcategories

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large liquid fuel subcategory, the limited use liquid fuel subcategory, or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn residual oil are excluded from this performance test).	a. Any type of device	i. Select sampling ports location and the number of traverse points.	Method 1 of 40 CFR part 60 appendix A.	
		ii. Determine velocity and volumetri c flow-rate of the stack gas.	Either Method 2 in appendix A to part 60 of this chapter, Method 2F in appendix A to part 60 of this chapter or Method 2G of appendix A to part 60 of this chapter..	
		iii. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter.	
		iv. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
		v. Measure the particulate matter emission concentrations.	Method 5 in appendix A to part 60 of this chapter or Method 17 in appendix A to part 60 of this chapter.	
		vi. Convert emissions concentrations to lb per MMBtu emission rates.	The F-factor methodology in Method 19 in appendix A to part 60 of this chapter.	

TABLE 4.B TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR PARTICULATE MATTER EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Positive pressure fabric filters.	Measure the particulate matter emission concentrations.	Method 5D in appendix A to part 60 of this chapter.	
	c. Either no add-on controls or an add-on control other than a wet scrubber.	i. Establish a site-specific maximum opacity level according to the provisions in § 63.7530(c).	(1) Data from the continuous opacity monitoring system and the PM performance test.	(a) You must collect opacity monitoring data every 10 seconds during the entire period of the three-run PM performance test; and (b) Determine the maximum opacity level for all the 1-hour averages taken during the three-run performance test.
	d. A wet scrubber	i. Establish a site-specific minimum pressure drop and minimum liquid flow-rate operating limit for the web scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the PM performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the three-run PM performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	e. A wet scrubber in combination with a fabric filter.	i. Establish a site-specific minimum pressure drop and liquid flow-rate operating limit for the set scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the PM performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber every 15 minutes during the entire period of the three-run PM performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	f. A wet scrubber in combination with an electrostatic precipitator.	i. Establish a site-specific minimum pressure drop and liquid flow-rate operating limit for the wet scrubber and a site-specific minimum voltage and secondary or total power input current operating limit for the electrostatic precipitator according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors for the wet scrubber and from the current and voltage monitors for the electrostatic precipitator and the PM performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber and secondary current and voltage data or total power input for the electrostatic precipitator every 15 minutes during the entire period of the three-run PM performance test; (b) Determine the average for each by computing the average of all 15-minute readings taken during each test run.

As stated in § 63.7520, you must comply with the following requirements for performance tests for existing, new or reconstructed affected sources:

TABLE 4.C TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR HYDROGEN CHLORIDE EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USED, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, limited use solid fuel subcategory, or small solid fuel subcategory and each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Any type of device	i. Select sampling ports location and the number of traverse points.	Method 1 of 40 CFR part 60 appendix A.	
		ii. Determine velocity and volumetric flow-rate of the stack gas.	Either Method 2 in appendix A to part 60 of this chapter, Method 2F in appendix A to part 60 of this chapter or Method 2G of appendix A to part 60 of this chapter.	
		iii. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter.	
		iv. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
	b. Either no add-on controls or an add-on control other than a wet scrubber.	Measure the hydrogen chloride emissions concentrations.	Method 26 in appendix A to part 60 of this chapter.	
	c. A wet scrubber	Measure the hydrogen chloride emissions concentrations.	Method 26A in appendix A to part 60 of this chapter.	
	d. Any type of device	Convert emissions concentrations to lb per MMBtu emission rates.	The F-factor methodology in Method 19 in appendix A to part 60 of this chapter.	
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. Establish a site-specific maximum inlet fuel chlorine content operating limit according to the provisions in § 63.7530(c).	(1) The fuel chlorine content analysis results and data from the hydrogen chloride performance test.	(a) You must collect one sample of the fuel stream entering the boiler or process heater for each test run during the three-run hydrogen chloride performance test; and (b) Determine the chlorine content and heating value of each fuel sample; and (c) Determine the maximum chlorine content operating limit according to the procedures in § 63.7530(c) and the procedures in your site-specific test plan as required in § 63.7520(a).
	b. A wet scrubber	i. Establish site-specific minimum pH, pressure drop, and liquid flow-rate operating limits for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pH, presure drop, and liquid flow-rate monitors and the hydrogen chloride performance test.	(a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the three-run hydrogen chloride performance test; and (b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	c. A dry scrubber	i. Establish site-specific minimum sorbent injection rate operating limit for the dry scrubber according to the provisions in § 63.7530(c).	(1) Data from the sorbent injection rate monitors and the hydrogen chloride performance test.	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the three-run hydrogen chloride performance test; and (b) Determine the average sorbent injection rate of each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

TABLE 4.C TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR HYDROGEN CHLORIDE EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USED, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
3. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. Establish a site-specific maximum inlet fuel chlorine content operating limit according to the provisions in § 63.7530(c).	(1) The fuel chlorine content analysis results and data from the hydrogen chloride performance test.	(a) You must collect one sample of the fuel stream entering the boiler or process heater for each test run during the three-run hydrogen chloride performance test; and (b) Determine the chlorine content and heating value of each fuel sample; and (c) Determine the maximum chlorine content operating limit according to the procedures in § 63.7530(c) and the procedures in your site-specific test plan as required in § 63.7520(a).
	b. A wet scrubber	i. Establish site-specific minimum pH, pressure drop, and liquid flow-rate operating limits for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pH, pressure drop, and liquid flow-rate monitors and the hydrogen chloride performance test.	(a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the three-run hydrogen chloride performance test; and (b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	c. A dry scrubber	i. Establish site-specific minimum sorbent injection rate operating limits for the dry scrubber according to the provisions in § 63.7530(c).	(1) Data from the sorbent injection rate monitors and the hydrogen chloride performance test.	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the three-run hydrogen chloride performance test; and (b) Determine the average sorbent injection rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

As stated in § 63.7520, you must comply with the following requirements for performance tests for new or reconstructed affected sources:

TABLE 4.D TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR HYDROGEN CHLORIDE EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large liquid fuel subcategory, the limited use liquid fuel subcategory, or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn residual oil are excluded from this performance test).	a. Any type of device	i. Select sampling ports location and the number of traverse points.	Method 1 of 40 CFR part 60 appendix A.	
		ii. Determine velocity and volumetric flow-rate of the stack gas.	Either Method 2 in appendix A to part 60 of this chapter, Method 2F in appendix A to part 60 of this chapter or Method 2G of appendix A to part 60 of this chapter.	

TABLE 4.D TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR HYDROGEN CHLORIDE EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
		iii. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter.	
		iv. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
	b. Either no add-on controls or an add-on control other than a wet scrubber.	Measure the hydrogen chloride emissions concentrations.	Method 26 in appendix A to part 60 of this chapter.	
	c. A wet scrubber	Measure the hydrogen chloride emissions concentrations.	Method 26A in appendix A to part 60 of this chapter.	
	d. Any type of device	Convert emissions concentrations to lb per MMBtu emission rates.	The F-factor methodology in Method 19 in appendix A to part 60 of this chapter..	
	e. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. Establish a site-specific maximum inlet fuel chlorine content operating limit according to the provisions in § 63.7530(c).	(1) The fuel chlorine content analysis results and data from the hydrogen chloride performance test.	(a) You must collect one sample of the fuel stream entering the boiler or process heater from each test run during the three-run hydrogen chloride performance test; and (b) Determine the chlorine content and heating value of each fuel sample; and (c) Determine the average chlorine content operating limit according to the procedures in § 63.7530(c) and the procedures in your site-specific test plan as required in § 63.7520(a).
	f. A wet scrubber	i. Establish site-specific minimum pH, pressure drop, and liquid flow-rate operating limits for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pH, pressure drop, and liquid flow-rate monitors and the hydrogen chloride performance test.	(a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the three-run hydrogen chloride performance test; and (b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	g. A dry scrubber	i. Establish site-specific minimum sorbent injection rate operating limit for the dry scrubber according to the provisions in § 63.7530(c).	(1) Data from the sorbent injection rate monitors and the hydrogen chloride performance test.	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the three-run hydrogen chloride performance test; and (b) Determine the average sorbent injection rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

TABLE 4.E TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR MERCURY EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE OF SMALL SOLID FUEL SUBCATERGORIES

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Each new reconstructed, or existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Any type of device	i. Select sampling ports location and the number of traverse points.	Method 1 of 40 CFR part 60, appendix A.	

TABLE 4.E TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR MERCURY EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE OF SMALL SOLID FUEL SUBCATERGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Determine velocity and volumetric flow-rate of the stack gas.	Either Method 2 in appendix A to part 60 of this chapter, Method 2F in appendix A to part 60 of this chapter, or Method 2G of appendix A to part 60 of this chapter.	
		iii. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter.	
		iv. Measure moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.	
		v. Convert emissions concentrations to lb per MMBtu emission rates.	The F-factor methodology in Method 19 in appendix A to part 60 of this chapter.	
2. each new reconstructed, or existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, limited use solid fuel subcategory, or the small solid fuel subcategory that has a rated heat input capacity of less than 250 MMBtu per hour.	Any type of device	Measure the mercury emissions concentrations.	Method 29 in appendix A to part 60 of this chapter.	
3. Each new reconstructed, or existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory or limited use solid fuel subcategory that has a rated heat input capacity of greater than 250 MMBtu per hour.	Any type of device	Measure the mercury emissions concentrations.	....	DRAFT ASTM Z65907 ‘‘Standard Method for Both Speciated and Elemental Mercury Determination.
4. Each new reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. Establish a site-specific maximum opacity level according to provisions in § 63.7530(c).	(1) Data from the continuous opacity monitoring system and the mercury performance test.	(a) You must collect opacity monitoring data every 10 seconds during the entire period of the three-run mercury performance test; and (b) determine the maximum opacity level of all the 1-hour averages taken during the three-run performance test.
	b. A wet scrubber	i. Establish a site-specific minimum pressure drop and minimum liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the mercury performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the three-run mercury performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	c. A wet scrubber in combination with a fabric filter.	i. Establish a site-specific minimum pressure drop and liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the mercury performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber every 15 minutes during the entire period of the three-run mercury performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

TABLE 4.E TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR MERCURY EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE OF SMALL SOLID FUEL SUBCATERGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
	d. A wet scrubber in combination with an electrostatic precipitator.	i. Establish a site-specific minimum pressure drop and liquid flow-rate for the wet scrubber and minimum voltage and secondary current or total power input of the electrostatic precipitator according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors for the wet scrubber and from the current and voltage monitors for the electrostatic precipitator and the mercury performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator every 15 minutes during the entire period of the three-run mercury performance test; and (b) Determine the average for each by computing the average of all 15-minute readings taken during the test run.
5. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in mercury.	i. Establish a site-specific maximum inlet fuel mercury content operating limit according to the provisions in § 63.7530(c).	(1) The fuel mercury content analysis results and the calculations done according to the provisions in § 63.7530(c).	(a) You must collect one sample of the worst-case fuel stream entering the boiler or process heater for each test run during the three-run performance test; and (b) Determine the mercury content and heating value of the sample according to your site-specific test plan as required in § 63.7520(a); and (c) Determine the maximum mercury content operating limit according to the procedures in § 63.7530(c).
6. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. Establish a site-specific maximum opacity level according to provisions in § 63.7530 (c).	(1) Data from the continuous opacity monitoring system and the mercury performance test.	(a) You must collect opacity monitoring data every 10 seconds during the entire period of the three-run mercury performance test; and (b) Determine the maximum opacity level for all the 1-hour averages taken during the three-run performance test.
	b. A wet scrubber	i. Establish a site-specific minimum pressure drop and minimum liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the mercury performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the three-run mercury performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.
	c. A wet scrubber in combination with a fabric filter.	i. Establish a site-specific minimum pressure drop and liquid flow-rate operating limit for the wet scrubber according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors and the mercury performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber every 15 minutes during the entire period of the three-run mercury performance test; and (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during the test run.

TABLE 4.E TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS FOR MERCURY EMISSIONS FROM BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE OF SMALL SOLID FUEL SUBCATERGORIES—Continued

For . . .	That is controlled with . . .	You must . . .	Using . . .	According to the following requirements . . .
	d. A wet scrubber in combination with an electro-static precipitator.	i. Establish a site-specific minimum pressure drop and liquid flow-rate for the wet scrubber and minimum voltage and secondary current or total power input of the electrostatic precipitator according to the provisions in § 63.7530(c)(3).	(1) Data from the pressure drop and liquid flow-rate monitors for the wet scrubber and from the current and voltage monitors for the electrostatic precipitator and the mercury performance test.	(a) You must collect pressure drop and liquid flow-rate data for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator every 15 minutes during the entire period of the three-run mercury performance test; and (b) Determine the average for each by computing the average of all 15-minute readings taken during each test run.
	e. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in mercury.	i. Establish a site-specific maximum inlet fuel mercury content operating limit according to the provisions in § 63.7530(c).	(1) The fuel mercury content analysis results and the calculations done according to the provisions in § 63.7530(c).	(a) You must collect one sample of the worst-case fuel stream entering the boiler or process heater for each test run during the three-run performance test; and (b) Determine the mercury content and heating value of the sample according to your site-specific test plan as required in § 63.7520(a); and (c) Determine the maximum mercury content operating limit according to the procedures in § 63.7530(c).

As stated in § 63.7530, you must show initial compliance with the emission limitations for affected sources according to the following:

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. 0.026 lb particulate matter per MMBtu heat input or 0.0001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
			(2) You keep a record of the average site-specific opacity level for each test run over the three-run performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit; or if the unit is controlled with a fabric filter, instead of establishing a site-specific opacity level you keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	b. A wet scrubber	i. 0.026 lb particulate matter per MMBtu heat input or 0.0001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit.
	c. A wet scrubber in combination with a fabric filter.	i. 0.026 lb particulate matter per MMBtu heat input or 0.0001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentrations and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
			(2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit; and (3) You keep records of the installation and calibration data and the manufacturers certification of the bag leak detection system as required in § 63.7525(i).
	d. A wet scrubber in combination with an electrostatic precipitator.	i. 0.026 lb particulate matter per MMBtu heat input or 0.0001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber and the average secondary current and voltage or total power input of the electrostatic precipitator for each test run.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	i. 0.0001 lb total selected metals per MMBtu heat input.	(1) The calculated emissions using Equation 2 of § 63.7530(c) and converted to lb total selected metals per MMBtu heat input does not exceed the emission limit; and (2) You keep a record of the fuel analysis, calculations, and the maximum fuel total selected metals input at which you demonstrated. compliance.

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
3. Each existing industrial, or commercial, institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. 0.07 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limits; and (2) You keep a record of the average site-specific opacity level for each test run over the 3-hour performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit; or if the unit is controlled with a fabric filter, instead of establishing a site-specific opacity level you keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	b. A wet scrubber	i. 0.07 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit.

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	c. Wet scrubber in combination with a fabric filter.	i. 0.07 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit; and (3) You keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	d. A wet scrubber in combination with an electrostatic precipitator.	i. 0.07 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber and the average secondary current and voltage or total power input of the electrostatic precipitator for each test run.

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	e. Either no add-on controls or an add-on control other than a wet scrubber.	i. 0.21 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific opacity level for each test run over the 3-hour performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit; or if the unit is controlled with a fabric filter, instead of establishing a site-specific opacity level you keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	f. A wet scrubber	i. 0.21 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter or total selected metals emissions did not exceed the emissions limit.

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	g. A wet scrubber in combination with a fabric filter.	i. 0.21 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter of total selected metals emissions did not exceed the emissions limit; and (3) You keep records of the installation and calibration data and the manufacture's certification of the bag leak detection system as required in § 63.7525(i).
	h. A wet scrubber in combination with an electrostatic precipitator.	i. 0.21 lb particulate matter per MMBtu heat input or 0.001 lb total selected metals per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; or the average emissions in units of lb total selected metals per MMBtu heat input measured using total selected metals emission concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber and the average secondary current and voltage or total power input of the electrostatic precipitator for each test run.

TABLE 5.A TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER OR TOTAL SELECTED METALS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
4. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory or the limited use solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	i. 0.001 lb total selected metals per MMBtu heat input.	(1) The calculated emissions using Equation 2 of § 63.7530(c) and converted to lb total selected metals per MMBtu heat input does not exceed the emission limit; and (2) You keep a record of the fuel analysis, calculations, and the maximum fuel total selected metals input at which you demonstrated compliance.

As stated in § 63.7530, you must show initial compliance with the emission limitations for affected sources according to the following:

TABLE 5.B TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large liquid fuel subcategory, the limited use liquid fuel subcategory or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil are excluded from this requirement).	a. Either no reconstructed add-on controls or an add-on control other than a scrubber.	i. 0.03 lb particulate matter per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBTU heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific opacity level for each test run over the three-run performance test during which particulate matter emissions did not exceed the emissions limit; or if the unit is controlled with a fabric filter, instead of establishing a site-specific opacity level you keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	b. A wet scrubber	i. 0.03 lb particulate matter per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter emissions did not exceed the emissions limit.

TABLE 5.B TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR PARTICULATE MATTER FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	c. A wet scrubber in combination with a fabric filter.	i. 0.03 lb particulate matter per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which particulate matter emissions did not exceed the emissions limit; and (3) You keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	d. A wet scrubber in combination with an electrostatic precipitator.	i. 0.03 lb particulate matter per MMBtu heat input.	(1) The average emissions in units of lb particulate matter per MMBtu heat input, measured using PM emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber and the average secondary current and voltage or total power input of the electrostatic precipitator for each test run over the three-run performance test during which particulate matter emissions did not exceed the emissions limit.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in one of the liquid fuel subcategories that burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels.	a. Any type of device	i. 0.03 lb particulate matter per MMBtu heat input.	(1) You submit a signed statement in the Notification of Compliance Status report required in § 63.7545(e) that indicated you burn only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels; and (2) You keep records, as required in § 63.7555, that demonstrate that you burn only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels.

As stated in § 63.7530, you must show initial compliance with the emission limitations for affected sources according to the following:

TABLE 5.C TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR HYDROGEN CHLORIDE FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. 0.02 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific fuel chlorine content level for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
	b. A wet scrubber	i. 0.02 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pH, pressure drop, and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
	c. A dry scrubber	i. 0.02 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific sorbent injection rate of the dry scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory or the small solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. 0.02 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific fuel chlorine content level for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.

TABLE 5.C TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR HYDROGEN CHLORIDE FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	b. A wet scrubber	i. 0.02 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pH, pressure drop, and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
	c. A dry scrubber	i. 0.02 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific sorbent injection rate of the dry scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
3. Each existing industrial, commercial, institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. 0.09 lb hydrogen chloride per MMBtu per heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific fuel chlorine content level for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
	b. A wet scrubber	i. 0.09 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pH, pressure drop, and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.

TABLE 5.C TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR HYDROGEN CHLORIDE FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	c. A dry scrubber	i. 0.09 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific sorbent injection rate of the dry scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.

As stated in § 63.7530, you must show initial compliance with the emission limitations for affected sources according to the following:

TABLE 5.D TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR HYDROGEN CHLORIDE FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
1. Each new or reconstructed commercial, or industrial, boiler or process heater in the liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil are excluded from this requirement).	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. 0.0005 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific fuel chlorine content level for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
	b. A wet scrubber	i. 0.0005 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pH, pressure drop, and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.

TABLE 5.D TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR HYDROGEN CHLORIDE FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	c. A dry scrubber	i. 0.0005 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific sorbent injection rate of the dry scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large limited use liquid fuel subcategory or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil are excluded from this requirement).	a. Either no add-on controls or an add-on control other than a web scrubber or a dry scrubber.	i. 0.0009 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific fuel chlorine content level for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
3. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the limited use liquid fuel subcategory or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil are excluded from this requirement).	a. A wet scrubber	i. 0.0009 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pH, pressure drop, and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.

TABLE 5.D TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR HYDROGEN CHLORIDE FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	b. A dry scrubber	i. 0.0009 lb hydrogen chloride per MMBtu heat input.	(1) The average emissions in units of lb hydrogen chloride per MMBtu heat input, measured using hydrogen chloride emissions concentration and Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific sorbent injection rate of the dry scrubber for each test run over the three-run performance test during which hydrogen chloride emissions did not exceed the emissions limit.
4. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in one of the liquid fuel subcategories that burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels.	a. Any type of device	i. 0.0005 lb hydrogen chloride per MMBtu heat input for units in the large liquid fuel subcategory or 0.0009 lb hydrogen chloride per MMBtu heat input for units in the limited use or small liquid fuel subcategories.	(1) You submit a signed statement in the Notification of Compliance Status report required in § 63.7545(e) that indicates you burn only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels; and (2) You keep records, as required in § 63.7555, that demonstrate that you burn only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels.

As stated in § 63.7530, you must show initial compliance with the emission limitations for affected sources according to the following:

TABLE 5.E TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR MERCURY FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
1. Each new or reconstructed industrial, commercial or institutional boiler or process heater in large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Either no add-on control or an add-on control other than wet scrubber.	i. 0.000003 lb merecury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific opacity level for each test run over the three-run performance test during which mercury emissions did not exceed the emissions limit; or if the unit is controlled with a fabric filter, instead of establishing a site-specific opacity level you keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).

TABLE 5.E TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR MERCURY FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	b. A wet scrubber	i. 0.000003 lb mercury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which mercury emissions did not exceed the emissions limit.
	c. A wet scrubber in combination with a fabric filter.	i. 0.000003 lb mercury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentrations and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which mercury emissions did not exceed the emissions limit; and (3) You keep records of the installation and calibration data and the manufacturers certification of the bag leak detection system as required in § 63.7525(i).
	d. A wet scrubber in combination with an electrostatic precipitator.	i. 0.000003 lb mercury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber and the average secondary current and voltage or total power input of the electrostatic precipitator for each test run.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in mercury.	i. 0.000003 lb mercury per MMBtu heat input.	(1) The calculated emissions using Equation 3 of § 63.7530(c) and converted to lb mercury per MMBtu heat input does exceed the emission limit; and (2) You keep a record of fuel analysis, calculations, and the maximum fuel mercury input at which you demonstrated compliance.

TABLE 5.E TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR MERCURY FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
3. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber.	i. 0.000007 lb mercury MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific opacity level for each test run over the 3-hour performance test during which mercury emissions did not exceed the emissions limit; or if the unit is controlled with a fabric filter, instead of establishing a site-specific opacity level you keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).
	b. A wet scrubber	i. 0.000007 lb mercury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which mercury metals emissions did not exceed the emissions limit.
	c. A wet scrubber in combination with a fabric filter.	i. 0.000007 lb mercury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber for each test run over the three-run performance test during which mercury emissions did not exceed the emissions limit; and (3) You keep records of the installation and calibration data and the manufacturer's certification of the bag leak detection system as required in § 63.7525(i).

TABLE 5.E TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS FOR MERCURY FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You have demonstrated initial compliance if . . .
	d. A wet scrubber in combination with an electrostatic precipitator.	i. 0.000007 lb mercury per MMBtu heat input.	(1) The average emissions in units of lb mercury per MMBtu heat input, measured using mercury emissions concentration and sections 12.2 and 12.3 of Method 19 of appendix A over the three-run performance test period, do not exceed the emission limit; and (2) You keep a record of the average site-specific pressure drop and liquid flow-rate of the wet scrubber and the average secondary current and voltage or total power input of the electrostatic precipitator for each test run.
4. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory (this is an option for those units that can demonstrate compliance on the basis of fuel analysis without controls).	a. Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in mercury.	i. 0.000007 per mercury per MMBtu heat input.	(1) The calculated mercury emissions using Equation 3 of § 63.7530(c) and converted to lb mercury per MMBtu heat input does not exceed the emission limit; and (2) You keep a record of the fuel analysis, calculations, and maximum fuel mercury input at which you demonstrated compliance.

As stated in § 63.7530, you must show initial compliance with the applicable work practice standards for affected sources according to the following:

TABLE 6 TO SUBPART DDDDD OF PART 63—INITIAL COMPLIANCE WITH WORK PRACTICE STANDARDS

For each . . .	For the following work practice standard . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the large liquid fuel subcategory, or the large gaseous fuel subcategory.	a. Continuously monitor carbon monoxide emissions according to the procedures in § 63.7525(a) to maintain carbon monoxide emissions at or below an exhaust concentration of 400 ppm by volume on a dry basis corrected to 3 percent oxygen (the averaging time shall be one calendar day).	i. You have met work practice standard; and ii. As part of the Notification of Compliance Status, you submit the carbon monoxide emissions monitoring data recorded during the performance test collected according to the procedures required in § 63.7525(a); and iii. Report the maximum carbon monoxide emissions levels that occurred during the test that demonstrates the carbon monoxide concentrations were below the 400 ppm concentration.
2. New or reconstructed industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory.	a. Continuously monitor carbon monoxide emissions according to the procedures in § 63.7525(a) to maintain carbon monoxide emissions at or below an exhaust concentration of 400 ppm by volume on a dry basis corrected to 3 percent oxygen. The average time shall be 1 calendar day.	i. You have met the work practice standard; and ii. As part of the Notification of Compliance Status, you submit the carbon monoxide emissions monitoring data recorded during the performance test collected according to the procedures required in § 63.7525(a); and iii. Report the maximum carbon monoxide emissions levels that occurred during the test that demonstrates the carbon monoxide concentrations were below the 400 ppm concentration.

As stated in § 63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

TABLE 7.A TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by . . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or dry scrubber.	i. Opacity levels must not exceed the operating limit set during the PM or total selected metals and mercury performance tests and fuel chlorine content must not exceed the maximum operating limit set during the hydrogen chloride performance test according to the procedures in § 63.7530(c).	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test; or if the unit is controlled with a fabric filter, instead of maintaining opacity maintaining the operation of the fabric filter such that the requirements in § 63.7540(a)(9) are met; and (4) Keeping daily records of fuel use and following the procedures in § 63.7540(a) and, therefore, maintaining the fuel chlorine content level at or below the limit set during the performance test.
	b. A wet scrubber	i. pH, pressure drop, and liquid flow-rate must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate levels at or above the limits established during the performance test.
	c. A wet scrubber in combination with a fabric filter.	i. pH, pressure drop, and liquid flow-rate for the wet scrubber and pressure drop for the fabric filter must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data for the wet scrubber and the pressure drop monitoring system data for the fabric filter according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate of the wet scrubber and the 3-hour average pressure drop of the fabric filter at or above the limits established during the performance test; and (4) Maintaining the fabric filter operation such that the requirements in 63.7540(a)(9) are met.

TABLE 7.A TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by . . .
	d. A wet scrubber in combination with an electrostatic precipitator.	i. pH, pressure drop, and liquid flow-rate for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data for the wet scrubber and the secondary current and voltage monitoring system data or total power input data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate of the wet scrubber and the 3-hour average secondary current and voltage or total power input of the electrostatic precipitator at or above the limits established during the performance test.
	e. A dry scrubber	i. Opacity levels must not exceed the operating limit set during the performance test and sorbent injection rate of the dry scrubber must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test; and (4) Collecting the sorbent injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and (5) Reducing the data to 3-hour block averages; and (6) Maintaining the 3-hour average sorbent injection rate level at or above the limits established during the performance test.
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those that can demonstrate compliance on the basis of fuel analysis without controls).	Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	Fuel total selected metals content must not exceed the operating limit set during the performance test according to the provisions in § 63.7530(a).	Keeping daily records of fuel use and follow the procedures in § 63.7540(a) and, therefore, maintain the fuel total selected metals content level at or below the limit set during the performance test.
3. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory, the limited use solid fuel subcategory, or the small solid fuel subcategory that can demonstrate compliance with the mercury emission limit on the basis of fuel analysis without controls).	Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in mercury.	Fuel mercury content must not exceed the operating limit set during the performance test according to the provisions in § 63.7530)(a).	Keeping daily records of fuel use and follow the procedures in § 63.7540(a) and, therefore, maintain the fuel mercury content level at or below the limit set during the performance test.

TABLE 7.A TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by . . .
4. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or dry scrubber.	i. Opacity levels must not exceed the operating limit set during the PM or total selected metals and mercury performance test and fuel chlorine content must not exceed the maximum operating limit set during the hydrogen chloride performance test according to the procedures in § 63.7530(c).	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test; or if the unit is controlled with a fabric filter, instead of maintaining opacity maintaining the operation of the fabric filter such that the requirements in § 63.7540(a)(9) are met; and (4) Keeping daily records of fuel use and following the procedures in § 63.7540(a) and, therefore, maintaining the fuel chlorine content level at or below the limit set during the performance test.
	b. A wet scrubber	i. pH, pressure drop, and liquid flow-rate must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate levels at or above the limits established during the performance test.
	c. A wet scrubber in combination with a fabric filter.	i. pH, pressure drop, and liquid flow-rate for the wet scrubber and pressure drop for the fabric filter must be greater than or equal to minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data for the wet scrubber and the pressure drop monitoring system data for the fabric filter according to §§ 63.7525 and 63.7535; and (2) Reducting the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate of the wet scrubber and the 3-hour average pressure drop of the fabric filter at or above the limits established during the performance test; and (4) Maintaining the fabric filter operation such that the requirements in § 63.7540(a)(9) are met.

TABLE 7.A TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by . . .
	d. A wet scrubber in combination with an electrostatic precipitator.	i. pH, pressure drop, and liquid flow-rate for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data for the wet scrubber and the secondary current and voltage monitoring system data or total power input data for electrostatic precipitator according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate of the wet scrubber and the 3-hour average secondary current and voltage or total power input of the electrostatic precipitator at or above the limits established during the performance test.
	e. A dry scrubber	i. Opacity levels must not exceed the operating limit set during the performance test and sorbent injection rate of the dry scrubber must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test; and (4) Collecting the sorbent injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and (5) Reducing the data to 3-hour block averages; and (6) Maintaining the 3-hour average sorbent injection rate levels at or above the limits established during the performance test.
5. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those that can demonstrate compliance on the basis of fuel analysis without controls).	Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	Fuel total selected metals content must not exceed the operating limit set during the performance test according to the provisions in § 63.7530(a) keeping daily records of fuel use and following the procedures in § 63.7540(a) and, therefore, maintaining the fuel total selected metals content level at or below the limit set during the performance tests.	
6. Each existing industrial, commercial, or institutional boiler or process heater in the large solid fuel subcategory that can demonstrate compliance with the mercury emission limit on the basis of fuel analysis without controls.	Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in mercury.	Fuel mercury content must not exceed the operating limit set during the performance test according to the provisions in § 63.7530(a).	Keeping daily records of fuel use and following the procedures in § 63.7540(a) and, therefore, maintaining the fuel mercury content level at or below the limit set during the performance test.

TABLE 7.A TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by . . .
7. Each existing industrial, commercial, or institutional boiler or process heater in the limited use solid fuel subcategory.	a. Either no add-on controls or an add-on control other than a wet scrubber or dry scrubber.	i. Opacity levels must not exceed the operating limit set during the PM or total selected metals performance test according to the procedures in § 63.7530(c).	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test; and (4) If the unit is controlled with a fabric filter, maintaining the operation of the fabric filter such that the requirements in § 63.7540(a)(9) are met.
	b. A wet scrubber	i. Pressure drop and liquid flowrate must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pressure drop and liquid flow-rate monitoring system data according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pressure drop and liquid flow-rate levels at or above the limits established during the performance test.
	c. A wet scrubber in combination with a fabric filter.	i. Pressure drop and liquid flowrate for the wet scrubber and pressure drop for the fabric filter must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pressure drop and liquid flow-rate monitoring system data for the wet scrubber and the pressure drop monitoring system data for the fabric filter according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pressure drop and liquid flow-rate of the wet scrubber and the 3-hour average pressure drop of the fabric filter at or above the limits established during the performance test; and (4) Maintaining the fabric filter operation such that the requirements in § 63.7540(a)(9) are met.
	d. A wet scrubber in combination with an electrostatic precipitator.	i. Pressure drop and liquid flowrate for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pressure drop and liquid flow-rate monitoring system data for the wet scrubber and the secondary current and voltage monitoring system data or total power input data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pressure drop and liquid flow-rate of the wet scrubber and the 3-hour average secondary current and voltage or total power input of the electrostatic precipitator at or above the limits established during the performance test.

TABLE 7.A TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL SOLID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by . . .
	e. A dry scrubber	i. Opacity levels must not exceed the operating limit set during the performance test.	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test.
8. Each existing industrial commercial, and institutional boiler or process in the limited use solid fuel subcategory that is complying with the alternative total selected metals emission limit instead of the particulate matter emission limit (this is an option for those that can demonstrate compliance on the basis of fuel analysis without controls).	Either no add-on controls or an add-on control for which you do not wish to take credit for reductions in total selected metals.	Fuel total selected metals content must not exceed the operating limit set during the performance test according to the provisions in § 63.7530(a).	Keeping daily records of fuel use and following the procedures in § 63.7540(a) and, therefore, maintaining the fuel total selected metals content level at or below the limit set during the performance test.

As stated in § 63.7540, you must show continuous compliance with the emission limitation for affected sources according to the following:

TABLE 7.B TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by. . .
1. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in the large liquid fuel subcategory, the limited use liquid fuel subcategory, or the small liquid fuel subcategory (boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and gases and do not burn any residual oil are excluded from this requirement).	a. Either no add-on controls or an add-on control other than a wet scrubber or a dry scrubber.	i. Opacity levels must not exceed the operating limit set during the performance test and fuel chlorine content must not exceed the maximum operating limit set during the performance test according to the procedures in § 63.7530(c).	(1) Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and (2) Reducing the opacity monitoring data to 6-minute averages; and (3) Maintaining the 3-hour block average opacity levels at or below the limit established during the performance test; or if the unit is controlled with a fabric filter, instead of maintaining opacity maintaining the operation of the fabric filter such that the requirements in § 63.7540(a)(9) are met; and (4) Keeping daily records of fuel use and following the procedures in § 63.7540(a) and, therefore, maintaining the fuel chlorine content level at or below the limit set during the performance test.
	b. A wet scrubber	i. pH, pressure drop, and liquid flow-rate must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate levels at or above the limits established during the performance test.

TABLE 7.B TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by. . .
	c. A wet scrubber in combination with a fabric filter.	i. pH, pressure drop, and liquid flow-rate for the wet scrubber and pressure drop for the fabric filter must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data for the wet scrubber and the pressure drop monitoring system data for the fabric filter according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate of the wet scrubber and the 3-hour average pressure drop of the fabric filter at or above the limits established during the performance test; and (4) Maintaining the operation of the fabric filter such that the requirements in § 63.7540(a)(9) are met.
	d. A wet scrubber in combination with an electrostatic precipitator.	i. pH, pressure drop, and liquid flow-rate for the wet scrubber and secondary current and voltage or total power input for the electrostatic precipitator must be greater than or equal to the minimum operating limits set during the performance test.	(1) Collecting the pH, pressure drop, and liquid flow-rate monitoring system data for the wet scrubber and the secondary current and voltage monitoring system data or total power input data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average pH, pressure drop, and liquid flow-rate of the wet scrubber and the 3-hour average secondary current and voltage or total power input of the electrostatic precipitator at or above the limits established during the performance test.
	e. A dry scrubber	i. Sorbent injection rate of the dry scrubber must be greater than or equal to the minimum operating limits set during the performance test and opacity levels must not exceed the operating limit set during the performance test.	(1) Collecting the sorbent injection rate monitoring system data according to §§ 63.7525 and 63.7535; and (2) Reducing the data to 3-hour block averages; and (3) Maintaining the 3-hour average sorbent injection rate levels at or above the limits established during the performance test; and (4) Collecting the opacity monitoring system data according to § 63.7525(b) and reducing the opacity monitoring data to 6-minute averages and maintaining the 3-hour average opacity levels at or below the limit established during the performance test.

TABLE 7.B TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS FOR BOILERS OR PROCESS HEATERS IN LARGE, LIMITED USE, OR SMALL LIQUID FUEL SUBCATEGORIES—Continued

For . . .	That is controlled with . . .	For the following emission limitation . . .	You must demonstrate continuous compliance by. . .
2. Each new or reconstructed industrial, commercial, or institutional boiler or process heater in one of the liquid fuel subcategories that burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels.	a. Any type of device	i. 0.03 lb particulate matter per MMBtu heat input.	(1) Including a signed statement in each semiannual compliance report required in § 63.7550 that indicates you burned only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels during the compliance period; and (2) By keeping records, as required in § 63.7555, that demonstrate that you burn only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels.

As stated in § 63.7540, you must show continuous compliance with the applicable work practice standards for affected sources according to the following:

TABLE 8 TO SUBPART DDDDD OF PART 63—CONTINUOUS COMPLIANCE WITH WORK PRACTICE STANDARDS

For the following work practice standard . . .	You must demonstrate continuous compliance by . . .
1. Carbon monoxide limit for new or reconstructed industrial, commercial, or institutional boilers or process heaters in the large solid fuel subcategory, the large liquid fuel subcategory, the large gaseous fuel subcategory, the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory.	a. Continuously monitoring carbon monoxide levels according to §§ 63.7525(a) and 63.7535; and b. Maintaining a carbon monoxide level below an exhaust concentration of 400 ppm by volume on a dry basis at all times except during startup, shutdown, or malfunction; and c. Keeping records of carbon monoxide levels as required in § 63.7555(b). The averaging period shall be a calendar day.

As stated in § 63.7550, you must comply with the following requirements for reports:

TABLE 9 TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR REPORTS

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. Information required in § 63.7550(c)(1)–(11); and	Semiannually according to the requirements in § 63.7550(b).
	b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 8 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the continuous monitoring systems, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the continuous monitoring systems were out-of-control during the reporting period; and	See item 1.a of this table.
	c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in § 63.7550(d). If there were periods during which the continuous monitoring systems, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control, as specified in § 63.8(c)(7), the report must contain the information in § 63.7550(e); and	See item 1.a of this table.

TABLE 9 TO SUBPART DDDDD OF PART 63—REQUIREMENTS FOR REPORTS—Continued

You must submit a(n)	The report must contain . . .	You must submit the report . . .
	d. If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i).	See item 1.a of this table.
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan.	a. Actions taken for the event and the information in § 63.10(d)(5)(ii).	i. By fax or telephone within 2 working days after starting actions inconsistent with the plan; and ii. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. (§ 63.10(d)(5)(ii)).

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

Citation	Subject	Brief description	Explanation
§ 63.1	Applicability	Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§ 63.4	Prohibited Activities	Prohibited Activities; Compliance date; Circumvention, Severability.	Yes.
§ 63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes.
§ 63.6(a)	Applicability	i. GP apply unless compliance extension; and ii. GP apply to area sources that become major	Yes. Yes.
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources.	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f).	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved].		
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source.	Yes.
§ 63.6(c)(1)–(2) § 63.6(c)(3)–(4)	Compliance Dates for Existing Sources [Reserved].	i. Comply according to date in subpart, which must be no later than 3 years after effective date; and ii. For 112(f) standards, comply within 90 days of effective date unless compliance extension.	Yes. Yes.
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§ 63.6(d)	[Reserved].		
§ 63.6(e)(1)–(2)	Operation & Maintenance	i. Operate to minimize emissions at all times; and	Yes.
		ii. Correct malfunctions as soon as practicable; and iii. Operation and maintenance requirements independently enforceable information Administrator will use to determine if operation and maintenance requirements were met.	Yes. Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

Citation	Subject	Brief description	Explanation
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for SSM and startup, shutdown, malfunction plan. Content of SSMP	Yes.
§ 63.6(f)(1)	Compliance Except During SSM	Comply with emission standards at all times except during SSM.	Yes.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§ 63.6(h)(1)	Compliance with Opacity/VE Standards	Comply with opacity/VE emission limitations at all times except during SSM.	Yes.
§ 63.6(h)(2)(i)	Determining Compliance with Opacity/ Visible Emission (VE) Standards.	If standard does not state test method, use Method 9 for opacity and Method 22 for VE.	No.
§ 63.6(h)(2)(ii)	[Reserved].		
§ 63.6(h)(2)(iii)	Using Previous Tests to Demonstrate Compliance with Opacity/VE Standards.	Criteria for when previous opacity/VE testing can be used to show compliance with this rule.	Yes.
§ 63.6(h)(3)	[Reserved].		
§ 63.6(h)(4)	Notification of Opacity/VE Observation Date.	Notify Administrator of anticipated date of observation	No.
§ 63.6(h)(5)(i), (iii)–(v)	Conducting Opacity/VE Observations	Dates and Schedule for conducting opacity/VE observations.	No.
§ 63.6(h)(5)(ii)	Opacity Test Duration and Averaging Times.	Must have at least 3 hours of observation with thirty, 6-minute averages.	No.
§ 63.6(h)(6)	Records of Conditions During Opacity/ VE Observations.	Keep records available and allow Administrator to inspect.	No.
§ 63.6(h)(7)(i)	Report continuous opacity monitoring system Monitoring Data from Performance Test.	Submit continuous opacity monitoring system data with other performance test data.	Yes.
§ 63.6(h)(7)(ii)	Using continuous opacity monitoring system instead of Method 9.	Can submit continuous opacity monitoring system data instead of Method 9 results even if rule requires Method 9, but must notify Administrator before performance test.	No.
§ 63.6(h)(7)(iii)	Averaging time for continuous opacity monitoring system during performance test.	To determine compliance, must reduce continuous opacity monitoring system data to 6-minute averages.	Yes.
§ 63.6(h)(7)(iv)	Continuous opacity monitoring system requirements.	Demonstrate that continuous opacity monitoring system performance evaluations are conducted according to §§ 63.8(e), continuous opacity monitoring system are properly maintained and operated according to 63.8(c) and data quality as § 63.8(d).	Yes.
§ 63.6(h)(7)(v)	Determining Compliance with Opacity/ VE Standards.	Continuous opacity monitoring system is probative but not conclusive evidence of compliance with opacity standard, even if Method 9 observation shows otherwise. Requirements for continuous opacity monitoring system to be probative evidence-proper maintenance, meeting PS 1, and data have not been altered.	Yes.
§ 63.6(h)(8)	Determining Compliance with Opacity/ VE Standards.	Administrator will use all continuous opacity monitoring system, Method 9, and Method 22 results, as well as information about operation and maintenance to determine compliance.	Yes.

Table 10 to Subpart DDDDD of Part 63—Applicability of General Provisions to Subpart DDDDD—Continued

Citation	Subject	Brief description	Explanation
§ 63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard.	Yes.
§ 63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension.	Yes.
§ 63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with rule.	Yes.
§ 63.7(a)(1)	Performance Test Dates	Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations.	Yes.
§ 63.7(a)(2)(i)	Performance Test Dates	New source with initial startup date before effective date has 180 days after effective date to demonstrate compliance.	Yes.
§ 63.7(a)(2)(ii)	Performance Test Dates	New source with initial startup date after effective date has 180 days after initial startup date to demonstrate compliance.	Yes.
§ 63.7(a)(2)(iii)	Performance Test Dates	i. Existing source subject to standard established pursuant to 112(d) has 180 days after compliance date to demonstrate compliance; and ii. Existing source with startup date after effective date has 180 days after startup to demonstrate compliance.	No. Yes.
§ 63.7(a)(2)(iv)	Performance Test Dates	Existing source subject to standard established pursuant to 112(f) has 180 days after compliance date to demonstrate compliance.	No.
§ 63.7(a)(2)(v)	Performance Test Dates	Existing source that applied for extension of compliance has 180 days after termination date of extension to demonstrate compliance.	Yes.
§ 63.7(a)(2)(vi)	Performance Test Dates	New source subject to standard established pursuant to 112(f) that commenced construction after proposal date of 112(d) standard but before proposal date of 112(f) standard, has 180 days after compliance date to demonstrate compliance.	No.
§ 63.7(a)(2)(vii–viii)	[Reserved].		
§ 63.7(a)(2)(ix)	Performance Test Dates	i. New source that commenced construction between proposal and promulgation dates, when promulgated standard is more stringent than proposed standard, has 180 days after effective date or 180 days after startup of source, whichever is later, to demonstrate compliance; and. ii. If source initially demonstrates compliance with less stringent proposed standard, it has 3 years and 180 days after the effective date of the standard or 180 days after startup of source, whichever is later, to demonstrate compliance with promulgated standard.	Yes. No.
§ 63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA Section 114 at any time.	Yes.
§ 63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§ 63.7(b)(2)	Notification of Rescheduling	If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date.	Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

Citation	Subject	Brief description	Explanation
§ 63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: i. Test plan approval procedures; and ii. Performance audit requirements; and iii. Internal and External QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for test facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	i. Performance tests must be conducted under representative conditions; and ii. Cannot conduct performance tests during SSM; and iii. Not a deviation to exceed standard during SSM; and iv. Upon request of Administrator, make available records necessary to determine conditions of performance tests	No. Yes. Yes. Yes.
§ 63.7(e)(2)	Conditions for Conducting Performance Tests.	Must conduct according to rule and EPA test methods unless Administrator approves alternative.	Yes.
§ 63.7(e)(3)	Test Run Duration	i. Must have three separate test runs; and ii. Compliance is based on arithmetic mean of three runs; and iii. Conditions when data from an additional test run can be used	Yes. Yes. Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§ 63.7(g)	Performance Test Data Analysis	i. Must include raw data in performance test report; and ii. Must submit performance test data 60 days after end of test with the Notification of Compliance Status; and iii. Keep data for 5 years	Yes. Yes. Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved].		
§ 63.8(a)(4)	Monitoring with Flares	Unless your rule says otherwise, the requirements for flares in § 63.11 apply.	No.
§ 63.8(b)(1)(i)–(ii)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative.	Yes.
§ 63.8(b)(1)(iii)	Monitoring	Flares not subject to this section unless otherwise specified in relevant standard.	No.
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems.	i. Specific requirements for installing monitoring systems; and ii. Must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; and iii. If more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup.	Yes. Yes. Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance.	Maintain monitoring system in a manner consistent with good air pollution control practices.	Yes.
§ 63.8(c)(1)(i)	Routine and Predictable SSM	i. Follow the SSM plan for routine repairs. Keep parts for routine repairs readily available.	Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

Citation	Subject	Brief description	Explanation
		ii. Reporting requirements for SSM when action is described in SSM plan.	Yes.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Reporting requirements SSM when action is not described in SSM plan.	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	i. How Administrator determines if source complying with operation and maintenance requirements; and ii. Review of source O&M procedures, records, Manufacturer's instructions, recommendations, and inspection of monitoring system.	Yes. Yes.
§ 63.8(c)(2)–(3)	Monitoring System Installation	i. Must install to get representative emission and parameter measurements; and ii. Must verify operational status before or at performance test.	Yes. Yes.
§ 63.8(c)(4)	Continuous Monitoring System (CMS) Requirements.	Continuous monitoring systems must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts.	No.
§ 63.8(c)(4)(i)	Continuous Monitoring System (CMS) Requirements.	Continuous opacity monitoring system must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period.	Yes.
§ 63.8(c)(4)(ii)	Continuous Monitoring System (CMS) Requirements.	Continuous emissions monitoring system must have a minimum of one cycle of operation for each successive 15-minute period.	No.
§ 63.8(c)(7)–(8)	Continuous monitoring systems Requirements.	Out-of-control periods, including reporting	Yes.
§ 63.8(d)	Continuous monitoring systems Quality Control.	i. Requirements for continuous monitoring systems quality control, including calibration, etc.; and ii. Must keep quality control plan on record for the life of the affected source. Keep old versions for 5 years after revisions.	Yes. Yes.
§ 63.8(e)	Continuous monitoring systems Performance Evaluation.	Notification, performance evaluation test plan, reports	Yes.
§ 63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system.	No.
§ 63.8(g)(1)–(4)	Data Reduction	i. Continuous opacity monitoring system 6-minute averages calculated over at least 36 evenly spaced data points; and ii. Continuous emissions monitoring system 1-hour averages computed over at least 4 equally spaced data points.	Yes. Yes.
§ 63.8(g)(5)	Data Reduction	Data that cannot be used in computing averages for continuous emissions monitoring system and continuous opacity monitoring system.	No.
§ 63.9(a)	Notification Requirements	Applicability and State Delegation	Yes.
§ 63.9(b)(1)–(5)	Initial Notifications	i. Submit notification 120 days after effective date; and ii. Notification of intent to construct/reconstruct; and iii. Notification of commencement of construct/reconstruct; Notification of startup; and iv. contents of each	Yes. Yes. Yes. Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

Citation	Subject	Brief description	Explanation
§ 63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§ 63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	Yes.
§ 63.9(g)	Additional Notifications When Using Continuous Monitoring Systems.	i. Notification of performance evaluation; and ii. Notification using continuous opacity monitoring system data; and iii. Notification that exceeded criterion for relative accuracy.	Yes. Yes. Yes.
§ 63.9(h)(1)–(6)	Notification of Compliance Status	i. Contents; and ii. Due 60 days after end of performance test or other compliance demonstration, except for opacity/VE, which are due 30 days after. iii. When to submit to Federal vs. State authority	Yes. Yes. Yes.
§ 63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information	Must submit within 15 days after the change	Yes.
§ 63.10(a)	Recordkeeping/Reporting	i. Applies to all, unless compliance extension; and ii. When to submit to Federal vx. State authority; and iii. Procedures for owners of more than 1 source	Yes. Yes. Yes.
§ 63.10(b)(1)	Recordkeeping/Reporting	i. General Requirements; and ii. Keep all records readily available; and iii. Keep for 5 years	Yes. Yes. Yes.
§ 63.10(b)(2)(i)–(v)	Records related to Startup, Shutdown, and Malfunction.	i. Occurrence of each of operation (process equipment); and ii. Occurrence of each malfunction of air pollution equipment; and iii. Maintenance on air pollution control equipment; and iv. Actions during startup, shutdown, and malfunction.	Yes. Yes. Yes. Yes.
§ 63.10(b)(2)(vi) and (x–xi)	Continuous monitoring systems Records.	i. Malfunctions, inoperative, out-of-control; and monitoring inoperative, out-of-systems control; and ii. Calibration checks; and iii. Adjustments, maintenance	Yes. Yes. Yes.
§ 63.10(b)(2)(vii)–(ix)	Records	i. Measurements to demonstrate compliance with emission limitations; and ii. Performance test, performance evaluation, and visible emission observation results; and iii. Measurements to determine conditions of performance tests and performance evaluations.	Yes. Yes. Yes.
§ 63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	Yes.
§ 63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status.	Yes.
§ 63.10(b)(3)	Records	Applicability Determinations	Yes.
§ 63.10(c)(1)–(6), (9)–(15)	Records	Additional Records for continuous monitoring systems.	Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

Citation	Subject	Brief description	Explanation
§ 63.10(c)(7)–(8)	Records	Records of excess emissions and parameter monitoring exceedances for continuous monitoring systems.	No.
§ 63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§ 63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	Yes.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	Startup, Shutdown, and Malfunction Reports.	Contents and submission	Yes.
§ 63.10(e)(1)–(2)	Additional continuous monitoring systems Reports.	i. Must report results for each CEM on a unit; and	Yes.
		ii. Written copy of performance evaluation; and	Yes.
		iii. Three copies of continuous opacity monitoring system performance evaluation.	Yes.
§ 63.10(e)(3)	Reports	Excess Emission Reports	No.
§ 63.10(e)(3)(i–iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations).	No.
§ 63.10(e)(3)(iv–v)	Excess Emissions Reports	i. Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations); and	No.
		ii. Provisions to request semiannual reporting after compliance for one year; and	No.
		iii. Submit report by 30th day following end of quarter or calendar half; and	No.
		iv. If there has not been an exceedance or excess emission (now defined as deviations), report contents is a statement that there have been no deviations.	No.
§ 63.10(e)(3)(iv–v)	Excess Emissions Reports	Must submit report containing all of the information in § 63.10(c)(5–13), § 63.8(c)(7–8).	No.
§ 63.10(e)(3)(vi–viii)	Excess Emissions Report and Summary Report.	i. Requirements for reporting excess emissions for continuous monitoring systems (now called deviations)	No.
		ii. Requires all of the information in § 63.10(c)(5–13), § 63.8(c)(7–8).	No.
§ 63.10(e)(4)	Reporting continuous opacity monitoring system data.	Must submit continuous opacity monitoring system data with performance test data.	Yes.
§ 63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

Citation	Subject	Brief description	Explanation
§ 63.11	Flares	Requirements for flares	No.
§ 63.12	Delegation	State authority to enforce standards	Yes.
§ 63.13	Addresses	Addresses where reports, notifications, and requests are sent.	Yes.
§ 63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§ 63.15	Availability of Information	Public and confidential information	Yes.

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