## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 63

**[FRL–7222–9]**

**RIN 2060–AG68**

## National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing

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

**ACTION:** Proposed rule.

**SUMMARY:** This action replaces Refractories Manufacturing with Refractory Products Manufacturing on the list of categories of major sources of hazardous air pollutants (HAP) published under section 112(c) of the Clean Air Act (CAA) and on the source category schedule for national emission standards for hazardous air pollutants (NESHAP). This action also proposes NESHAP for new and existing refractory products manufacturing sources. The proposed rule would require all major sources to meet emission standards reflecting the application of maximum achievable control technology (MACT). The proposed rule would protect air quality and promote the public health by reducing emissions of several of the HAP listed in section 112(b)(1) of the CAA, including ethylene glycol, formaldehyde, hydrogen fluoride (HF), hydrochloric acid (HCl), methanol, phenol, and polycyclic organic matter (POM). Exposure to these substances has been demonstrated to cause adverse health effects such as irritation of the lung, skin, and mucous membranes, effects on the central nervous system, and damage to the liver, kidneys, and skeleton. The EPA has classified the HAP formaldehyde and POM as probable human carcinogens. We estimate that the proposed rule would reduce nationwide emissions of HAP from these facilities by as much as 120 megagrams per year (Mg/yr) (132 tons per year (tons/yr)).

**DATES:** *Comments.* Submit comments on or before August 19, 2002.

*Public Hearing.* If anyone contacts the EPA requesting to speak at a public hearing by July 10, 2002, a public hearing will be held on July 22, 2002.

**ADDRESSES:** *Comments.* By U.S. Postal Service, send comments (in duplicate, if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket Number A–2000–50, U.S. EPA, 1200 Pennsylvania Avenue, NW., Washington, DC 20460. In person or by courier, deliver comments (in duplicate if possible) to: Air and Radiation Docket and Information Center (6102), Attention Docket Number A–2000–50, Room M–1500, U.S. EPA, 401 M Street, SW., Washington DC 20460. The EPA requests that a separate copy of each public comment be sent to the contact person listed below (see **FOR FURTHER INFORMATION CONTACT**). Comments may also be submitted electronically by following the instructions provided in **SUPPLEMENTARY INFORMATION.**

*Public Hearing.* If a public hearing is held, it will be held at 10 a.m. at the EPA Office of Administration Auditorium, Research Triangle Park, North Carolina.

*Docket.* Docket No. A–2000–50 contains supporting information used in developing the proposed standards. The docket is located at the U.S. EPA, 401 M Street, SW., Washington, DC 20460 in Room M–1500, Waterside Mall (ground floor), and may be inspected from 8:30 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays.

**FOR FURTHER INFORMATION CONTACT:** Susan Zapata, Minerals and Inorganic Chemicals Group, Emissions Standards Division (C504–05), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541–5167, electronic mail (e-mail) address: *zapata.susan@epa.gov.* For questions about the public hearing, contact Ms. Tanya Medley, Minerals and Inorganic Chemicals Group, Emission Standards Division (C504–05), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541–5422, e-mail address: *medley.tanya@epa.gov.*

**SUPPLEMENTARY INFORMATION:**

*Comments.* Comments and data may be submitted by e-mail to: *a-and-r-docket@epa.gov.* Electronic comments must be submitted as an ASCII file to avoid the use of special characters and encryption problems and will also be accepted on disks in WordPerfect®. All comments and data submitted in electronic form must note the docket number: A–2000–50. No confidential business information (CBI) should be submitted by e-mail. Electronic comments may be filed online at many Federal Depository Libraries.

Commenters wishing to submit proprietary information for consideration must clearly distinguish such information from other comments and clearly label it as CBI. Send submissions containing such proprietary information directly to the following address, and not to the public docket, to ensure that proprietary information is not inadvertently placed in the docket: Attention: Susan Zapata, c/o OAQPS Document Control Officer, C404–02, U.S. EPA, Research Triangle Park, NC 27709. The EPA will disclose information identified as CBI only to the extent allowed by the procedures set forth in 40 CFR part 2. If no claim of confidentiality accompanies a submission when it is received by the EPA, the information may be made available to the public without further notice to the commenter.

*Public Hearing.* Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Ms. Tanya Medley at least 2 days in advance of the public hearing. Persons interested in attending the public hearing must also call Ms. Medley 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 these proposed emission standards.

*Docket.* The docket is an organized and complete file of all the information considered by the EPA in the development of this rulemaking. The docket is a dynamic file because material is added throughout the rulemaking process. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the proposed and promulgated standards and their preambles, the contents of the docket, with certain exceptions, will serve as the record in the case of judicial review. (*See* section 307(d)(7)(A) of the CAA.) The regulatory text and other materials related to the proposed rulemaking are available for review in the docket or copies may be mailed on request from the Air Docket by calling (202) 260–7548. A reasonable fee may be charged for copying docket materials.

*World Wide Web (WWW).* In addition to being available in the docket, an electronic copy of today's proposed rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

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

| Category | SIC | NAICS | Examples of regulated entities |
|---|---|---|---|
| Industrial | 3255 | 327124 | Clay refractories manufacturing plants. |
| Industrial | 3297 | 327125 | Nonclay refractories manufacturing plants. |

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. To determine whether your plant site is regulated by this action, you should examine the applicability criteria in § 63.9782 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. *Outline.* The information presented in this preamble is organized as follows:

## I. Background

### *A. What Is the Source of Authority for Development of NESHAP?*

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The category of major sources covered by today's proposed rule was listed as Chromium Refractories Production on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit greater than 10 tons/yr of any one HAP or 25 tons/yr of any combination of HAP.

### *B. What Criteria Are Used in the Development of NESHAP?*

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

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

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

### *C. What Is the History of the Source Category?*

We published an initial list of source categories on July 16, 1992 (57 FR 31576). Chromium Refractories Production was included on the initial source category list as a major source category. After obtaining and analyzing information on HAP emissions from chromium refractories manufacturing plants, we determined that some facilities were major sources due to HAP emissions from the manufacturing of nonchromium refractories at these plants. Because the production of nonchromium refractories at those facilities would not be covered by other source categories on the current source category list, we decided to expand the scope of the chromium refractories production source category to include most manufacturers of refractory products.

Section 112(c) of the CAA allows EPA to revise the source category list at any time. On November 18, 1999, we revised the source category name from Chromium Refractories Production to Refractories Manufacturing (64 FR 63025) to reflect the broadened scope of the source category. Today's action changes the source category name from Refractories Manufacturing to Refractory

Products Manufacturing on the source category list under section 112(c) of the CAA to further clarify the source category.

*D. What Is Refractory Products Manufacturing?*

Refractory products are heat-resistant materials that provide the linings for high-temperature furnaces, reactors, and other processing units. They include, but are not limited to: Kiln furniture, crucibles, refractory ceramic fiber (RCF), and materials used as linings for boilers, kilns, and other processing units and equipment where extremes of temperature, corrosion, and abrasion would destroy other materials.

Refractory products manufacturing facilities generally can be classified based on the different types of raw materials and process operations used. In the broadest sense, refractory products can be classified by raw materials as either clay refractories or nonclay refractories. Chromium refractories are a subset of nonclay refractory products. Classifications of refractory products by process operations include monolithics, resin-bonded refractories, pitch-impregnated refractories, pitch-bonded refractories, other formed refractories that use organic additives, RCF, and fused-cast refractories. Table 1 of this preamble contains abbreviated definitions of each of these classifications.

TABLE 1.—REFRACTORY PRODUCTS CLASSIFICATIONS

| Classification | Product type | Description |
|---|---|---|
| By raw material | Clay | Products that contains at least 10 percent clay in the raw material mix. |
| | Nonclay | Products that contain less than 10 percent clay in the raw material mix. |
| By process | Monolithics | Products that consist of a mixture of granular refractory raw materials that have not been shaped or formed. |
| | Resin-bonded | Cured products that are produced using a phenolic resin or other type of HAP-forming resin as a binder. |
| | Pitch-impregnated | Fired products that are subsequently impregnated with coal tar or petroleum pitch. |
| | Pitch-bonded | Cured products that are produced using coal tar or petroleum pitch as a binder. |
| | Other formed products that are produced using organic additives. | Dried or cured products that are products that are produced using an organic binder other than resins, coal tar, or petroleum pitch. |
| | RCF | Spun or blown bulk RCF and products that consist primarily of RCF. |
| | Fused-cast | Products manufactured by casting a molten refractory raw material mix into a form. |

There are approximately 167 domestic refractory products manufacturing plants currently in operation located in 30 States and Puerto Rico. In terms of the number of facilities, the leading States are Ohio (40 plants), Pennsylvania (28 plants), Illinois (13 plants), and Missouri (10 plants). Most of these facilities are not likely to be major sources of HAP.

To produce most refractory products, raw materials are mixed, formed into shapes, dried or cured, then fired at high temperature in a kiln. The raw materials used in the refractory can be classified as either body materials or binders and additives. The body materials used in the industry are either raw or processed minerals, the most common of which are clays, silica, alumina, magnesium oxide, bauxite, silicon carbide, mullite, and graphite. The percentage of clay used in the mixture defines whether the product is a clay or nonclay refractory product.

Binders are substances that are added to a granular material to give it workability and green or dry strength. Nonclay refractory products generally require binders, whereas clay refractories may not need binders due to the cohesive nature of clay and the presence of moisture in the clay. Binders can also serve as lubricants and can impart other properties to the final product. For example, in addition to acting as binders, phenolic resins and pitch also increase product lifetime and durability by adding carbon that remains in the refractory body after firing. Additives are used to facilitate processing and/or impart specific properties to the final product. The most widely used binders and additives are cement, water, silicates, inorganic acids, phenolic resins, pitch, and lignin compounds, such as calcium lignosulfonate.

Clays and other raw minerals that are used as body materials in refractory products manufacturing require mechanical processing, such as grinding and screening, prior to their use. After processing, body materials, binders, and additives are proportioned and mixed. Monolithics typically require no further processing other than bagging or packaging for shipment. Other types of refractory products must be formed into shapes by pressing, extruding, molding, or casting. Next, the formed shapes generally are dried or cured at temperatures of 90° to 260°C (200° to 500°F). Drying and curing are similar processes with respect to equipment design and operation; the primary difference between the two processes is that the function of drying is to reduce the free moisture content of the shapes, whereas curing activates the resin or binder in the shapes. The final step in the production of most refractory shapes is firing. Firing serves three primary functions: to reduce the number of pores in the refractory; to increase the density of the refractory; and to bond together the individual refractory grains into a strong, hard mass. Firing typically is performed in either tunnel kilns, which operate continuously, or in periodic kilns, which operate as a batch process. Most firing temperatures are in the range of 1090° to 1540°C (2000° to 2800°F) and the entire firing cycle typically takes 24 to 36 hours. After firing, the shapes may be finished by grinding, cutting to specification, or other process; the shapes then are packaged for shipment.

Some refractory products manufacturing facilities impregnate fired shapes with coal tar or petroleum pitch to add additional carbon to the body to increase the durability of the finished product. This process includes the simultaneous heating of pitch in a pitch working tank and heating of fired shapes in a shape preheater to between 150° and 260°C (300° and 500°F); placing the shapes and pitch in a sealed vessel, typically called an autoclave; and applying pressure to force the pitch into the pores of the shapes. After impregnation, the shapes are cooled (defumed). For certain applications, the impregnated shapes undergo an additional process referred to as coking. In the coking process, the shapes are placed in a coking oven and heated under reducing conditions to drive off the volatile constituents (i.e., POM) of the pitch.

To produce fused-cast refractories, raw materials are mixed and loaded into an electric arc furnace where the mixture is heated to a molten state. The molten material is then poured into molds and allowed to cool before any final cutting, grinding, or finishing operation.

The production of RCF involves process steps that differ significantly from the steps used to produce formed refractory products. To manufacture RCF, alumina, silica, and calcined kaolin are mixed and fed into a melting furnace. As the molten material pours or drains from the furnace, it is fiberized into long, thin fibers by blowing or spinning. The fibers can then be chopped and shipped as bulk fibers, needled into fiber blankets, or cast into formed fiber products.

Based on the available data, we have concluded that no existing facilities that produce fused-cast refractory products or RCF are major sources of HAP emissions. In addition, we have determined that none of the existing facilities that produce only monolithics are major HAP sources. Therefore, facilities that produce only these types of refractory products would not be regulated under today's rule as proposed.

### *E. What Are the Health Effects of Pollutants Emitted From the Refractory Products Manufacturing Source Category?*

The HAP that would be controlled by the proposed rule are associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (e.g., irritation of the lung, skin, and mucous membranes, gastrointestinal effects, and damage to the kidneys and liver) and acute health disorders (e.g., respiratory irritation and central nervous system effects such as drowsiness, headache, and nausea). The EPA has classified two of the HAP (formaldehyde and POM) as probable human carcinogens.

The EPA does not have the type of current detailed data on each of the facilities and the people living around the facilities covered by today's proposed rule for this source category that would be necessary to conduct an analysis to determine the actual population exposures to the HAP emitted from these facilities and the potential for resultant health effects. Therefore, EPA does 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, and this proposed rule reduces emissions, subsequent exposures would be reduced.

Following is a discussion of the health effects of seven HAP: ethylene glycol, formaldehyde, HF, HCl, methanol, phenol, and POM. Although the proposed rule would reduce emissions of HF and HCl from any new kilns that emit these HAP, it would not reduce emissions of these HAP from existing sources. We estimate that emissions of methanol from existing sources would also not be reduced by today's proposed rule. However, methanol is a constituent of some resins used in resin-bonded refractory production, and today's proposed rule would regulate methanol emissions from any affected source that began producing refractory products made with resins that contain methanol.

#### 1. Ethylene Glycol

Acute (short-term) exposure of humans to ethylene glycol by ingesting large quantities causes central nervous system depression (including drowsiness and respiratory failure), gastrointestinal upset, cardiopulmonary effects, and renal damage. The only effects noted in the one available study of humans acutely exposed to low levels of ethylene glycol by inhalation were throat and upper respiratory tract irritation. Rats and mice exposed chronically (long-term) to ethylene glycol in their diet exhibited signs of kidney toxicity and liver effects. No information is available on the reproductive or developmental effects of ethylene glycol in humans, but several studies of rodents have shown ethylene glycol to be fetotoxic. The EPA has not classified ethylene glycol for carcinogenicity.

#### 2. Formaldehyde

Both acute and chronic exposure to formaldehyde irritates the eyes, nose, and throat, and may cause coughing, chest pains, and bronchitis. Reproductive effects, such as menstrual disorders and pregnancy problems, have been reported in female workers exposed to formaldehyde. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. The EPA considers formaldehyde a probable human carcinogen (Group B2).

#### 3. Hydrogen Fluoride

Acute inhalation exposure to gaseous HF can cause severe respiratory damage in humans, including severe irritation and pulmonary edema. Chronic 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 or mottling, while very high exposures through drinking water or air can result in crippling skeletal fluorosis. One study reported menstrual irregularities in women occupationally exposed to fluoride. The EPA has not classified HF for carcinogenicity.

#### 4. Hydrogen Chloride

Hydrogen chloride, also called hydrochloric acid, is corrosive to the eyes, skin, and mucous membranes. Acute inhalation exposure may cause eye, nose, and respiratory tract irritation and inflammation and pulmonary edema in humans. Chronic occupational exposure to HCl 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 HCl in humans. In rats exposed to HCl 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 HCl for carcinogenicity.

#### 5. Methanol

Acute or chronic exposure of humans to methanol by inhalation or ingestion may result in blurred vision, headache, dizziness, and nausea. No information is available on the reproductive, developmental, or carcinogenic effects of methanol in humans. Birth defects have been observed in the offspring of rats and mice exposed to methanol by inhalation. A methanol inhalation study using rhesus monkeys reported a decrease in the length of pregnancy and limited evidence of impaired learning ability in offspring. The EPA has not classified methanol with respect to carcinogenicity.

### 6. Phenol

Acute inhalation and dermal exposure to phenol is highly irritating to the skin, eyes, and mucous membranes in humans. Oral exposure to small amounts of phenol may cause irregular breathing, muscular weakness and tremors, coma, and respiratory arrest at lethal concentrations. Anorexia, progressive weight loss, diarrhea, vertigo, salivation, and a dark coloration of the urine have been reported in chronically exposed humans. Gastrointestinal irritation and blood and liver effects have also been reported. No studies of developmental or reproductive effects of phenol in humans are available, but animal studies have reported reduced fetal body weights, growth retardation, and abnormal development in the offspring of animals exposed to phenol by the oral route. The EPA has classified phenol in Group D, not classifiable as to human carcinogenicity.

### 7. Polycyclic Organic Matter

The term polycyclic organic matter defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon compounds (PAH), of which benzo[a]pyrene is a member. Dermal exposures to mixtures of PAH cause skin disorders in humans and animals. No information is available on the reproductive or developmental effects of POM in humans, but animal studies have reported that oral exposure to benzo[a]pyrene causes reproductive and developmental effects. Human studies have reported an increase in lung cancer in humans exposed to POM-bearing mixtures including coke oven emissions, roofing tar emissions, and cigarette smoke. Animal studies have reported respiratory tract tumors from inhalation exposure to benzo[a]pyrene and forestomach tumors, leukemia, and lung tumors from oral exposure to benzo[a]pyrene. The EPA has classified seven PAH compounds (benzo[a]pyrene, benz[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene) as Group B2, probable human carcinogens.

## II. Summary of the Proposed Rule

### *A. What Source Category Is Affected by the Proposed Rule?*

Today's proposed rule would apply to the Refractory Products Manufacturing source category. This source category includes, but is not limited to, any facility that manufactures refractory bricks and shapes that are produced using an organic HAP compound, pitch-impregnated refractory products, chromium refractory products, and fired clay refractory products. Fired refractory products are those that have undergone thermal processing in a kiln.

### *B. What Are the Primary Sources of Emissions From Major Sources and What Are the Emissions?*

At most refractory products manufacturing plants, the primary sources of HAP emissions are the thermal process units. Other sources of HAP emissions at these facilities are the raw material processing and handling equipment.

Thermal process units can emit several HAP, as well as a number of criteria pollutants. The thermal process units that would be covered by the proposed rule are: Shape dryers, curing ovens, and kilns that are used to process resin-bonded, pitch-bonded, and other refractory products that are produced using an organic HAP compound; defumers, coking ovens, shape preheaters, and pitch working tanks associated with pitch-impregnated refractory production; kilns used to fire chromium refractory products; and kilns used to fire clay refractory products. The HAP emitted by a specific thermal process unit depend mostly on the raw materials, binders, and additives used. The criteria pollutants emitted by thermal process units include particulate matter (PM), sulfur dioxide ($SO_2$), carbon monoxide (CO), nitrogen oxides ($NO_X$), and volatile organic compounds (VOC). Depending on the type of resin or additive used, these materials can include phenol, methanol, ethylene glycol, POM, and other organic compounds. For resin-bonded refractory production, the thermal process units are the curing ovens and kilns, which can emit phenol, formaldehyde, ethylene glycol, and methanol. For pitch-bonded refractory production, the thermal process units are the curing ovens and kilns. These sources all emit POM, which is the primary constituent of coal tar and petroleum pitch. For pitch-impregnated refractory production, the thermal process units are the coking ovens, defumers, pitch working tanks, and shape preheaters, which also emit POM. Kilns that are used to fire chromium refractory products emit particulate chromium and several other HAP metals. For clay refractory production, the fluorides and chlorides in the clay form HF and HCl, respectively, which are subsequently emitted from kilns during firing.

### *C. What Are the Affected Sources?*

Today's proposed rule would establish emission limitations (emission limits and operating limits) and work practice standards for several types of refractory products manufacturing sources. Table 2 of this preamble lists the affected sources that would be subject to the proposed rule.

TABLE 2.—SOURCES THAT WOULD BE AFFECTED BY THE PROPOSED REFRACTORY PRODUCTS MANUFACTURING RULE

| Refractory product type | Affected sources |
|---|---|
| Resin-bonded | Existing and new curing ovens and kilns. |
| Pitch-bonded | Existing and new curing ovens and kilns. |
| Pitch-impregnated | Existing and new shape preheaters, pitch working tanks, defumers, and coking ovens. |
| Other formed products that use organic additives | Existing and new shape dryers and kilns used to process refractory shapes that are made using an organic HAP compound. |
| Chromium | Existing and new kilns. |
| Clay | Existing and new kilns. |

### *D. What Are the Emission Limits?*

Emission limits are numeric limits on the emissions from affected sources. Today's proposed rule would specify separate emission limits for affected sources of organic HAP, HF, and HCl.

#### 1. Existing and New Thermal Process Sources of Organic HAP

Today's proposed rule would establish emission limits for specified thermal process sources that emit organic HAP. Facilities that operate these types of sources could meet either of two types of emission limits: A specified minimum combustion efficiency of an add-on control device (i.e., a thermal oxidizer or a catalytic oxidizer); or a limit on the concentration of total hydrocarbons (THC) in the emissions. The combustion efficiency option would apply only to sources that are controlled with a thermal or catalytic oxidizer for which the carbon dioxide ($CO_2$) concentration at the outlet of the device is 3 percent or less. To comply with the combustion efficiency limit, you would be required to reduce emissions of CO and THC so that the average combustion efficiency is 99.8 percent or greater. If the outlet $CO_2$ concentration is more than 3 percent, or if you choose to comply with the THC emission concentration limit, you would be required to reduce emissions of THC at the outlet of the source or control device to 20 parts per million by volume, dry basis (ppmvd), or less, corrected to 18 percent oxygen ($O_2$). The sources that would be subject to these organic HAP emission limits include new and existing shape dryers, curing ovens, kilns, coking ovens, and defumers. In addition, new shape preheaters would be subject to these same emission limits. You would also be required to meet the THC emission concentration limit if you operate an affected source that is not equipped with a thermal or catalytic oxidizer.

For continuous process sources, the format of the combustion efficiency and THC emission limits would be a 3-hour block average. That is, the average combustion efficiency or THC concentration based on three 1-hour test runs would have to meet the emission limit of at least 99.8 percent combustion efficiency or no more than 20 ppmvd THC at 18 percent $O_2$, whichever applies. For batch process sources, the format of the standard is the average of the highest rolling 3-hour averages for three test runs. In other words, you would have to calculate the rolling 3-hour average combustion efficiency of THC concentration for each 3-hour period of each test run. From each of the three test runs, you would select the highest rolling 3-hour average. You would then determine the average of those three highest rolling averages to determine if your source is in compliance with the emission limit.

### 2. New Clay Refractory Kilns

If you own or operate an affected new clay refractory kiln, you would be required to meet emission limits for both HF and HCl. For affected tunnel kilns, you would have to meet an HF emission limit of 0.001 kilogram per megagram (kg/Mg) (0.002 pound per ton (lb/ton)) of product or reduce HF emissions by at least 99.5 percent. You would also be required to meet an HCl emission limit of 0.0025 kg/Mg (0.005 lb/ton) of product or reduce uncontrolled HCl emissions by at least 98 percent. If you own or operate a new affected periodic kiln, you would be required to reduce HF emissions by at least 99.5 percent and HCl emissions by at least 98 percent.

## *E. What Are the Operating Limits?*

Operating limits are limits on operating parameters of process equipment or control devices. Today's proposed rule specifies process and control device operating limits for thermal process sources that emit organic HAP and clay refractory kilns. For each of these operating limits, you would be required to measure the appropriate operating parameters during the performance test and establish limits on the operating parameters based on those measurements. Following the performance test, you would be required to monitor those parameters and ensure that the established limits are not exceeded.

### 1. Existing and New Thermal Process Sources of Organic HAP

For affected thermal process sources that discharge organic HAP, we would require operating limits on the organic HAP processing rate and the operating temperatures of your control devices. The operating limit on the organic HAP processing rate would require you to measure during the performance test the rate at which organic HAP are processed in an affected process unit. To determine the organic HAP processing rate, you would need data on the mass fractions of organic HAP in each resin, binder, or additive that contains an organic HAP. You could determine the mass fraction of organic HAP in a material using EPA Method 311, ''Analysis of Hazardous Air Pollutant Compounds in Paints and Coatings by Direct Injection into a Gas Chromatograph.'' You could also use material safety data sheets (MSDS) or product labels to determine the mass faction of organic HAP in a substance.

For continuous process units, the organic HAP processing rate would be measured in units of mass of organic HAP per unit time (e.g., pounds of HAP per hour) contained in the refractory products that undergo thermal processing. For batch process units, the organic HAP processing rate would be measured in units of mass of organic HAP per mass of refractory products that undergo thermal processing (e.g., pounds of organic HAP per ton of refractory product in the batch). Following the performance test, you would be required to monitor the organic HAP processing rate and ensure that the rate does not exceed the rate established during the performance test. If you decided to start production of a refractory product that is likely to have an organic HAP processing rate greater than the rate established during the most recent performance test, you would be required to conduct a new performance test for that product and establish a new operating limit for the organic HAP processing rate.

For sources that are controlled with a thermal oxidizer, you would be required to monitor the combustion chamber temperature. For affected sources that are controlled with a catalytic oxidizer, you would be required to monitor the temperature at the inlet of the catalyst bed. You would also be required to maintain the catalyst according to manufacturer's specifications. For either type of control device, you would be required to measure and record the appropriate temperature during the performance test. Following the performance test, you would be required to monitor continuously the control device operating temperature and ensure that the 3-hour block average temperature does not fall below the corresponding temperature measured during the performance test minus 14°C (25°F).

### 2. New Clay Refractory Kilns

If you have a new clay refractory kiln that is controlled with a dry lime injection fabric filter (DIFF) or a dry lime scrubber/fabric filter (DLS/FF), you would be required to monitor fabric filter inlet temperature and lime feed rate. During the performance test, you would be required to measure the fabric filter inlet temperature. Following the performance test, you would be required to continuously measure fabric filter inlet temperature and ensure that the temperature does not exceed the temperature established during the performance test plus 14°C (25°F). During the performance test, you would also be required to measure the lime feed rate and subsequently ensure that the lime feed rate did not fall below the feed rate established during the performance test. You would also have to verify that lime is free-flowing to the control system. In addition, you would be required to install a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm, and complete corrective actions according to your operation, maintenance, and monitoring (OM&M) plan. You would also have to operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time would be counted. If corrective action is required, each alarm would be counted as a minimum of 1 hour, and if you take longer than 1 hour to initiate corrective action, the alarm time would be counted as the actual amount of time taken to initiate corrective action.

If you use a DLS/FF, you would also be required to measure the water injection rate during the performance test. Following the performance test, you would be required to maintain the water injection rate at least at the levels established during the performance test.

If you use a wet scrubber (WS), you would be required to measure the pressure drop across the scrubber, liquid pH, and liquid flow rate during the performance test. Following the performance test, you would be required to ensure that the levels of these parameters did not fall below the corresponding levels established during the performance test.

### 3. All Affected Sources

Under today's proposed rule, you would be required to prepare a written OM&M plan and keep the plan up to date for all affected sources. The plan would have to include procedures for the proper operation and maintenance of each affected source and its air pollution control device(s). The plan would also have to include procedures for monitoring and proper operation of monitoring systems to help assure both initial and continuous compliance with the emission limits, operating limits, and work practice standards.

If you own or operate an affected source of organic HAP equipped with an alternative control device or technique not listed in the proposed rule, you would have to install a THC continuous emission monitoring system (CEMS) on the outlet of the control device or in the stack. You would also be required to comply with Performance Specification (PS) 8 of 40 CFR part 60, appendix B, and with Procedure 1 of 40 CFR part 60, appendix F. If you own or operate an affected chromium refractory products kiln or clay refractory products kiln that is equipped with an alternative control device or technique not listed in the proposed rule, you would have to establish operating limits for the appropriate operating parameters subject to prior written approval by the Administrator as described in 40 CFR 63.8(f). You would be required to submit a request for approval of alternative monitoring procedures that includes a description of the alternative control device or technique, the type of monitoring device or procedure that would be used, the appropriate operating parameters that would be monitored, and the frequency that the operating parameter values would be determined and recorded. You would establish site-specific operating limits during your performance test based on the information included in the approved alternative monitoring procedures request. You would also be required to install, operate, and maintain the parameter monitoring system for the alternative control device or technique according to your OM&M plan. If the Administrator determines that parameter monitoring cannot assure continuous compliance, a CEMS may be required.

If you use a control device or technique listed in the proposed rule, you could establish operating limits for alternative operating parameters subject to prior written approval by the Administrator on a case-by-case basis. You would be required to submit the application for approval of alternative operating parameters no later than the notification of the performance test. The application would have to include information justifying the request for alternative operating parameters (such as why using the alternative operating parameters is preferable to using the operating parameters in the proposed rule), a description of the proposed alternative control device operating parameters, the monitoring approach, the frequency of measuring and recording the alternative parameters, the averaging period for the operating limits, how the operating limits are to be calculated, and information documenting that the alternative operating parameters would provide equivalent or better assurance of compliance with the relevant emission limit. You would have to install, operate, and maintain the alternative parameter monitoring systems in accordance with the application approved by the Administrator.

## *F. What Are the Work Practice Standards?*

Today's proposed rule would establish work practice standards for existing shape preheaters that are used to produce pitch-impregnated refractory products, existing and new pitch working tanks that are used to produce pitch-impregnated refractory products, existing and new chromium refractory products kilns, and existing clay refractory products kilns.

If you operate an affected existing shape preheater, you would be required to control emissions of POM from the shape preheater by one of three methods. Two of the methods entail removing the residual pitch from the surfaces of the baskets or containers that are used for holding refractory shapes in a shape preheater and autoclave. You would have to clean the basket surfaces at least every ten impregnation cycles. Alternatively, you could duct the exhaust from the shape preheater to a control device that meets the applicable emission limits for thermal process sources of organic HAP. If you choose to clean the basket surfaces, you would have two cleaning options. One basket cleaning option would be to remove residual pitch by abrasive blasting, provided that the emissions from the abrasive blasting operation are exhausted to a fabric filter. The other basket cleaning option would be to subject the baskets to a thermal process cycle that matches or exceeds the temperature and cycle time of the affected shape preheater and is ducted to a thermal or catalytic oxidizer that is comparable to the control device for your defumer or coking oven. For example, if the operating temperature and cycle time of your shape preheater are 200°C (400°F) and 2 hours, respectively, you could "clean" the baskets by placing them in a shape dryer that operates at a temperature of 200°C (400°F) or higher for at least 2 hours and is exhausted to a thermal oxidizer that is comparable to your defumer thermal oxidizer. Subjecting the baskets to a thermal process with a cycle time and temperature equal to or greater than those of the shape preheater ensures that POM that would have been emitted from the shape preheater otherwise is controlled. If you choose to duct shape preheater emissions to a control device, you could duct the emissions to the coking oven control device, defumer control device, or to another thermal or catalytic oxidizer that is comparable to the coking oven or defumer controls and meets the applicable emission limits for thermal process sources of organic HAP.

If you have an affected existing or new pitch working tank, you would be required to duct the exhaust from the tank to either the coking oven control device, the defumer control device, or an equivalent thermal or catalytic oxidizer. If you choose to exhaust the working tank emissions to an alternate thermal or catalytic oxidizer, the emissions from that control device would have to meet the applicable emission limits for thermal process sources of organic HAP.

If you have an affected existing or new chromium refractory products kiln or an affected existing clay refractory products kiln, you would have to use natural gas, or an equivalent fuel, as the kiln fuel.

### *G. What Are the Testing and Initial Compliance Requirements for Sources Subject to Emission Limits?*

Under today's proposed rule, you would be required to conduct an initial performance test on each affected source to demonstrate initial compliance with the emission limits. In accordance with 40 CFR 63.7(a)(2), you would be required to conduct the test within 180 days after the compliance date using specified test methods.

#### 1. Existing and New Thermal Process Sources of Organic HAP

If you have an affected existing or new shape dryer, curing oven, kiln, coking oven, or defumer, or a new shape preheater, you would be required to measure emissions of THC in stack gases exhausted to the atmosphere using EPA Method 25A, ''Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.'' If you choose to comply with the THC concentration limit of 20 ppmvd corrected to 18 percent $O_2$, you would also have to measure the oxygen concentration of the stack gas using EPA Method 3A, ''Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources (Instrumental Analyzer Procedure).'' The oxygen concentration data are needed for correcting the measured THC concentration to 18 percent $O_2$. The performance test would consist of at least three 1-hour test runs, and you would be required to measure and record the stack gas concentrations of THC and oxygen every minute.

If the affected source is controlled with a thermal or catalytic oxidizer, and the outlet $CO_2$ concentration is 3 percent or less, you could elect to comply with the combustion efficiency limit. If you choose to comply with the combustion efficiency limit, you would be required to measure emissions of CO using EPA Method 10, ''Determination of Carbon Monoxide Emissions From Stationary Sources,'' and $CO_2$ using EPA Method 3A, in addition to measuring THC. The performance test would consist of at least three 1-hour test runs, and you would be required to measure and record the stack gas concentrations of THC, CO, and $CO_2$ every minute.

If your source is a continuous process, you would determine compliance with the emission limit by first determining the hourly average concentrations for each pollutant and diluent (i.e., THC and $O_2$ for the THC limit, or $CO_2$, CO, and THC for the combustion efficiency limit) as the numeric average of the 1-minute concentrations for each test run. Each test run must last at least 1 hour. The minimum number of 1-minute concentration measurements needed for each hour of testing would be 50. You would then calculate the average concentrations for each pollutant as the mean of the three hourly concentrations for that pollutant. To be in compliance with the combustion efficiency limit, the average of three 1-hour average combustion efficiencies for the test would have to be 99.8 percent or greater.

The test methods and conditions for meeting the combustion efficiency limit for a continuous process also apply if your source operates as a batch process. You would also be required to measure emissions for three test runs. However, for batch processes, each test run would have to be conducted over all or part of separate batch cycles.

You would be required to test throughout three complete batch cycles unless you developed an emissions profile for the duration of the batch cycle, or met certain conditions for terminating a performance test run before completion of the batch cycle. If you choose to develop an emissions profile, you would be required initially to sample THC emissions throughout a complete batch cycle, regardless of whether you were complying with the THC limit or the combustion efficiency limit. You would be required to determine the hourly average concentrations of THC, corrected to 18 percent $O_2$, for each hour of the batch cycle. Based on the average hourly THC concentrations, you would identify the 4-hour period of peak emissions. That is, the period of 4 consecutive hours when THC concentrations are highest. During the two subsequent test runs, you would not be required to sample emissions outside that 4-hour period of peak THC emissions. To be in compliance with the THC emission limit, the average of the highest rolling 3-hour average THC concentrations corrected to 18 percent $O_2$ during the period of peak emissions for the three test runs would have to be 20 ppmvd or less. Likewise, to be in compliance with the combustion efficiency limit, the average of the highest rolling 3-hour average combustion efficiencies during the period of peak emissions for the three test runs would have to be 99.8 percent or greater. During subsequent performance tests, you would have to complete at least three test runs, but you would only have to test during the 4-hour period of peak emissions during each run.

If you choose not to develop an emissions profile, you could terminate testing before the completion of a batch cycle if you met certain conditions. For each of three test runs, you would have to begin testing at the start of the batch cycle and continue testing for at least 3 hours beyond the point in time when the process reaches peak operating temperature. You could stop testing for that run at that time if you could show that THC concentrations are not increasing over the 3-hour period since process peak temperature was reached; at least 1 hour has passed since any reduction in the operating temperature of the control device (thermal or catalytic oxidizer); and either the average THC concentration at the inlet to the control device for the previous hour has not exceeded 20 ppmvd, corrected to 18 percent $O_2$, or your source met the emission limit during each of the previous 3 hours after the process reached peak temperature. For example, if you were testing to show compliance with the THC limit, and the hourly THC concentrations after peak process temperature was reached were 12 ppm, 12 ppm, and 11 ppm, respectively, you could stop that test run. However, if the hourly THC concentrations for those 3 hours were 12 ppm, 14 ppm, and 16 ppm, respectively, you could not stop testing because THC concentrations would still be increasing. You would have to satisfy these testing procedures for the remaining two test runs during two other batch cycles.

For both continuous process and batch process performance tests, you would be required to conduct performance tests on affected thermal process sources under the conditions that would result in the highest levels of organic HAP emissions expected to occur for that affected source. You would determine these ''worst-case'' conditions by taking into account the organic HAP processing rate, the process operating temperatures, and the processing times. The organic HAP processing rate is the rate at which the mass of organic HAP materials contained in refractory shapes are processed in an affected thermal process source. For continuous process units, the organic HAP processing rate would be measured in units of mass of organic HAP processed per hour (e.g., pounds of phenol per hour). For example, if a continuous curing oven is curing 2 tons per hour (4,000 lbs/hr) of resin-bonded refractory shapes, the refractory mix contains 5 percent resin, and the resin contains 10 percent phenol, the organic HAP processing rate (for phenol) is:

$$4{,}000 \text{ lbs/hr} \times 5/100 \times 10/100 = 20 \text{ lbs/hr}.$$

For batch processes, the organic HAP processing rate would be measured in units of mass of organic HAP processed per batch cycle (e.g., pounds of phenol per batch). The organic HAP processing rate would be determined based on the amount or percentage of organic HAP in the raw material mix and the weight of the shapes processed. You would be required to record the total weight and cycle time of each batch. For example, if you operate a batch process coking oven, and the oven is loaded with 20 tons (40,000 lbs) of pitch-impregnated refractories that contain 6 percent pitch, the organic HAP processing rate (for POM) is:

$40{,}000 \text{ lbs/batch} \times 6/100 = 2{,}400 \text{ lbs/batch}.$

If you decided to start production of a refractory product that is likely to have an organic HAP processing rate greater than the rate established during the most recent performance test, you would be required to conduct a new performance test for that product and establish a new operating limit for the organic HAP processing rate. You would also have to conduct a new performance test on an affected uncontrolled kiln following any process changes that are likely to increase kiln emissions. For example, if the kiln followed a curing oven, and you shortened the curing oven cycle time significantly, you would have to repeat the performance test on the kiln because the shorter curing time could result in a decrease in organic HAP emissions from the curing oven and an increase in organic HAP emissions from the kiln.

If the affected source is controlled with a thermal oxidizer, you would be required to measure the thermal oxidizer combustion chamber temperature continuously and record the temperature at least every 15 minutes during the performance test. If the affected source is controlled with a catalytic oxidizer, you would be required to measure the temperature at the inlet of the catalyst bed continuously and record the temperature at least every 15 minutes during the performance test. You would also be required to measure and record the process operating temperature of the affected source at least once every hour.

If the source is a batch process and is controlled with a thermal or catalytic oxidizer, you could reduce the operating temperature of the control device or shut the control device off under the following conditions: (1) At least 3 hours have passed since the process unit reached its maximum temperature; (2) the applicable emission limit (THC concentration or combustion efficiency) has been met during each of the three 1-hour periods since the process reached peak temperature; (3) emissions of THC have not increased during the 3-hour period since maximum process temperature was reached; and (4) either the average THC concentration at the inlet to the oxidizer has not exceeded 20 ppmvd, corrected to 18 percent $O_2$, for at least 1 hour, or the applicable emission limit has been met during each of the four 15-minute periods immediately following the oxidizer temperature reduction. In other words, if you measure THC emissions at the inlet to the oxidizer and the data show that the THC concentration corrected to 18 percent $O_2$ has remained 20 ppmvd or lower for at least 1 hour, you could shut off the oxidizer at the end of the third hour following the process reaching temperature. Alternatively, you could continue measuring emissions at the oxidizer outlet for another hour beyond the 3-hour period that follows the peak process temperature. If the outlet emissions met the THC or combustion efficiency limit for four straight 15-minute periods, you could shut off the oxidizer after the fourth 15-minute period (i.e., at the end of the fourth hour since the process reached peak operating temperature). If the applicable emission limit has not been met during any of the four 15-minute periods immediately following the oxidizer temperature reduction, you would have to return the oxidizer to its normal operating temperature as soon as possible and maintain that temperature for at least 1 hour. You would be required to repeat this procedure (i.e., measure emissions for at least 1 hour and return the control device to normal temperature if the emission limit was not met) until the source meets the applicable emission limit for at least 1 hour.

If you elect to shut off or reduce the temperature of a thermal or catalytic oxidizer by satisfying these conditions, you could use the results from the performance test to establish the time at which an oxidizer could be shut off (or temperature reduced) during the production of other refractory products that use organic HAP. For any such product, you would be required to operate the oxidizer at a temperature at least as high as that established during the performance test, minus 16°C (25°F), from the start of the batch cycle until 3 hours have passed since the process reached its peak temperature. You would have to maintain that oxidizer temperature for the same length of time beyond the process peak temperature as during the performance test. For example, if, during the performance test, an affected curing oven reached peak temperature at 12 hours into the cycle, and you satisfied all of the conditions for shutting off the thermal oxidizer at hour 16 of the cycle (i.e., 4 hours after the curing oven reached peak temperature), you could shut off the thermal oxidizer 4 hours after reaching the curing oven peak temperature for any other affected product that is cured in that curing oven. This provision would apply to curing cycles of any duration; regardless of the total cycle time, you would have to operate the thermal oxidizer for at least 4 hours beyond the time at which the process reaches peak temperature.

If you control emissions from an affected curing oven, shape dryer, kiln, defumer, coking oven, shape preheater, or pitch working tank using process modifications or an add-on control device other than a thermal or catalytic oxidizer, you would be required to install a THC CEMS. You would also be required to satisfy the requirements of PS–8 of 40 CFR part 60, appendix B.

### 2. New Clay Refractory Kilns

For each new kiln that manufactures clay refractory products, you would be required to measure emissions of HF and HCl. You would measure HF and HCl emissions using EPA Method 26A, ''Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method.'' You would be required to conduct the tests for HF and HCl while the affected kiln is operating at the maximum production level likely to occur. Each test run would have to be at least 1 hour in duration.

If you have an affected continuous clay refractory kiln, you would determine initial compliance with the production-based mass emission limits for HF and HCl by calculating the mass emissions per unit of production for each test run using the mass emission rates of HF and HCl and the production rate (on a fired-product basis) measured during your performance test. For HF, mass emissions per unit of production would have to be less than or equal to 0.001 kg/Mg (0.002 lb/ton). For HCl, mass emissions per unit of production would have to be less than or equal to 0.0025 kg/Mg (0.005 lb/ton). To determine initial compliance with any of the percent reduction emission limits, you would calculate the percent reduction of the specific HAP (HF or HCl) entering and exiting the control device for each test run using the mass emission rates measured during your performance test. The percent of HF reduced would have to be 99.5 percent or greater, and the percent of HCl reduced would have to be 98 percent or greater.

If you have an affected batch process clay refractory kiln, you would have to comply with the percent reduction limit. You would be required to test throughout three complete batch cycles unless you developed an emissions profile. If you choose to develop an emissions profile, you would be required to sample HF and HCl emissions throughout one complete batch cycle. Based on the average hourly HF percent reduction for each hour of the cycle, you would identify the period of 3 consecutive hours over which HF emissions are highest. During all subsequent test runs, you would not have to sample emissions outside that 3-hour period of peak HF emissions.

For both continuous and batch process kilns, you would be required to measure and record the average uncalcined clay processing rate for each test run. For continuous kilns, the uncalcined clay processing rate would be measured as the weight of uncalcined clay processed divided by the duration of the test run (e.g., tons per hour). For batch process kilns, the uncalcined clay processing rate would be the weight of uncalcined clay processed per batch cycle (e.g., tons per batch).

If you have an affected clay refractory kiln that is controlled with a DIFF or a DLS/FF, you would be required to measure the fabric filter inlet temperature at least every 15 minutes. You would also be required to measure and record the lime feed rate at least hourly and verify that lime is free-flowing to the control system.

If you have an affected clay refractory kiln that is controlled with a DLS/FF, you would be required to measure the water injection rate at least every 15 minutes during the performance test. If you use a wet scrubber, you would be required to measure the pressure drop across the scrubber, liquid pH, and liquid flow rate at least every 15 minutes during the performance test.

### 3. All Affected Sources

In addition to the procedures previously described, you would be required to follow the procedures specified in EPA Methods 1 to 4 of appendix A of 40 CFR part 60, where applicable. You would perform Method 1, ‘‘Sample and Velocity Traverses for Stationary Sources,’’ (or Method 1A) to select the locations of sampling points and the number of traverse points. You would perform Method 2, ‘‘Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube),’’ (or Method 2A, 2C, 2D, 2F, or 2G) to determine gas velocity and volumetric flow rate. You would perform Method 3, ‘‘Gas Analysis for the Determination of Dry Molecular Weight,’’ (or Method 3A or 3B) to determine the exhaust gas molecular weight. You would perform Method 4, ‘‘Determination of Moisture Content in Stack Gases,’’ to measure the moisture content of the exhaust gas.

Prior to the initial performance test, you would be required to install the continuous parameter monitoring system (CPMS) that you would need for demonstrating continuous compliance. During the performance test, you would use the CPMS to establish the operating limits (e.g., minimum thermal oxidizer combustion chamber temperature).

## *H. What Are the Initial Compliance Requirements for Sources Subject to a Work Practice Standard?*

If you own or operate an affected existing shape preheater, an existing pitch working tank, or a new pitch working tank, you would be required to select a method for complying with the work practice standard and provide a description of that method as part of your initial notification, as required by 40 CFR 63.9(b)(2) of the General Provisions. For affected shape preheaters, if you choose to comply with the work practice standard by removing pitch from basket or container surfaces, you would have to describe the method of removal. If you choose to comply by subjecting the baskets or containers to a thermal process cycle, you would have to describe the process, the process unit operating temperature, the process cycle time, and the emission control system used on the process unit into which the baskets or containers are placed. If you choose to comply by capturing and ducting emissions from the shape preheater to a control device, you would have to describe the design (e.g., thermal oxidizer combustion chamber temperature and residence time) and operation of that control device.

For affected existing or new pitch working tanks, you would have to describe in your initial notification the design (e.g., thermal oxidizer combustion chamber temperature and residence time) and operation of the control device to which the emissions from the working tank are exhausted. You would also have to verify that the control device is the same as, or is at least equivalent to, the control device that is used to control organic HAP emissions from an affected defumer or coking oven.

For affected new or existing chromium refractory products kilns and for existing clay refractory products kilns, you would have to indicate in your initial notification the type of fuel used in those kilns.

## *I. What Are the Continuous Compliance Requirements for Sources Subject to Emission Limits?*

Under today's proposed rule, you would be required to demonstrate continuous compliance with each emission limitation that applies to you. You would be required to follow the requirements in your OM&M plan and in your startup, shutdown, and malfunction plan (SSMP) and document conformance with both plans. For each affected source equipped with an add-on air pollution control device (APCD), you would be required to operate and maintain an emission capture and control system, inspect each system at least once each calendar year, and record the results of each inspection. You would be required to install, operate, and maintain each required CPMS to monitor the operating parameters established during your initial performance test. The CPMS would have to collect data at least every 15 minutes, and you would need to record at least one data point during three of the four 15-minute periods per hour to have a valid hour of data. You would have to collect all data while the process is operational. You would have to operate the CPMS at all times when the process is operating. You would also have to conduct proper maintenance of the CPMS (including inspections, calibrations, and validation checks) and maintain an inventory of necessary parts for routine repairs of the CPMS. Using the 15-minute block average recorded readings, you would calculate and record the average hourly values of each operating parameter. You would also be required to repeat any required performance tests at least every 5 years.

### 1. Existing and New Thermal Process Sources of Organic HAP

For each affected source, you would have to monitor and maintain the organic HAP processing rate below the level established during the performance test. You would also be required to record the process operating temperature hourly. For batch process sources, you would be required to record cycle times for each batch cycle. The start of a cycle would coincide with the heating of the process unit, and the cycle would end when the process unit is opened for removal of the refractory products. If you decided to start production of a refractory product that is likely to have an organic HAP processing rate greater than the rate established during the most recent performance test, you would be required to conduct a new performance test for that product and establish a new operating limit for the organic HAP processing rate.

For affected continuous sources that are controlled with a thermal oxidizer, you would be required to maintain the 3-hour block average combustion chamber temperature at or above the combustion chamber temperature established during the performance test minus 14°C (25°F). For affected continuous sources that are controlled with a catalytic oxidizer, you would be required to maintain the 3-hour block average temperature at the inlet of the catalyst bed at or above the corresponding temperature established during the most recent performance test minus 14°C (25°F).

For affected batch process sources that are controlled with a thermal oxidizer, you would be required to maintain the average hourly combustion chamber temperature at or above the combustion chamber temperature established during the performance test minus 14°C (25°F). If you met the conditions for reducing the operating temperature of the thermal oxidizer during the performance test and either reduced the temperature or shut off the oxidizer, as specified in item 13 of Table 4 of the proposed rule, you could likewise reduce the temperature of the oxidizer during other process cycles. That is, from the start of the cycle until 3 hours after the process unit reaches peak temperature, you would have to maintain the hourly combustion chamber temperature established during the performance test for the corresponding period. If you were able to shut off the oxidizer after this 3-hour period during the performance test, you could likewise shut off the oxidizer for the remainder of the process cycle following this 3-hour period after peak temperature is reached, regardless of the cycle duration. For affected batch process sources that are controlled with a catalytic oxidizer, the requirements would be the same as described in the previous paragraph for thermal oxidizers, except that you would have to maintain the temperature at the inlet of the catalyst bed at or above the corresponding temperature, minus 16°C (25°F), established during the performance test. For any affected source controlled with a catalytic oxidizer, you would also be required to maintain the catalyst according to manufacturer's specifications.

To document compliance with these operating limits for thermal or catalytic oxidizers, you would be required to measure and record the specified average hourly temperatures. You would also be required to report any average hourly control device operating temperature below the corresponding temperature measured during the most recent performance test minus 14°C (25°F). In such cases, you would be required to promptly initiate and complete corrective actions in accordance with your OM&M plan following an hourly average control device operating temperature that is below the corresponding minimum temperature established during the performance test minus 14°C (25°F).

If you control emissions from an affected curing oven, shape dryer, kiln, defumer, coking oven, shape preheater, or pitch working tank using process modifications or an add-on control device other than a thermal or catalytic oxidizer, you would demonstrate continuous compliance by operating a THC CEMS in accordance with Procedure 1 of 40 CFR part 60, appendix F.

2. New Clay Refractory Kilns

For new clay refractory kilns that are controlled with a DIFF or DLS/FF, you would have to continuously maintain the 3-hour block average temperature at the fabric filter inlet at or below the average temperature, plus 14°C (25°F), established during your performance test. You would have to maintain free-flowing lime in the feed hopper or silo at all times. You can verify that lime is free-flowing by a visual check or by means of the output of a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system, or other system. If the lime is found not to be free-flowing, you would have to promptly initiate and complete corrective actions. You would also have to maintain the lime feeder setting at or above the level established during your performance test and record the feeder setting once each day. You would have to initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions according to your OM&M plan. You would also have to operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in any 6-month reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time would be counted. If corrective action is required, each alarm would be counted as a minimum of 1 hour, and if you take longer than 1 hour to initiate corrective action, the alarm time would be counted as the actual amount of time taken to initiate corrective action.

Additionally, for a DLS/FF, you would have to continuously maintain the 3-hour block average water injection rate at or above the minimum value established during your performance test. For kilns that are controlled with a wet scrubber, you would have to continuously maintain the 3-hour block average scrubber pressure drop, scrubber liquid pH, scrubber liquid flow rate, and chemical addition rate (if applicable) at or above the minimum values established during your performance test.

Finally, you would be required to record the uncalcined clay processing rate for all affected kilns. For continuous kilns, the uncalcined clay processing rate would be recorded in units of mass per unit time (e.g., pounds of uncalcined clay per hour). For batch process kilns, you would record the uncalcined clay processing rate in units of mass per batch cycle (e.g., pounds of uncalcined clay per batch).

### *J. What Are the Continuous Compliance Requirements for Sources Subject to a Work Practice Standard?*

If you have an affected existing shape preheater, an existing pitch working tank, or a new pitch working tank, you would be required to perform the appropriate work practice and document that you are complying with the work practice standard in your Notification of Compliance Status, as required by 40 CFR 63.9 of the General Provisions. For affected shape preheaters, you would have three work practice options: mechanically remove pitch from the basket or container surfaces, subject the baskets or containers to a thermal process cycle, or capture and duct emissions from the shape preheater to a control device. The control device would have to be the same device that controls emissions from an affected defumer or coking oven, or a device that is comparable to the control device used for controlling emissions from an affected defumer or coking oven. That control device also would have to meet the applicable emission limits for thermal process sources of organic HAP.

For affected pitch working tanks, you would have to capture and duct emissions from the affected storage tank to a control device that controls an affected defumer or coking oven, or is comparable to the control device used for controlling emissions from an affected defumer or coking oven. If you choose to exhaust emissions from either a shape preheater or working tank to a control device other than those used to control defumer or coking oven emissions, you must satisfy for those control devices the same monitoring requirements and operating limits as for affected defumer and coking oven control devices.

For affected new or existing chromium refractory products kilns and for existing clay refractory products kilns, you would have to use natural gas, or equivalent, as the kiln fuel and document the type of fuel used.

### *K. What Are the Notification, Recordkeeping, and Reporting Requirements?*

If you have an affected refractory products manufacturing source, you would be required to submit initial notifications, notifications of performance tests, and notifications of compliance status by the specified dates in the proposed rule, which may vary depending on whether the affected source is new or existing. In addition to the information specified in 40 CFR 63.9(h)(2)(i) of the General Provisions, you would also be required to include the following in your Notification of Compliance Status: (1) The operating limit parameter values established for each affected source (with supporting documentation) and a description of the procedure used to establish the values; (2) design information and analysis (with supporting documentation) demonstrating conformance with requirements for capture and collection systems; (3) your OM&M plan; (4) your SSMP; and (5) descriptions of the methods you use to comply with any applicable work practice standards.

You would have to submit semiannual compliance reports containing statements and information concerning emission limitation deviations, out of control CPMS, and periods of startup, shutdown, or malfunction (SSM) when actions consistent with the approved SSMP were taken. If there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period, you would only be required to include a statement in your semiannual compliance report that there were no deviations. If there were deviations from the emission limits, operating limits, or work practice standards during a reporting period, you would be required to submit the information required in today's proposed rule in your semiannual compliance report. If you have any SSM's during the reporting period, and you take actions consistent with your SSMP, your compliance report would have to include the information specified in 40 CFR 63.10(d)(5)(i). In addition, if you undertake an action that is inconsistent with your approved SSMP, you would then be required to submit an SSM report within 2 working days of starting such action and within 7 working days of ending such action.

For all affected sources, you would have to maintain records for at least 5 years from the date on which the data are recorded. You would have to keep the records onsite for at least the first 2 years, but could store the records offsite for the remaining 3 years. You would be required to keep a copy of each notification and report along with supporting documentation. You would also be required to keep records related to the following: (1) Records of SSM; (2) records of performance tests; (3) records used in the development of any emissions profile; (4) records to show continuous compliance with each emission limitation and work practice standard that applies to you; (5) records of each operating limit deviation, including a description of the cause of the deviation and the corrective action taken; (6) records of production rate and organic HAP processing rate, if applicable; (7) records for any approved alternative monitoring or test procedures; (8) records for each CPMS; and (9) current copies of your SSMP and OM&M plan, including any revisions, with records documenting conformance. The records for CPMS would include records of the applicable operating limits and monitoring data required in today's proposed rule to demonstrate continuous compliance.

## III. Rationale for Selecting the Proposed Standards

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

Section 112(d)(1) of the CAA allows EPA to distinguish among classes, types, and sizes of sources within a category or subcategory in establishing emission standards. Section 112(d)(1) allows us to define subsets of similar emission sources within a source category if differences in emission characteristics, processes, control device use, or opportunities for pollution prevention exist within the source category. As a result of our analyses of data on process and emission characteristics, we identified four subcategories of the Refractory Products Manufacturing source category: the manufacture of refractory products that are made using an organic HAP compound, pitch-impregnated refractory products manufacturing, chromium refractory products manufacturing, and clay refractory products manufacturing. We distinguished between these subcategories because either the HAP emissions or the affected sources differ significantly among them.

The subcategory that encompasses the production of refractories that use organic HAP includes resin-bonded refractory curing ovens and kilns and pitch-bonded refractory curing ovens and kilns. A few facilities use organic HAP other than resins and pitch as binders or additives; the shape dryers and kilns used to process refractories that contain those binders and additives would also be included in this subcategory. The shape dryers and curing ovens that are included in this subcategory are similar with respect to function, operating temperature, and processing time. Likewise, the kilns that are included in this subcategory are similar in terms of design and operation. Although the HAP emitted from these sources may differ, the sources all emit organic HAP which typically are controlled using the same types of control devices: thermal and catalytic oxidizers. For these reasons, we concluded that there is justification to cover these thermal process sources in a single subcategory. For the purposes of establishing MACT floors, we classified the affected sources within this subcategory into two groups: shape dryers and curing ovens are covered in one group, and kilns comprise the other group of affected sources in this subcategory.

The affected sources that are included under the subcategory for pitch-impregnated refractory production include shape preheaters, defumers, coking ovens, and the pitch working tanks used for temporary storage of pitch during the impregnation and defuming processes. These sources emit organic HAP (specifically, POM) and are controlled with thermal and catalytic oxidizers. Pitch-impregnated refractory sources differ in design and operation from the thermal process sources used for manufacturing resin-bonded, pitch-bonded, and other refractory products covered by the previous subcategory. Therefore, we concluded that a separate subcategory is warranted for pitch-impregnated refractory sources.

The raw materials used for producing chromium refractory products include chromium in one of two forms: chromium oxide or chromite. Chromium oxide is a processed compound that is relatively pure and contains chromium in the trivalent form. Chromite is naturally occurring chromium ore and contains up to approximately 60 percent chromium oxide. Because chromium refractory kilns emit chromium compounds and chromium refractory products are not made using organic HAP compounds, we decided to establish a separate subcategory for chromium refractory kilns.

For clay refractory production, the primary HAP source is the kiln. Clay refractory kilns do not differ significantly in design from the kilns used to produce resin-bonded and pitch-bonded refractory products. However, organic binders and additives typically are not used in the production of clay refractories. The primary HAP emitted by clay refractory kilns are HF and HCl. In addition, devices that are effective in controlling HF and HCl emissions would not be used to control organic HAP emissions. Therefore, clay refractory kilns comprise a separate subcategory under the proposed rule for refractory products manufacturing.

Several refractory products plants produce nonclay refractories that do not contain organic HAP. For these plants, and plants that produce only monolithics, HAP emissions consist of small amounts of HAP metals that are released from raw material processing operations. These facilities are all area sources that emit much less than 10 tons/yr of any single HAP and 25 tons/yr of total HAP, and the HAP sources at these plants generally are well controlled. Because the Refractory Products Manufacturing source category was listed for major sources and not for area sources, we decided against including these facilities within the scope of the proposed rule.

We considered regulating sources of fine mineral fibers associated with the production of RCF. However, we determined that none of the existing RCF manufacturing facilities are major sources, and it is unlikely that any new sources would be constructed that would be major sources of HAP. The RCF industry is not expected to grow significantly, and, if new sources were constructed, they most likely would be well controlled because it would not be economical to allow RCF product to be emitted in any significant quantities.

We also considered regulating fused-cast refractory products manufacturing sources. However, we decided against regulating these facilities. There are only two fused-cast refractory facilities currently operating, and both are well controlled. Emissions of HAP from these facilities are much less than 10 tons/yr for any single HAP and 25 tons/yr of total HAP, and no new facilities or growth is expected in this sector of the refractories industry.

### *B. How Did We Select the Emission Sources To Be Regulated?*

The primary sources of HAP emissions at most refractory products manufacturing plants are the thermal process units. Thermal process units emit the organic constituents of the raw materials, binders, and additives that comprise refractory product formulations. Several of the organic constituents of binders and additives used in the refractory industry are HAP. Many resins contain phenol and formaldehyde, and some resins also contain methanol and ethylene glycol. The available test data for resin-bonded refractory sources indicate that approximately 15 percent of the free phenol, 40 percent of the formaldehyde, 100 percent of the methanol, and 14 percent of the ethylene glycol contained in the resin are emitted from thermal process sources. Based on these percentages, we estimate that several existing facilities that use organic binders and additives to produce refractory products are potential major sources for at least one of these organic HAP. For this reason, we decided that regulation of organic HAP from existing and new shape dryers, curing ovens, and kilns is warranted.

Coal tar and petroleum pitch used in the production of pitch-bonded and pitch-impregnated refractory products consist of POM. The available emission data on pitch-impregnated refractory production indicate that 40 to 45 percent of the pitch is volatilized and emitted from thermal process units. Based on these data, several facilities that produce pitch-impregnated or pitch-bonded refractory products are potential major sources of POM emissions. For this reason, we decided that it is necessary to regulate existing and new pitch-bonded and pitch-impregnated refractory products thermal process units, the sources of POM emissions.

The source category Chromium Refractories Production was included on the initial source category list based on an Agency screening study conducted in 1985. As part of that study, tests were performed on a chromium refractory kiln. At the temperature encountered in the kiln (1540°C (2800°F)), hexavalent chromium, which is a known human carcinogen, was formed and emitted to the atmosphere as PM. The 1985 study recommended that fabric filters (baghouses) be installed on kilns used to fire chromium refractories to capture the PM emissions from the kiln outlets at the ten plants that produced chromium refractories at that time. Currently, one major source in the refractory products source category produces chromium refractory products.

At the temperatures encountered in clay refractory kilns, naturally occurring fluorides and chlorides found in raw clays are released to the atmosphere as HF and HCl. We estimate that some existing clay refractory manufacturing facilities are major sources due to HF emissions from their kilns, and at least one of those facilities could also be a major source of HCl due to kiln emissions. Because kilns are the only clay refractory products sources that emit HF and HCl and are located at major source facilities, we decided to limit the scope of the proposed rule to kilns for the clay refractory products subcategory.

### *C. How Did We Define the Affected Sources?*

Affected source means the collection of equipment and processes in the source category or subcategory to which the emission limitations and other regulatory requirements apply. The affected source may be the same collection of equipment and processes as the source category or it may be a subset of the source category. For each rule, we must decide which individual pieces of equipment and processes warrant separate standards in the context of the CAA section 112 requirements and the industry operating practices.

Most refractory products manufacturing facilities are characterized by numerous diverse and complex operations. Many of the process units at typical refractories plants are not sources of HAP emissions. For this reason, rather than define the affected sources as the plants themselves, we decided to define the affected sources in terms of the specific process units that emit HAP and are associated with the production of specific types of refractory products. These product types include resin-bonded, pitch-bonded, and other refractory products that use organic HAP; pitch-impregnated refractory products; chromium refractory products; and clay refractory products. The affected sources, which are listed in Table 2 of this preamble, include shape dryers and curing ovens, kilns, shape preheaters, pitch working tanks, defumers, and coking ovens.

### *D. How Did We Determine the Proposed Standards for Existing Sources?*

#### 1. How Did We Determine the MACT Floor for Existing Sources?

Section 112(d)(3) of the CAA specifies that each MACT standard be at least as stringent as the floor for the sources in the relevant source category or subcategory. It further specifies that we set standards for existing sources that are no less stringent than the average emission limitation achieved by the best-performing 12 percent of existing sources (for which the Administrator has emissions information) where there are 30 or more sources in the category or subcategory. For source categories with less than 30 sources, the CAA requires that the floor be based on the average emission limitation achieved by the best-performing five sources. Our interpretation of the ''average emission limitation'' is that it is a measure of central tendency, such as the arithmetic average or the mean. If the median is used when there are at least 30 sources, then the emission level achievable by the source and its control device that is at the bottom of the top 6 percent of the best-performing sources (i.e., the 94th percentile) represents the MACT floor control level. For source categories or subcategories with less than 30 sources, we interpret the MACT floor level to correspond to the median of the best-performing five sources. Finally, in determining the pool of sources from which the floors are determined, we consider only those facilities that are major HAP sources or synthetic area HAP sources (i.e., those that would be major HAP sources in the absence of any emission controls currently in place). The MACT floors for each subcategory identified during development of the proposed rule are based on these interpretations.

The affected existing thermal process units that emit organic HAP include shape dryers, curing ovens, kilns, coking ovens, defumers, shape preheaters, and pitch working tanks. To rank these sources in terms of their performance in controlling organic HAP emissions, we needed uncontrolled and controlled emissions data for each source type. Because of the limited emissions data available for organic HAP sources, it is not possible to rank the sources based on actual emissions reductions. An alternative approach to using actual emissions data is to rank sources based on the likely performance level of the control devices in place. The MACT floor technology can then be selected as the control device(s) matching the 94th percentile unit, or for subcategories with less than 30 sources, the median of the best-performing five sources. We used this approach to determine the MACT floors for organic HAP emissions from thermal process units.

Among the refractory products thermal process sources that are currently controlled for organic emissions, the majority are controlled with thermal oxidizers. The other controlled sources are equipped with catalytic oxidizers. Thermal oxidizer performance levels are largely a function of three parameters: combustion chamber temperature, residence time of the gases in the combustion chamber, and the degree of mixing of the gases in the combustion chamber. Therefore, performance level rankings should take these parameters into consideration. Based on the available design and operating data, we were unable to evaluate the subject thermal oxidizers in terms of their degree of mixing. Therefore, we based our rankings of thermal oxidizers on combustion chamber temperature and residence time only, using the Arrhenius equation, which relates the amount of an organic compound remaining after combustion for a specific period of time at a specified temperature.

We were not able to compare quantitatively the performance of catalytic oxidizers to that of thermal oxidizers. The Arrhenius equation does not apply to catalytic oxidizers and we were not able to identify a comparable method for evaluating catalytic oxidizer performance based on design. Catalytic oxidizer performance is largely a function of the space velocity and the temperatures at the inlet and outlet of the catalyst bed. Space velocity is the reciprocal of the residence time in the catalyst bed and is defined as the flow rate of the gas entering the catalyst bed divided by the volume of the catalyst bed. For the catalytic oxidizers currently in operation at refractory products manufacturing plants, we were able to obtain data on catalyst bed inlet and outlet temperatures, but could not obtain space velocity data. For these reasons, our ranking of catalytic oxidizers for today's proposed rule is largely qualitative.

Before ranking sources according to control technology, we also differentiated between the various types of thermal process sources that would be affected by today's proposed rule. We grouped shape dryers and curing ovens because they are similar in terms of function, design, and operating parameters. The initial thermal processing step in the production of refractory shapes is drying or curing. Shape dryers and curing ovens, which are used to form temporary bonds between refractory body material grains, typically operate between 90° and 260°C (200° and 500°F). Although there are large variations among plants, cycle times for shape dryers and curing ovens generally are in the range of 5 to 20 hours. Based on the data submitted to us in 1998 in response to our information collection requests sent to refractory products manufacturers, there are a total of 35 shape dryers and curing ovens that are used to produce resin-bonded, pitch-bonded, or other refractory products that use organic HAP; and are located at facilities that are major or synthetic area sources of organic HAP. Emissions from 21 of the shape dryers and curing ovens are controlled: 16 are controlled with thermal oxidizers, and 5 are controlled with catalytic oxidizers. The median of the best-performing 12 percent of these sources (*i.e.,* the 94th percentile) is controlled with a thermal oxidizer that is designed for a 0.64-second residence time at 815°C (1500°F). Therefore, this control device represents the MACT floor for existing shape dryers and curing ovens.

Data from the wood products industry indicate that the performance of catalytic oxidizers with catalyst bed outlet temperatures of 430° to 480°C (800° to 900°F) is comparable to the performance of thermal oxidizers designed for a residence time of approximately 0.5 seconds and combustion chamber temperatures of 820° to 870°C (1500° to 1600°F). Two of the five catalytic oxidizers used in the refractory products industry to control curing oven emissions operate with catalyst bed outlet temperatures of approximately 450°C (850°). Therefore, we concluded that these two controls are comparable to the MACT floor control level for shape dryers and curing ovens. We concluded that the other three catalytic oxidizers, which operate with bed outlet temperatures of approximately 370°C (700°F), are much less effective in controlling organic emissions than the MACT floor level of control for this group of sources.

Following the drying or curing, refractory shapes typically are fired in kilns, which operate at peak temperatures in the range of 1090° to 1540°C (2000° to 2800°F). We estimated that there are 26 kilns that are used to produce resin-bonded, pitch-bonded, or other refractory products that contain organic HAP and are located at facilities that are major or synthetic area sources of organic HAP. Nine of these kilns are controlled, all with thermal oxidizers. Because there are less than 30 sources in this group, the MACT floor for this group of sources corresponds to the median of the best-performing five sources, which is a kiln controlled with a thermal oxidizer designed for a 0.41-second residence time at 760°C (1400°F).

In the pitch-impregnated refractory process, fired refractory shapes initially are heated in a shape preheater, which typically operates at temperatures of 150° to 260°C (300° to 500°F). Of the seven shape preheaters located at four pitch-impregnated refractory manufacturing facilities that are major or synthetic area sources of organic HAP, two are controlled with thermal oxidizers and the other five are not equipped with add-on controls. All four of the facilities periodically clean the deposits of pitch on the holding baskets or containers by abrasive blasting. Cleaning is done on an as-needed basis, but a typical cleaning frequency is once every ten cycles. Of the two controlled preheaters, both are ducted to the thermal oxidizers that are used to control defumer emissions. The MACT floor for this group of sources is based on the median of the best-performing five sources, which corresponds to periodic basket/container cleaning (i.e., every ten cycles).

As the shapes are heated in the shape preheater, pitch is transferred to a pitch working tank, which heats the pitch to between 150° and 260°C (300° and 500°F) prior to the pitch being transferred to the autoclave. There are a total of four pitch working tanks that are located at facilities that produce pitch-impregnated refractories and are major or synthetic area sources of organic HAP. One of these working tanks is uncontrolled. The other three pitch working tanks are ducted to thermal oxidizers that are used to control defumer emissions. The thermal oxidizers operate only during the impregnation-defuming process. As a result, the oxidizers provide periodic, rather than continuous, control of working tank emissions. Because there are less than 30 existing sources in this group, the MACT floor control for existing pitch working tanks is based on the median of the best-controlled five sources, which corresponds to periodic control of tank emissions by means of a thermal oxidizer.

After the shapes are impregnated with pitch, they are defumed. Defuming takes place either in the autoclave or in a separate defumer. If the defuming step occurs in the autoclave, the autoclave serves as the defumer. There are five defumers located at facilities that are major or synthetic area sources of organic HAP; four are controlled with thermal oxidizers, and one is controlled with a catalytic oxidizer. The MACT floor for these sources corresponds to the median of the best-performing five sources, which a defumer controlled with a thermal oxidizer that is designed for a 0.52-second residence time at 790°C (1450°F). Based on the data from the wood products industry, which was discussed previously in this preamble, we concluded that the catalytic unit, which is designed for a catalyst bed outlet temperature 450°C (845°F) would be comparable to the floor level of control for existing defumers.

After defuming, the impregnated shapes may undergo an additional process referred to as coking. In the coking process, the shapes are placed in a coking oven and heated to between 540° and 870°C (1000° and 1600°F) under reducing conditions to drive off the volatile constituents (i.e., POM) of the pitch. Our data indicate that there are six coking ovens located at facilities that are major or synthetic area sources of organic HAP. All six of the coking ovens are controlled with thermal oxidizers. Because there are less than 30 existing sources, the MACT floor for these sources corresponds to the median of the best-performing five sources, which is a coking oven controlled with a thermal oxidizer that is designed for a 1.0-second residence time at 915°C (1680°F).

The HAP emitted from chromium refractory products kilns include hexavalent chromium, other chromium compounds, and other nonvolatile HAP metals. Because these HAP are emitted in the form of PM, we considered establishing an emission standard in the format of a PM emission limit. However, none of the 32 chromium refractory products kilns currently in operation are equipped with add-on APCD that have been demonstrated to reduce HAP metal emissions that occur in the particulate form. Hence, considering only add-on APCD, the MACT floor, as defined in section 112 of the Clean Air Act, for existing chromium refractory kilns would not reduce emissions of chromium or other nonvolatile HAP metals.

In addition to add-on APCD, we considered other possible MACT floors for existing chromium refractory products kilns, such as the use of low-HAP raw materials or fuels, that would reduce emissions of chromium or other nonvolatile HAP metals.

Emissions of chromium and other nonvolatile HAP metals from kilns can originate with the raw materials and the kiln fuel. Consequently, we considered nonchromium raw materials as a potential MACT floor for chromium refractory kilns. Chromium greatly enhances the ability of refractory linings to withstand high temperatures and corrosive environments; where those conditions exist, there is no reliable raw material substitute for chromium. Therefore, we concluded that there are no substitutes for chromium oxide or chromite in chromium refractory products, and raw material substitution is not a feasible component of the MACT floor for existing chromium refractory products kilns.

We considered the use of low-HAP fuels as the basis for a MACT floor standard for existing chromium refractory products kilns. With the exception of natural gas, the fuels that are commonly used to fire industrial kilns and furnaces (e.g., fuel oil and coal) contain HAP metals, which are subsequently emitted when those fuels are burned. Because fuels can contribute to emissions of chromium and other HAP metals from kilns, a MACT floor for existing chromium refractory products kilns could be based on fuel type. Although a few area source refractory manufacturing plants use fuel oil in kilns, our data indicate that all of the six facilities that produce fired chromium refractories, including the one major source in our source category that produces chromium refractory products, use natural gas to fuel the kilns that fire chromium refractories. Because natural gas does not contain HAP metals and, therefore, does not contribute to HAP metal emissions, the use of natural gas or other equivalent clean fuel is a feasible MACT floor for existing chromium refractory products kilns. Having eliminated add-on APCD and raw material substitution as options for a MACT floor for this subcategory, we concluded that the use of natural gas or other such clean fuel is the MACT floor for existing chromium refractory kilns. Under an emission limitation (in this case, a work practice standard) based on this floor, you would not be permitted to fire existing chromium refractory products kilns with coal, fuel oil, waste oil, or other fuels that contain HAP metals.

For clay refractory products kilns, the HAP to be regulated are HF and HCl. There are a total of 100 clay refractory products kilns, six of which are located at facilities that are major or synthetic area sources. However, none of these clay refractory kilns are equipped with add-on APCD that have been demonstrated to reduce emissions of HF or HCl. Therefore, considering only add-on APCD, the MACT floor for existing clay refractory kilns would not reduce emissions of HF or HCl. In addition to add-on APCD, we considered other possible MACT floors for existing clay refractory products kilns, such as the use of low-HAP raw materials or fuels, that would reduce emissions of HF or HCl. Because HF and HCl emissions from clay refractory kilns are largely a function of the primary raw material (i.e., fire clay), we considered raw material substitution with fire clays that have low concentrations of fluorides and chlorides as a possible floor for existing clay refractory kilns. The available data indicate that the fluoride and chloride contents of many clays can vary significantly, even within the same deposit. There are no available data that indicate that any of the fire clay deposits that are used by major and synthetic area source facilities are uniformly low in fluorides and chlorides. Furthermore, the procurement of low-fluoride or low-chloride clays as a measure for controlling emissions is not practiced in the refractory products industry.

We also considered pre-calcined clay as a possible floor for clay refractory kilns. Calcining of fire clay prior to incorporating the clay into a refractory shape drives off the HF and HCl that otherwise would be emitted from a kiln when firing clay refractory products. However, none of the 25 facilities that produce fired clay refractories currently use pre-calcined clay for clay refractory production as a means of reducing emissions of HF or HCl. Therefore, substitution of raw clay with calcined clay cannot be considered the MACT floor technology for existing clay refractory products manufacturers. Therefore, we concluded that raw material substitution is not a feasible MACT floor for existing clay refractory products kilns.

We also considered the use of low-HAP fuels as the basis for a MACT floor standard for existing clay refractory products kilns. Certain fuels, waste-derived fuels in particular, may contribute to emissions of HF or HCl when burned. In addition, the fuels that are commonly used to fire some industrial kilns and furnaces (e.g., fuel oil and coal) contain HAP metals, which are subsequently emitted when those fuels are burned. Because fuels can contribute to HAP emissions from kilns, a MACT floor for existing clay refractory products kilns could be based on fuel type. Although a few area source facilities use fuel oil to fire their refractory kilns, our data indicate that all clay refractory products manufacturers use natural gas to fuel the kilns that fire clay refractories. Because natural gas does not contribute to emissions of HF, HCl, or HAP metals, the use of natural gas, or other equivalent clean fuel, is a feasible MACT floor for existing clay refractory products kilns. Having eliminated add-on APCD and raw material substitution as options for a MACT floor for this subcategory, we concluded that the use of natural gas or other such clean fuel is the MACT floor for existing clay refractory kilns. An emission limitation (in this case, a work practice standard) based on this floor would prohibit the use of coal, fuel oil, waste oil, or equivalent fuels to fire existing clay refractory products kilns.

### 2. How Did We Select the Emission Limits for Existing Sources?

Section 112(d)(3) of the CAA specifies that each MACT standard be at least as stringent as the floor for the sources in the relevant source category or subcategory. Consequently, the MACT floor represents the minimum level of control that can be used in establishing emission limits for existing sources subject to NESHAP. After identifying the emission limits that correspond to the MACT floors for existing sources, we consider regulatory alternatives that are more stringent than the MACT floor levels. Regulatory alternatives are emission control options, process changes, and other methods for reducing HAP emissions other than those defined by the MACT floor. The selected regulatory alternative may be more stringent than the MACT floor, but the control level must be achievable and reasonable in the Administrator's judgement considering cost, non-air quality health and environmental impacts, and energy requirements. The objective in considering these beyond-the-floor control options is to achieve the maximum degree of emissions reductions without imposing unreasonable impacts (section 112(d)(2)of the CAA).

Today's proposed rule would establish emission limits for organic HAP emitted from affected existing thermal process sources. These emission limits would apply to the following affected sources: shape dryers, curing ovens and kilns used to produce refractory products that contain organic HAP, and pitch-impregnated refractory products defumers and coking ovens. The emission limits would be presented in two alternate formats: a THC emission concentration and combustion efficiency of certain types of add-on control devices.

Today's proposed rule would establish a THC emission limit as a surrogate for organic HAP emitted from affected thermal process sources. Affected thermal process sources include shape dryers, curing ovens, and kilns that are used to produce resin-bonded or pitch-bonded refractory products; coking ovens and defumers that are used to produce pitch-impregnated refractory products; and other shape dryers and kilns that process refractory shapes that use organic HAP that is emitted during the drying or firing processes.

To determine an appropriate THC concentration limit for refractory products thermal process sources that are controlled at the MACT floor level, we reviewed the available emission test data for the refractory products manufacturing industry. Although we have no THC data on sources controlled at the MACT floor control levels, we have data on two sources with thermal oxidizers that we estimate are more effective in controlling organic emissions than the MACT floor level, and four sources with thermal oxidizers that we estimate are less effective in controlling organic emissions than the MACT floor level. Both of the sources with controls that are more effective than the MACT floor level easily achieved THC emission concentrations of less than 20 ppmvd, corrected to 18 percent $O_2$. In addition, one of the four sources with controls that are less effective than the floor level achieved a THC emission concentration of less than 20 ppmvd. The THC emission concentrations for the remaining three sources were at least 30 ppmvd. Based on these data, we concluded that a THC emission limit of 20 ppmvd is appropriate and representative of the emission level that the MACT floor controls can achieve. This emission limit also is consistent with other NESHAP and new source performance standards (NSPS) for industries that commonly use thermal or catalytic oxidizers for control of organic HAP emissions. Examples include 40 CFR part 60, subparts DDD, III, and NNN; and 40 CFR part 63, subparts DD, YY, GGG, HHH, JJJ, MMM, and PPP.

We reviewed the available emission test data to determine if it were possible to establish a THC emission concentration limit that would be more stringent than the MACT floor for existing shape dryers, curing ovens, kilns, defumers, and coking ovens. However, the available data indicate that there are no other control devices in use that would perform better than the MACT floor level thermal oxidizers for these sources. We also considered establishing an emission limit based on the estimated level of control that would be achieved by thermal oxidizers that operate at higher temperatures and/or longer residence time than do the MACT floor level thermal oxidizers. However, we concluded that the available data do not show that these thermal oxidizers would achieve better control of organic HAP than do the MACT floor level thermal oxidizers. Therefore, we decided against establishing a THC emission concentration limit that was more stringent than the MACT floor level of control for existing shape dryers, curing ovens, kilns, defumers, and coking ovens.

Combustion efficiency of a thermal oxidizer is a function of the concentrations of $CO_2$, CO, and THC in the exhaust stream of the oxidizer. To establish a combustion efficiency standard for thermal process sources, we reviewed the available data for $CO_2$, CO, and THC emissions from sources controlled with thermal oxidizers that are comparable to the MACT floor technology. In addition to data from refractory products thermal process sources, data from another industry (asphalt roofing) were used to supplement the refractory products data. We believe that using data on asphalt roofing sources is valid because the exhaust stream characteristics and emission controls for the asphalt roofing sources are similar to those found in the refractory products industry.

The data on $CO_2$ emissions indicate that exhaust gas concentrations of $CO_2$, corrected to 18 percent $O_2$, for refractory products sources that are controlled to the MACT floor level typically are between 1.7 and 2.0 percent. The data on CO emissions indicate that thermal oxidizer outlet concentrations of 10 to 20 ppmvd are representative of CO concentrations from sources in the refractory products manufacturing industry with MACT floor level controls. The data on THC emissions indicate that thermal oxidizer outlet concentrations of 10 to 20 ppmvd are representative of THC concentrations from sources in the refractory products manufacturing industry with MACT floor level controls.

Using the value of 1.7 percent $CO_2$, and the midpoint values for 10 to 20 ppmvd CO and 10 to 20 ppmvd THC, we calculated the combustion efficiency to be 99.8 percent. On this basis, we believe that a combustion efficiency limit of 99.8 percent is achievable for refractory products thermal process sources that operate combustion-based controls that are comparable to the MACT floor level of control. Our analysis of the available data indicates that a combustion efficiency of 99.8 percent is currently achieved by thermal process sources in the refractory products industry that are controlled to the level of the MACT floor. Data from asphalt roofing industry also demonstrate that sources with emission controls comparable to the MACT floor controls for the refractory products industry achieve a 99.8 percent combustion efficiency. With a combustion efficiency limit, affected sources in the refractory products industry that are controlled with thermal oxidizers that operate below the floor level of control would have the option of increasing thermal oxidizer operating temperature in order to reduce CO and THC emissions, and thus increase the combustion efficiency and avoid having to install new emission controls.

A combustion efficiency limit of 99.8 percent may not be an appropriate indicator of the floor level of organic emission control for some sources because combustion efficiency is largely a function of the $CO_2$ concentration, and $CO_2$ concentrations in thermal oxidizer exhaust streams vary from source to source. These variations can be attributed to differences in process operation, the amounts of $CO_2$ entering the thermal oxidizer from the process exhaust stream, and the degree of combustion within the thermal oxidizer. As the $CO_2$ concentration increases, the concentrations of CO and THC that correspond to a specified combustion efficiency limit also increase. For example, at 2.0 percent $CO_2$, the sum of the THC and CO concentrations can be no more than 40 ppmvd to achieve a combustion efficiency of 99.8 percent. However, at 4.0 percent $CO_2$, the source would meet 99.8 percent combustion efficiency even if the sum of the THC and CO concentrations were 80 ppmvd. For this reason, we concluded that it was necessary to restrict the use of the combustion efficiency limit for sources with relatively high $CO_2$ concentrations. To ensure that owners and operators of affected sources who choose to comply with this combustion efficiency limit are achieving good control, we decided to establish an upper limit of 3.0 percent $CO_2$ for affected thermal process sources. In other words, demonstrating compliance with the combustion efficiency limit is an option only for sources that have exhaust gas $CO_2$ concentrations equal to or less than 3.0 percent (corrected to 18 percent $O_2$) at the outlet of the control device (thermal or catalytic oxidizer). At 3.0 percent $CO_2$, the combined concentrations of CO and THC can be as high as 60 ppmvd to achieve a combustion efficiency of 99.8 percent.

As $CO_2$ concentrations decrease, it becomes increasingly difficult to meet a specified combustion efficiency. For example, at 1.0 percent $CO_2$, the sum of the THC and CO concentrations can be no greater than 20 ppmvd to meet a combustion efficiency of 99.8 percent. From the perspective of organic HAP emissions control, low $CO_2$ concentrations do not present a problem because the lower the concentration of $CO_2$, the higher the control level needed to comply with the 99.8 percent combustion efficiency limit. If the $CO_2$ concentration is so low that it cannot be achieved with a control that is comparable to the MACT floor, the owner or operator can choose to comply with the 20 ppmvd THC emission limit.

We reviewed the available emission test data to determine if it were possible to establish a combustion efficiency limit that would be more stringent than the MACT floor for existing shape dryers, curing ovens, kilns, defumers, and coking ovens. However, the available data indicate that there are no other control devices in use that would perform better than the MACT floor level thermal oxidizers for these sources. We also considered establishing an emission limit based on the estimated level of control that would be achieved by thermal oxidizers that operate at higher temperatures and/or longer residence time than do the MACT floor level thermal oxidizers. However, we concluded that the available data do not show that these thermal oxidizers would achieve better control of organic HAP than do the MACT floor level thermal oxidizers. Therefore, we decided against establishing a combustion efficiency limit that was more stringent than the MACT floor level of control for existing shape dryers, curing ovens, kilns, defumers, and coking ovens.

The MACT floor for reducing emissions of chromium and other nonvolatile HAP metals from existing chromium refractory products kilns is the use of natural gas, or equivalent, as the kiln fuel.

We next considered beyond-the-floor options for establishing an emission standard for existing chromium refractory kilns. Beyond-the-floor options are those regulatory alternatives that would be more stringent than the MACT floor for existing sources. Because no existing chromium refractory kilns are equipped with APCD that would reduce emissions of HAP metals, we considered two other source categories that operate kilns that are similar in design and operation to refractory products kilns: the ceramics manufacturing industry and the brick and structural clay products manufacturing industry. Within the ceramics manufacturing industry, no kilns are equipped with APCD that would be effective in controlling HAP metals. Within the brick and structural clay products industry, two kilns are equipped with fabric filters. Fabric filters have been demonstrated to be effective in controlling emissions of PM, including HAP metals. Therefore, we considered fabric filter control as a potential regulatory option for establishing an emission limit for existing chromium refractory products kilns. Both of the fabric filters used in the brick industry are installed on coal-fired kilns. The fabric filters were installed specifically because the kilns are fired with coal, which generally is associated with significantly higher emissions of PM and HAP metals than would be associated with gas-fired kilns. The PM emitted from a coal-fired kiln consists largely of fly ash, which results from the burning of the coal. In the absence of this fly ash component, PM concentrations from brick (or refractory) kilns are very small and approach the limits that can be controlled by a fabric filter. Coal-fired kilns are not used in the refractory products industry due to contamination of the product with fly ash and the difficulty in elevating coal-fired kilns to the temperatures needed to fire refractory products properly. Furthermore, there are no natural gas-fired brick kilns that are equipped with an APCD for controlling PM emissions. Consequently, we concluded that coal-fired brick kilns are not similar to chromium refractory products kilns, all of which are natural gas-fired. Therefore, the fabric filter controls used on coal-fired brick kilns are not a regulatory option for establishing an emission limit for existing chromium refractory products kilns.

Because there are no existing chromium refractory products kilns or similar sources that are equipped with an add-on APCD that would control HAP metal emissions, we concluded that there are no beyond-the-floor control options for existing chromium refractory kilns. Therefore, today's proposed rule would not establish an emission limit for existing chromium refractory products kilns. Instead, we are requiring the use of natural gas fuel, or the equivalent, as a work practice standard for chromium refractory products kilns.

As is the case for chromium refractory products kilns, the only feasible MACT floor option for controlling emissions of HF and HCl from existing clay refractory products kilns corresponds to the use of natural gas, or the equivalent, as the kiln fuel. We could not establish an emission limit for HF or HCl for this work practice based on the available data.

We next considered beyond-the-floor options for establishing an emission standard for existing clay refractory kilns. Because no existing clay refractory kilns are equipped with APCD that would reduce emissions of HF or HCl, we considered the options used for controlling emissions of HF and HCl from kilns used in the ceramics and brick and structural clay products manufacturing industries. Within the ceramics manufacturing industry, no kilns are equipped with APCD that would be effective in reducing emissions of HF or HCl. Within the brick and structural clay products industry, several kilns are equipped APCD that achieve good control of HF and HCl emissions. We considered establishing a standard that would be more stringent than the MACT floor for existing clay refractory products kilns, based on the use of a DIFF, which is one of the most effective HF/HCl APCD currently in use in the brick and structural clay products industry.

Based on our analyses, we concluded that establishing an emission standard based on the emissions reductions that would be achievable using a DIFF would not be reasonable at this time. Our analysis included estimates of emission reductions that would be achieved by this approach and the cost impacts on the affected facilities. Based on our estimates, the capital costs of installing a DIFF on each of the six existing clay refractory products kilns located at the three facilities that produce clay refractories and are major sources of HAP emissions total $5.5 million. The annualized control costs for these facilities would be $2.2 million per year. Two of these facilities are small businesses and would incur combined capital costs of $2.4 million and combined annualized control costs of more than $1.0 million per year. Based on the cost-to-sales ratios for this option, one of these small businesses would incur significant adverse economic impacts, and the other small business would incur substantial adverse economic impacts. In terms of HAP removal, the annualized control costs overall for the three facilities would total $34,100 per ton of HAP removed. Based on these costs and impacts, we determined that the benefits of installing DIFF on existing clay refractory products kilns do not justify the cost at this time. Therefore, we are not requiring that existing clay refractory kilns meet an emission limit more stringent than the MACT floor level of control. Instead, we are requiring the use of natural gas fuel, or equivalent, as a work practice standard for clay refractory products kilns.

### 3. How Did We Select the Work Practice Standards?

Under section 112(h) of the CAA, we can establish work practice standards for HAP sources if it is not feasible to establish numerical emission limits for those sources. Emission standards are deemed not feasible when emissions cannot be captured or conveyed to a control device or when it is not practical to measure emissions due to technological and economic limitations. Today's proposed rule would establish work practice standards for four types of existing HAP emission sources: Shape preheaters and pitch working tanks that are used in the production of pitch-impregnated refractory products, chromium refractory products kilns, and clay refractory products kilns.

Hazardous air pollutant emissions from shape preheaters result from the volatilization of POM from the residual pitch on the baskets or containers that are used to hold and transport shapes to and from the autoclave, defumer, and, if applicable, coking oven. Facilities that perform pitch impregnation periodically clean the residual pitch off of these baskets or containers by abrasive blasting. A typical cleaning frequency is once every ten cycles, and that practice is the MACT floor control level for POM emissions from shape preheaters. If the facility operates a coking oven, the holding baskets undergo the coking cycle, which also cleans the baskets or containers by burning off any residual pitch that would volatilize in the shape preheater. Emissions from shape preheaters are likely to vary depending on the amount of residual pitch present, which in turn depends on how many impregnation cycles the baskets have undergone since the baskets were last cleaned. In any case, emissions are likely to be very low and actually may not be detectable in the exhaust stream due to the relatively small amounts of pitch present on basket and container surfaces. For this reason, we believe that it is not feasible to establish a numerical emission limit for shape preheaters, and a work practice standard is appropriate for this type of source.

In addition to coking and abrasive blasting, the other work practice that is used by one facility to control POM emissions from shape preheaters is to exhaust preheater emissions to the defumer control device. We believe that either coking or exhausting emissions to the defumer control device would be as effective as abrasive blasting (the MACT floor control) in controlling POM emissions from shape preheaters. On this basis, we concluded that it would be reasonable and appropriate to require affected facilities to implement at least one of these three work practices to ensure that POM emissions from shape preheaters are reduced.

We considered beyond-the-floor options for establishing an emission standard for existing shape preheaters. We estimated the costs and emissions reductions associated with controlling preheater emissions with a thermal oxidizer. Based on our analyses, we concluded that establishing an emission standard or work practice standard based on the emissions reductions that would be achieved by controlling preheater emissions with a thermal oxidizer would not be reasonable at this time. Although two existing shape preheaters are controlled with a thermal oxidizer that also controls emissions from a defumer, it generally is not feasible to exhaust uncontrolled shape preheaters to existing defumer controls. The exhaust flow rate from a typical preheater is relatively high compared to defumer exhaust flow rates. As a result, defumer controls generally are undersized for controlling emissions from a defumer and a preheater. Therefore, we concluded that controlling shape preheater emissions would require installing a new thermal oxidizer. Our analysis included estimates of emission reductions and the cost impacts that would result from this approach. Based on our estimates, the annualized costs for this beyond-the-floor approach for a typical shape preheater would be $59,000 per year. The corresponding reductions in POM emissions would total 0.03 tons/yr (60 lb/yr). In terms of HAP removal, the annualized control costs for a typical shape preheater would be $1.9 million per ton of HAP removed. Based on these costs and impacts, we determined that the benefits of this beyond-the-floor control option do not justify the cost at this time. Therefore, we are not requiring affected facilities to control HAP emissions from existing shape preheaters by exhausting preheater emissions to a thermal oxidizer.

Emissions from pitch working tanks result primarily from the displacement of POM from the working tanks as the tanks fill with pitch and from the heating of the pitch in the working tanks, causing the pitch to volatilize and be released as POM. Because pitch working tanks empty and fill with each impregnation cycle, pitch working tank exhaust flow is intermittent. In addition, exhaust flow rates from working tanks are very low. For these reasons, it is not practical to measure working tank emissions, and it is not feasible to establish a numerical emission limit for working tanks. Therefore, we concluded that a work practice standard is appropriate for this type of source.

As discussed previously, the MACT floor for existing pitch working tanks is a work practice that entails exhausting working tank emissions to the defumer thermal oxidizer. We believe that this practice is an effective and appropriate method of controlling POM emissions from working tanks. Consequently, we selected this work practice for existing pitch working tanks.

We considered beyond-the-floor options for establishing a standard for existing pitch working tanks. Defumer thermal oxidizers operate only during impregnation and defuming cycles and do not necessarily operate during all periods when the pitch working tank is in operation. Therefore, as a beyond-the-floor control option for pitch working tanks, we considered requiring affected facilities to use defumer thermal oxidizers to control working tank emissions during all periods when the working tank is operating. We estimated that this requirement would result in operating a typical defumer thermal oxidizer for an additional 2 hours per day. The estimated annualized cost of this additional operating time for a defumer thermal oxidizer that operates at the MACT floor level of control would be $7,900 per year, and the corresponding reductions in POM emissions would be 0.005 tons/yr (9 lb/yr) for a typical pitch working tank. In terms of HAP removal, the annualized control costs for a typical pitch working tank would be $1.7 million per ton of HAP removed. Because the HAP emissions reductions associated with this beyond-the-floor option would be so low (9 lb/yr), we concluded that the benefits of this control option do not justify the cost at this time. For these reasons, we decided against requiring that the defumer APCD, which also controls working tank emissions, be operated during all times when the pitch working tank is in operation.

We decided to require the use of natural gas as the kiln fuel because that work practice is the basis for the MACT floor for existing chromium and clay refractory products kilns. This work practice would prevent the future use of kiln fuels that emit HAP metals, HF, or HCl. In addition, this work practice would impose no additional costs on existing facilities other than the costs associated with the initial notification and recordkeeping requirements.

### *E. How Did We Select the Emission Limits for New Sources?*

For new sources, the CAA requires MACT to be based on the degree of emissions reduction achieved in practice by the best-controlled similar source. Today's proposed rule would establish emission limits for new thermal process sources that emit organic HAP and new clay refractory kilns.

For the subcategories that include thermal process sources that use organic HAP and pitch-impregnated refractory sources, thermal oxidizer control is the MACT floor technology for both existing and new affected thermal process sources or organic HAP. For each group of sources covered by these two subcategories that would be subject to an emission limit (i.e., shape dryers, curing ovens, kilns, defumers, coking ovens, and shape preheaters), the best control is a thermal oxidizer that operates at a higher temperature and longer residence time than does the MACT floor level thermal oxidizer for existing sources. However, when the performance of these best controls is compared to the performance of the MACT floor controls, the Arrhenius equation, which is the basis for the control device rankings, indicates that the best controls and MACT floor controls are indistinguishable with respect to their effectiveness in controlling organic HAP emissions. The available emission data on controlled thermal process sources also show no clear distinctions in performance between the best controls and the MACT floor controls. For these reasons, we concluded that the best-performing sources are comparable to the MACT floor controls, and we decided to require the same emission limits for new sources of organic HAP as would be required for existing affected sources under the proposed rule: no more than 20 ppmvd THC, corrected to 18 percent $O_2$, or at least 99.8 percent combustion efficiency.

Under today's proposed rule, you would be required to satisfy a work practice standard for existing shape preheaters. However, for new shape preheaters, you would be required to meet the same emission limits that are required for other thermal process sources of organic HAP. That is, you would have to meet either a THC emission concentration of 20 ppmvd, corrected to 18 percent $O_2$, or a combustion efficiency of at least 99.8 percent. The data indicate that the best-controlled preheaters are equipped with thermal oxidizers that are comparable to the best controls used on the other thermal process sources of organic HAP. Therefore, we concluded that the same emission limits that apply to other new thermal process sources of organic HAP should apply to new shape preheaters as well.

Pitch working tanks also emit organic HAP. However, we did not establish emission limits for new pitch working tanks because the low and intermittent exhaust flow rates that characterize pitch working tanks preclude accurate measurement of pitch working tank emissions. Therefore, we decided to establish the same work practice for new pitch working tanks as would be required for existing pitch working tanks. That is, the practice of exhausting pitch working tank emissions to the same control device that controls emissions from an affected defumer or coking oven, or to a comparable control device.

The HAP emitted from chromium refractory products kilns include hexavalent chromium, other chromium compounds, and other nonvolatile HAP metals, all of which are emitted in the form of PM. As discussed previously, no chromium refractory products kilns are equipped with an APCD that would be effective in controlling emissions of nonvolatile HAP metals. Furthermore, there are no similar sources equipped with an APCD that would reduce emissions of PM or nonvolatile HAP metals. Consequently, we are not establishing an emission limit for new chromium refractory products kilns. Instead, we are requiring the use of natural gas fuel, or equivalent, as a work practice standard for new chromium refractory products kilns.

No clay refractory kilns currently in operation are equipped with APCD that would be effective in reducing emissions of HF or HCl. However, under Section 112(d) of the CAA, emission standards for new sources can be based on the control levels achieved by similar sources in other industries. Several kilns used in the brick and structural clay products industry are equipped with APCD to reduce emissions of HF and HCl, and emission data are available for some of those controlled kilns. Because brick kilns are similar in design, operation, and emission characteristics to clay refractory kilns, we concluded that the emission data for the best-controlled brick kilns would be representative of the best APCD available for clay refractory kilns.

The brick industry emission data indicate that kilns controlled with a DIFF, DLS/FF, or wet scrubber can achieve production-based HF emission limits of 0.001 kg/Mg (0.002 lb/ton) and an HF control efficiency of 99.5 percent. The brick industry data for HCl emissions indicates that a production-based HCl emission limit of 0.0025 kg/Mg (0.005 lb/ton) and an HCl control efficiency of 98 percent can be achieved by the best-controlled sources. Based on these data, we decided it would be appropriate to establish these same emission limits for new clay refractory products kilns.

### *F. How Did We Select the Format of the Standard?*

In determining the format of the standard for thermal process sources, we considered several alternatives, including an emission concentration, emission rate, emission factor, control efficiency, and combustion efficiency. From our analysis of the available data, we concluded that THC emission concentration and combustion efficiency limits are the most practical and appropriate formats for refractory products thermal process sources.

Due to a lack of HAP emission data on controlled sources, we were unable to establish HAP emission limits for the types of emission sources that would be subject to the proposed rule. Therefore, we considered using THC as a surrogate for organic HAP emissions. We selected a THC emission concentration format because it has several advantages over the other formats considered. The test method for THC, EPA Method 25A, is a relatively straightforward and inexpensive procedure that provides near real-time results. The emission concentration format also eliminates the need to measure control device inlet data, which would be required for a control efficiency standard. In addition, an emission concentration limit of 20 ppmvd THC is consistent with several NESHAP for other source categories that use thermal and catalytic oxidizers for organic HAP control.

As an alternative to the THC emission concentration limit, we considered a combustion efficiency limit format for the standard. Combustion efficiency provides a measure of the extent to which carbon in the exhaust stream, typically in the form of organic compounds, is converted to $CO_2$. Although it is difficult to correlate combustion efficiency to the extent to which organic compounds are destroyed (i.e., destruction efficiency), a high combustion efficiency is generally accepted as an indication that combustion-based controls are operating properly.

A combustion efficiency format has distinct advantages over other potential formats for the refractory products manufacturing industry. The performance test methods required to show compliance with a combustion efficiency standard are well established, relatively simple, continuous, provide near real-time results, and are relatively inexpensive to perform. A combustion efficiency standard also allows for higher THC concentrations provided that the outlet concentrations of CO are relatively low. For example, if the $CO_2$ and CO concentrations at the outlet of a thermal oxidizer were 2.0 percent and 10 ppm, respectively, the source would meet the 99.8 percent combustion efficiency with a THC concentration of 30 ppm.

Under today's proposed rule, new clay refractory kilns located at major source facilities would have the option of meeting production-based or percent reduction emission limits for HF and HCl. We selected the production-based format because it accounts for differences in kiln sizes (i.e., kiln production rates) and, thus, does not penalize the use of larger kilns, as would be the case for a mass emission rate format. We included percent reduction emission limits as an alternative to production-based limits. Production-based emission limits may not be achievable for kilns that fire clays that have unusually high fluoride or chloride concentrations. In such cases, affected facilities with good emission controls could still meet percent reduction standards for HF and HCl.

### *G. How Did We Select the Testing and Initial Compliance Requirements?*

We selected EPA Methods 25A for THC, 3A for $CO_2$, and 10 for CO because they are the appropriate methods for determining THC concentrations and combustion efficiency. All three methods are standard EPA methods that are widely used and relatively inexpensive to perform. In addition, these methods provide continuous, near real-time results.

Several of the performance testing requirements specified in today's proposed rule apply specifically to continuous process sources, and other requirements apply only to batch process sources.

We decided to require batch process sources to meet a rolling average emission limit rather than an block average limit because organic HAP emissions from batch process sources generally vary significantly over the course of a cycle. Organic HAP emissions are likely to be negligible at the start of a cycle, then increase and peak several hours into the cycle. After peaking, organic HAP emissions typically decrease and may become negligible before the cycle is completed. The rolling average format would eliminate situations where a batch process source far exceeds the emission limit during part of the process cycle, but is in overall compliance simply because the average emissions include several hourly values during which emissions are negligible.

We decided to allow decreasing the operating temperature of (or shut off completely) thermal or catalytic oxidizers before the batch cycle is completed because the cycle time for some sources extends well beyond the period during which an emission control is needed to meet the THC emission limit. We believe that there is no need to operate the control device further if you can demonstrate that the emission limit can be met with the control device off line or operating at a reduced temperature.

Under today's proposed rule, you would be required to conduct performance tests on affected thermal process sources under the conditions that would result in the highest levels of organic HAP emissions. Our objective in specifying this requirement is to ensure continuous compliance with the emission limits; if the source is in compliance with emission limits under such ''worst case'' conditions, it should also be in compliance when refractory shapes that contain other refractory mixes are processed.

We decided to require monitoring of control device operating temperatures because operating temperatures (i.e., thermal oxidizer combustion chamber temperatures or catalytic oxidizer bed inlet temperatures) generally are reliable indicators of the performance of those control devices. We believe that sources that operate thermal and catalytic oxidizers at or above the operating temperatures established during performance tests generally would be meeting the emission limits. Therefore, establishing operating limits on the operating temperatures of thermal and catalytic oxidizers would help assure continuous compliance with the emission limits. We also believe that this requirement is not labor-intensive, does not require expensive or complex equipment, and does not require burdensome recordkeeping.

For affected sources that are subject to the THC emission concentration limit and use alternative control methods, such as process modifications or add-on control devices other than thermal or catalytic oxidizers, we decided to require THC CEMS. Thermal and catalytic oxidizers are the only devices currently used to control organic emissions from refractory thermal process sources. The effectiveness of these controls for organic pollutants, including the types of organic HAP emitted by refractory products sources, is well established. In view of the uncertainty of how well other control methods would perform on refractory thermal process sources, we believe that requiring THC CEMS is warranted for sources that are equipped with other such controls. In most cases, CEMS provide the best indication that a source is complying with emission limits.

The performance specifications established in 40 CFR part 60, appendix B, were developed specifically for providing reasonable assurance that CEMS are installed and operated properly. Therefore, we believe that it is warranted to require that affected thermal process sources equipped with alternative control devices comply with PS–8, which applies specifically to THC CEMS.

We selected EPA Method 26A for demonstrating compliance with HF and HCl emission limits because Method 26A is the standard method for determining emissions of hydrogen halides, including HCl and HF, from stationary sources. We selected operating limits and monitoring requirements that we believe would ensure proper operation of add-on emission control devices that might be used to comply with the proposed requirements for new clay refractory kilns. We believe that sources that operate control devices within the operating limits established during performance tests generally would be meeting the emission limits. Therefore, establishing operating limits on the control devices would help assure continuous compliance with the emission limits. At the same time, the provisions are not labor-intensive, do not require expensive or complex equipment, and do not require burdensome recordkeeping. Temperature monitoring and recording equipment and lime injection rate monitoring and recording equipment are standard features on DIFF and DLS/FF systems. Water injection rate monitoring and recording equipment is a standard feature on DLS/FF controls. For wet scrubbers, pressure drop monitors and liquid flow monitors often are part of standard scrubber instrumentation. We decided to require you to conduct performance tests while each affected source is operating at the maximum production level because exceedances of emission limits are more likely to occur when production rates are highest. We believe this requirement helps to ensure that compliance with the emission limits is maintained continuously without being labor-intensive, requiring expensive or complex equipment, and requiring burdensome recordkeeping.

The proposed rule would require all continuous process sources to be tested for at least three test runs of at least 1 hour each because this requirement is specified in 40 CFR 63.7(e)(3) of the General Provisions. Requiring a minimum of three 1-hour test runs is typical for most performance tests required under part 63 for continuous sources.

For affected batch process sources, we decided to require testing during three separate batch cycles because emissions from batch processes can vary significantly over the course of a cycle. Testing during a single cycle might not account for these variations. On the other hand, we believe that testing throughout three complete cycles would be unreasonably costly and unnecessary if test runs could focus on the periods when emissions are greatest. For this reason, we included in the proposed rule alternatives to testing for three complete cycles.

We selected the option of using an emissions profile because such a profile would identify exactly when peak emissions occur. We believe that testing during the period of peak emissions would be adequate for demonstrating compliance with the emission limits. For batch process clay refractory kilns, we selected a 3-hour peak period because we believe that 3 hours is adequate in length for encompassing the peak emissions period. We selected a longer (4-hour) peak period for organic HAP sources because we believe that organic HAP emissions are likely to experience greater fluctuations than would PM or HF emissions. When an emissions profile is used, you would still be required to perform at least three test runs.

We also incorporated the option of allowing the testing of batch process sources to be stopped following the 3-hour period that follows peak process temperature. We decided to include this option because it may be less burdensome than developing an emissions profile for particularly long batch cycles. For thermal process sources of organic HAP, we believe that emissions generally peak within a few hours of the peak process temperature, if not sooner. Therefore, testing for an additional 3 hours after peak process temperature is reached should ensure that the test run encompasses the period of peak emissions. For clay refractory kilns, emissions of HF and HCl begin when the clays are heated to approximately 540°C (1000°F). We assume that HF and HCl emission rates increase for several hours before peaking and declining. We believe that requiring that the tests be performed for at least 3 hours following peak temperature provides reasonable assurance that the testing period would encompass the peak emissions period.

### *H. How Did We Select the Continuous Compliance Requirements?*

In determining the proposed continuous compliance requirements, we first considered establishing continuous emission limits and requiring the use of CEMS. For thermal processes that emit organic HAP and are equipped with emission controls that were comparable to, or better than, the MACT floor level of control, we were able to obtain continuous THC emission data only for two batch process sources. Both sources were operated with relatively short cycle times, and we concluded that those data were not adequate for establishing a continuous THC emission limit. In addition, we have no continuous emission data for HAP or HAP surrogates for chromium refractory or clay refractory products kilns.

We next considered continuous and periodic monitoring of control device operating parameters. Many plants already perform continuous or periodic monitoring of operating parameters and already have parameter measurement devices in place. Operating limits based on continuous monitoring of APCD operating parameters using CPMS would help to assure that the APCD continuously operates at the same level of performance as it did during the initial performance test during which you meet the emission limits. Therefore, we concluded that continuous monitoring of control device operating parameters would help assure continuous compliance with the emission limits. In addition, in most cases, CPMS are more economical to install and operate compared to the cost of CEMS.

In the case of thermal process sources subject to the THC emission concentration limit that use alternative emission controls, we decided to make an exception to allowing the use of CPMS to demonstrate continuous compliance. Because of the uncertainty in how well other control methods would perform on refractory thermal process sources, we believe that requiring THC CEMS is warranted for sources that are equipped with alternative controls. Furthermore, to provide reasonable assurance that those CEMS are operated and maintained properly, we believe that there is justification for requiring that affected thermal process sources equipped with alternative control devices comply with Procedure 1 of 40 CFR part 60, appendix F.

We decided to require the monitoring and recording of the organic HAP processing rate and process operating temperature hourly because these parameters are the primary determinants of organic HAP emissions. Verifying that the values of these parameters do not exceed the corresponding levels measured during the performance test would help assure continuous compliance with the emission limits.

We selected the requirement for monitoring thermal oxidizer combustion chamber temperature because temperature monitoring is one of the most reliable methods for evaluating the performance of thermal oxidizers. The other parameters that affect thermal oxidizer performance (i.e., the residence time and degree of mixing) are fixed by design and generally do not vary, whereas the combustion chamber temperature can be increased or decreased to influence combustion efficiency and the level of organic pollutant destruction.

We selected the requirement for monitoring the catalyst bed inlet temperature on catalytic oxidizers because the bed inlet operating temperature is a reliable indicator of catalytic oxidizer performance. Although space velocity is also an indicator of the performance of catalytic oxidizers, space velocity is fixed by design and does not generally vary. However, catalyst bed inlet temperature can be regulated to increase or decrease the performance of a catalytic oxidizer. We also decided to require you to maintain the catalyst according to manufacturer's specifications because of the danger of the catalyst being poisoned by contaminants in the exhaust stream. Poisoning can greatly reduce the effective of catalytic oxidizers in controlling organic emissions. Therefore, we believe that maintenance of the catalyst is critical for providing assurance that catalytic oxidizers continue to perform well.

The requirements that we have selected for monitoring thermal and catalytic oxidizer operating temperatures are typical of other NESHAP that regulate organic HAP emissions. The equipment needed for monitoring operating temperature is standard on many thermal and catalytic oxidizers. Furthermore, we believe these requirements are not labor-intensive and do not require burdensome recordkeeping.

For clay refractory kilns that are controlled with a DIFF or DLS/FF, we decided to require bag leak detection systems, monitoring of fabric filter inlet temperature, and periodic checks that lime is free-flowing because we believe that these requirements would help to assure continuous compliance and identify operating problems at the source. At the same time, the provisions are not labor-intensive, do not require expensive or complex equipment, and do not require burdensome recordkeeping. Bag leak detection systems are often used as a means of monitoring fabric filter performance. Temperature monitoring and recording equipment and lime injection rate monitoring and recording equipment are standard features on DIFF and DLS/FF systems. For kilns controlled with a DLS/FF, we decided to require monitoring of water injection rates because water injection rate monitoring and recording equipment is a standard feature on DLS/FF controls. For kilns controlled with wet scrubbers, we decided to require monitoring of the pressure drop across the scrubber, scrubber liquid pH, and liquid flow rate because these parameters are good indicators of scrubber performance and the removal of acid gases. In addition, pressure drop monitors and liquid flow monitors often are part of the standard instrumentation for wet scrubbers.

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

We selected the specific notification, reporting, and recordkeeping requirements that would be required under today's proposed rule because these requirements are all specified in the General Provisions to part 63 (subpart A). Selecting requirements that are specified in the General Provisions ensures consistency with other NESHAP.

We selected the specific elements that must be included in your OM&M plan because we believe that having documented procedures and the other information on emission control and monitoring equipment included in the plan is necessary for ensuring compliance and facilitating enforcement. Having a list of affected sources, control devices, CPMS, and recordkeeping procedures is needed for compliance inspections. Monitoring schedules are needed for ensuring that operating limits are maintained. Established maintenance procedures would help to ensure the proper operation of control devices and CPMS. Established corrective action procedures are needed to ensure that, when deviations occur, problems are diagnosed and rectified quickly.

## IV. Summary of Environmental, Energy and Economic Impacts

### *A. What Are the Air Quality Impacts?*

At the current level of control and 1996 production levels, we estimate nationwide emissions of HAP from the refractory products manufacturing industry to be about 258 Mg/yr (284 tons/yr). For the eight refractory products facilities that we estimate to be major sources, baseline annual HAP emissions are about 161 Mg/yr (177 tons/yr). We estimate that the rule as proposed would reduce nationwide HAP emissions by about 120 Mg/yr (132 tons/yr).

Among the major sources, POM emissions account for approximately 55 percent of the total annual HAP emissions. Hydrogen fluoride, phenol, HCl, and ethylene glycol account for 16 percent, 12 percent, 11 percent, and 6 percent of total annual HAP emissions, respectively. Formaldehyde and chromium compounds each account for less than 1 percent of total baseline annual HAP emissions. The rule as proposed would reduce annual POM emissions by as much as 90 Mg/yr (99 tons/yr). Emissions of phenol and ethylene glycol would be reduced by approximately 19 Mg/yr (21 tons/year) and 11 Mg/yr (12 tons/yr), respectively. Implementing today's rule as proposed would also reduce VOC and CO emissions by 136 Mg/yr (150 tons/yr) and 14 Mg/yr (15 tons/yr), respectively. The rule as proposed would result in an increase in annual $NO_X$ emissions of about 25 Mg/yr (27 tons/yr) due to the operation of additional thermal oxidizers to control organic HAP emissions.

Indirect or secondary air impacts of today's rule as proposed would result from increased electricity usage associated with operation of control devices. Assuming that plants would purchase electricity from a power plant, we estimate that the standards as proposed would increase secondary emissions of criteria pollutants, including PM less than 10 micrometers in aerodynamic diameter ($PM_{10}$), $SO_2$, $NO_X$, and CO from power plants. Under the rule as proposed, secondary $PM_{10}$ emissions would increase by 0.54 Mg/yr (0.6 tons/yr); secondary $SO_2$ emissions would increase by about 22 Mg/yr (24 tons/yr); secondary $NO_X$ emissions would increase about 11 Mg/yr (12 tons/yr); and secondary CO emissions would increase by about 0.36 Mg/yr (0.4 tons/yr).

We estimate that there will be no new sources within the refractory products manufacturing industry within the next 3 years. Therefore, we are not projecting air impacts for new sources under the proposed rule.

### *B. What Are the Water and Solid Waste Impacts?*

To comply with the rule as proposed, we expect that affected facilities would control organic HAP emissions by installing and operating thermal oxidizers. Therefore, we project that today's rule as proposed would have no water or solid waste impacts.

### *C. What Are the Energy Impacts?*

Energy impacts consist of the electricity and fuel needed to operate control devices and other equipment that would be required under the proposed rule. Assuming that affected facilities would comply with the rule as proposed by installing and operating thermal oxidizers, we project that today's rule as proposed would require increase overall energy demand (i.e., electricity and natural gas) by about 730 thousand gigajoules per year (690 billion British thermal units per year). Electricity requirements are expected to increase by about 3,910 megawatt-hours per year under the proposed standards. Natural gas requirements would increase by about 18 million cubic meters per year (644 million cubic feet per year) under the rule as proposed.

### *D. What Are the Cost Impacts?*

The estimated total capital costs of today's proposed rule are $3.5 million. These capital costs apply to existing sources and include the costs to purchase and install thermal oxidizers on affected sources that are not currently controlled. The estimated annualized cost of the rule as proposed is $1.6 million. The annualized costs account for the annualized capital costs of the control and monitoring equipment, operation and maintenance expenses, performance testing, and recordkeeping and reporting costs.

### *E. What Are the Economic Impacts?*

The EPA prepared an economic analysis to evaluate the impact the proposed rule would have on the producers and consumers of refractories, and society as a whole. The refractories industry consists of 167 establishments, 8 of which are estimated to be major sources. The total annualized social cost of the proposed rule is $1.4 million (in 1998 dollars). Our analysis indicates that this cost would lead to minimal changes in prices and the quantity of refractories produced in each sector of the refractories market. Prices in the refractory bricks and shapes sector are estimated to increase by 1⁄10th of one percent while production may decrease by 1⁄100th of one percent. Prices for monolithics increase negligibly by 1⁄100th of one percent and the quantity produced is almost unchanged (a decrease of only 12 tons per year). The refractory ceramic fiber sector of the market is not affected by the rule as proposed and, thus, no price or production level changes are predicted. Of the eight major sources of HAP emissions, one facility may close due to regulatory costs. However, EPA recognizes that this facility, as well as the other affected facilities, have several options to change input materials or attributes of their production process such that they could substantially reduce the cost associated with add-on control technology. Without explicit knowledge of decisions to be made by this and other facilities in response to the proposed rule, our analysis assumes only that add-on control technology would be installed. Hence the cost of add-on controls would exceed total revenues of this facility, causing it to close. This estimated facility closure in the market has a minimal influence on prices and productions levels, as is described above.

## V. Administrative Requirements

### *A. Executive Order 12866, Regulatory Planning and Review*

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the 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 obligations 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, it has been determined that the proposed rule is not a ''significant regulatory action'' because none of the listed criteria apply to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

### *B. Executive Order 13132, Federalism*

Executive Order 13132, entitled ''Federalism'' (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.'' Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA may also not issue a regulation that has federalism implications and that preempts State law unless EPA consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and EPA's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, when EPA transmits a draft final rule with federalism implications to OMB for review pursuant to Executive Order 12866, EPA must include a certification from EPA's Federalism Official stating that EPA has met the requirements of Executive Order 13132 in a meaningful and timely manner.

The proposed rule would not have a 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. This determination has been made since none of the affected plant sites under the proposed rule are owned or operated by State or local governments. 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, EPA is providing State and local officials an opportunity to comment on the proposed rule. A summary of the concerns raised during the notice and comment process and EPA's response to those concerns will be provided in the final rulemaking notice.

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

Executive Order 13175, entitled ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' ''Policies that have tribal implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes.''

The proposed rule would not have tribal implications. It would not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. No affected plant sites are owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to the proposed rule. In the spirit of Executive Order 13175, and consistent with EPA policy to promote communications between EPA and tribal governments, 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 the environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by EPA.

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. Today's proposed rule is not subject to Executive Order 13045 because it is not an economically significant regulatory action as defined by Executive Order 12866, and it is based on technology performance and not on health or safety risks.

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

The proposed rule is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

### *F. Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA 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 EPA 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 EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed, under section 203 of the UMRA, a small government agency plan. 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 EPA's regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that the proposed rule does not contain 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. The maximum total annual cost for the proposed refractory products manufacturing standards for any 1 year is estimated at $3.8 million. Thus, today's proposed rule is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that today's proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's proposed rule is not subject to the requirements of section 203 of the UMRA.

### *G. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1966 (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 would 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 whose parent company has fewer than 500 employees; (2) a small governmental jurisdiction that is a government or 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.

Based on a screening of impacts on small entities, I certify that this action would not have a significant economic impact on a substantial number of small entities. We estimate that, of the facilities affected by the proposed rule, there is one facility owned by a small company. The estimated compliance cost for this company represents less than one-half of one percent (<0.50%) of company sales. The proposed rule would also result in a small increase in revenues and profits for unaffected small entities in the refractories market. This occurs because the overall market price is expected to increase by a minimal amount. Small entities in this market would not incur any additional cost to produce refractories; however, they would be able to increase their prices slightly in response to market changes from the proposed rule. Our analysis estimates that the 58 small entities (owning 76 facilities) operating in the refractories market would increase revenues by a total of $550,000 and increase profits by $85,000 (in 1998 dollars).

### *H. Paperwork Reduction Act*

The information collection requirements in this proposed rule will be submitted for approval to OMB under the requirements of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The EPA has prepared an Information Collection Request (ICR) document (ICR No. 2040.01), and a copy may be obtained from Sandy Farmer, by mail at U.S. EPA, Office of Environmental Information, Collection Strategies Division (2822), 1200 Pennsylvania Avenue, NW, Washington, DC 20460; by e-mail at *farmer.sandy@epa.gov*; or by calling (202) 260–2740. You may also download a copy off the Internet at *http://www.epa.gov/icr.* The information requirements are not effective until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information submitted to EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to EPA's policies set forth in 40 CFR part 2, subpart B.

The proposed rule would not require any notifications or reports beyond those required by the NESHAP General Provisions. The recordkeeping requirements require only the specific information needed to determine compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection of information (averaged over the first 3 years after the effective date of the rule) is estimated to be 658 labor hours per year at a total annual cost of $32,100. This burden estimate includes time for acquisition, installation, and use of monitoring technology and systems; preparation and a one-time submission of an SSMP, with immediate reports for any event when the procedures in the plan were not followed; preparation of an OM&M plan; one-time notifications; semiannual compliance reports; and recordkeeping. Total capital/startup costs associated with the monitoring requirements (e.g., costs for hiring performance test contractors and purchase of monitoring and file storage equipment) over the 3-year period of the ICR are estimated at $31,400, with operation and maintenance costs of $730/yr.

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

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on EPA'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. EPA (2822), 1200 Pennsylvania Avenue, NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street 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 June 20, 2002, a comment to OMB is best assured of having its full effect if OMB receives it by July 22, 2002. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

### *I. National Technology Transfer and Advancement Act*

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

The proposed rulemaking involves technical standards. The EPA proposes to use the following methods in the proposed rule: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 10, 25A, and 26A. 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 1A, 2A, 2D, 2F, and 2G. The search and review results have been documented and are placed in the docket (Docket No. A–2000–50) for the proposed rule.

The voluntary consensus standard ASME C00031, PTC 19–10–1981—Part 10, ‘‘Flue and Exhaust Gas Analyses,’’ is cited in the proposed rule for its manual methods for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ASME C00031, PTC 19–10–1981—Part 10, is an acceptable alternative to Method 3B.

In addition to the voluntary consensus standards EPA proposes to use in the rule, the search for emissions measurement procedures identified 14 other voluntary consensus standards. The EPA determined that 11 of these 14 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 proposed rule. Therefore, EPA does not propose to adopt these standards for this purpose.

Three of the 18 voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of this 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); ASME/BSR MFC 12M, ‘‘Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters,’’ for EPA Method 2; and ISO/DIS 12039, ‘‘Stationary Source Emissions—Determination of Carbon Monoxide, Carbon Dioxide, and Oxygen—Automated Methods,’’ for EPA Methods 3A and 10.

Table 4 of the today’s proposed rule lists the EPA testing methods included in the proposed regulation. Under 40 CFR 63.7(f) of the General Provisions, a source may apply to EPA for permission to use alternative test methods in place of any of the EPA testing methods.

### 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: May 23, 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 SSSSS to read as follows:

## Subpart SSSSS—National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing

## What This Subpart Covers

### § 63.9780 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for refractory products manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

### § 63.9782 Am I subject to this subpart?

You are subject to this subpart if you own or operate a refractory products manufacturing facility that is, is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions according to the criteria in paragraphs (a) and (b) of this section.

(a) A refractory products manufacturing facility is a plant site that manufactures refractory products (refractory bricks, refractory shapes, monolithics, kiln furniture, crucibles, and other materials used for lining furnaces and other high temperature process units). Refractory products manufacturing facilities typically process raw material by crushing, grinding, and screening; mixing the processed raw materials with binders and other additives; forming the refractory mix into shapes; and drying and firing the shapes.

(b) A major source of HAP is a plant site 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.

### § 63.9784 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing affected source at a refractory products manufacturing facility.

(b) The existing affected sources are shape dryers, curing ovens, and kilns that are used to manufacture refractory products that use organic HAP; shape preheaters, pitch working tanks, defumers, and coking ovens that are used to produce pitch-impregnated refractory products; kilns that are used to manufacture chromium refractory products; and kilns that are used to manufacture clay refractory products.

(c) The new or reconstructed affected sources are shape dryers, curing ovens, and kilns that are used to manufacture refractory products that use organic HAP; shape preheaters, pitch working tanks, defumers, and coking ovens used to produce pitch-impregnated refractory products; kilns that are used to manufacture chromium refractory products; and kilns that are used to manufacture clay refractory products.

(d) Shape dryers, curing ovens, kilns, coking ovens, defumers, shape preheaters, and pitch working tanks that are used exclusively for research and development (R&D) and are not used to manufacture products for commercial sale are not subject to the requirements of this subpart.

(e) A source is a new affected source if you began construction of the affected source after June 20, 2002, and you met the applicability criteria at the time you began construction.

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

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

### § 63.9786 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 paragraphs (a)(1) and (2) of this section.

(1) If the initial startup of your affected source is before [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], then you must comply with the emission limitations for new and reconstructed sources in this subpart no later than [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(2) If the initial startup of your affected source is after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], then you must comply with the emission limitations for new and reconstructed sources in this subpart upon initial 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 THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(c) You must be in compliance with this subpart when you conduct a performance test on an affected source.

(d) If you have an existing area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, you must be in compliance with this subpart according to paragraphs (d)(1) and (2) of this section.

(1) Any portion of the existing facility that is a new affected source or a new reconstructed source must be in compliance with this subpart upon startup.

(2) All other parts of the existing facility must be in compliance with this subpart by 3 years after the date the area source becomes a major source.

(e) If you have a new area source (i.e., an area source for which construction or reconstruction was commenced after June 20, 2002) that increases its emissions or its potential to emit such that it becomes a major source of HAP, you must be in compliance with this subpart upon initial startup of your affected source as a major source.

(f) You must meet the notification requirements in § 63.9812 according to the schedule in § 63.9812 and in 40 CFR part 63, subpart A. Some of the notifications must be submitted before you are required to comply with the emission limitations in this subpart.

## Emission Limitations and Work Practice Standards

### § 63.9788 What emission limits, operating limits, and work practice standards must I meet?

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

(b) You must meet each operating limit in Table 2 to this subpart that applies to you.

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

### § 63.9790 What are my options for meeting the emission limits?

To meet the emission limits in Table 1 to this subpart, you must use one or both of the options listed in paragraphs (a) and (b) of this section.

(a) *Emissions control system.* Use an emissions capture and collection system and an add-on air pollution control device (APCD) and demonstrate that the resulting emissions or emissions reductions meet the emission limits in Table 1 to this subpart, and that the capture and collection system and APCD meet the applicable operating limits in Table 2 to this subpart.

(b) *Process changes.* Use raw materials that have little or no potential to emit HAP during the refractory products manufacturing process or implement manufacturing process changes and demonstrate that the resulting emissions or emissions reductions meet the emission limits in Table 1 to this subpart without an add-on APCD.

## General Compliance Requirements

### § 63.9792 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations (including operating limits and 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). During the period between the compliance date specified for your affected source in § 63.9786 and the date upon which continuous monitoring systems have been installed and validated and any applicable operating limits have been established, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

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

(d) You must prepare and implement a written operation, maintenance, and monitoring (OM&M) plan according to the requirements in § 63.9794.

(e) You must be in compliance with the provisions of subpart A of this part, except as noted in Table 11 to this subpart.

### § 63.9794 What do I need to know about operation, maintenance, and monitoring plans?

(a) For each continuous parameter monitoring system (CPMS) required by this subpart, you must develop, implement, make available for inspection, and revise, as necessary, an OM&M plan that includes the information in paragraph (b) of this section.

(b) Your OM&M plan must include, at a minimum, the information in paragraphs (b)(1) through (11) of this section.

(1) A list and identification of each process and add-on APCD to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.

(2) Specifications for the sensor, signal analyzer, and data collection system.

(3) A monitoring schedule that specifies the frequency that the parameter values will be determined and recorded.

(4) The operating limits for each parameter that represent continuous compliance with the emission limitations in § 63.9788, based on values of the monitored parameters recorded during performance tests.

(5) Procedures for installing the CPMS at a measurement location relative to each process unit or APCD such that measurement is representative of control of emissions.

(6) Procedures for the proper operation and routine and long-term maintenance of each process unit and APCD, including a maintenance and inspection schedule that is consistent with the manufacturer's recommendations.

(7) Procedures for the proper operation and maintenance of monitoring equipment consistent with the requirements in §§ 63.8(c)(1), (3), (4)(ii), (7), and (8), and 63.9804.

(8) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d).

(9) Procedures for evaluating the performance of each CPMS.

(10) Procedures for responding to operating parameter deviations, including the procedures in paragraphs (10)(i) through (iii) of this section:

(i) Procedures for determining the cause of the operating parameter deviation.

(ii) Actions for correcting the deviation and returning the operating parameters to the allowable limits.

(iii) Procedures for recording the times that the deviation began and ended, and corrective actions were initiated and completed.

(11) Procedures for keeping records to document compliance and reporting in accordance with the requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(c) Changes to the operating limits in your OM&M plan require a new performance test. If you are revising an operating limit parameter value, you must meet the requirements in paragraphs (c)(1) and (2) of this section.

(1) Submit a notification of performance test to the Administrator as specified in § 63.7(b).

(2) After completing the performance tests to demonstrate that compliance with the emission limits can be achieved at the revised operating limit parameter value, you must submit the performance test results and the revised operating limits as part of the Notification of Compliance Status required under § 63.9(h).

(d) If you are revising the inspection and maintenance procedures in your OM&M plan, you do not need to conduct a new performance test.

## Testing and Initial Compliance Requirements

### § 63.9796 By what date must I conduct performance tests?

You must conduct performance tests within 180 calendar days after the compliance date that is specified for your source in § 63.9786 and according to the provisions in § 63.7(a)(2).

### § 63.9798 When must I conduct subsequent performance tests?

(a) You must conduct a performance test every 5 years following the initial performance test, as part of renewing your 40 CFR part 70 or part 71 operating permit.

(b) You must conduct a performance test when you want to change the parameter value for any operating limit specified in your OM&M plan.

(c) If you own or operate a source that is subject to the emission limits specified in items 2 through 7 of Table 1 to this subpart, you must conduct a performance test before starting production of any refractory product for which the organic HAP processing rate is likely to exceed the maximum organic HAP processing rate established during the most recent performance test.

(d) If you own or operate a kiln that is subject to the emission limits specified in item 4 or 7 of Table 1 to this subpart, you must conduct a performance test on the affected kiln following any process changes that are likely to increase organic HAP emissions from the kiln.

### § 63.9800 How do I conduct performance tests and establish operating limits?

(a) You must conduct each performance test in Table 4 to this subpart that applies to you.

(b) Before conducting the performance test, you must install and validate all monitoring equipment.

(c) Each performance test must be conducted according to the requirements in § 63.7 and under the specific conditions in Table 4 to this subpart.

(d) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(e) You must conduct separate test runs for at least the duration specified for each performance test required in this section, as specified in § 63.7(e)(3) and Table 4 to this subpart. For batch process sources, each test run must last an entire batch cycle unless you satisfy the conditions for developing an emissions profile as specified in item 8(a)(i)(3) or 15(b)(i)(3) of Table 4 to this subpart or the conditions for terminating a test run prior to the completion of a batch cycle as specified in item 8(a)(i)(4) of Table 4 to this subpart.

(f) You must use the data gathered during the performance test and the equations in paragraphs (f)(1) through (4) of this section to determine compliance with the emission limitations.

(1) To determine compliance with the total hydrocarbon (THC) emission concentration limit listed in Table 1 to this subpart, you must calculate your emission concentration corrected to 18 percent oxygen for each test run using Equation 1 of this section:

$$C_{THC_C} = \frac{2.9 \times C_{THC}}{\left(20.9 - C_{O_2}\right)} \qquad \text{(Eq. 1)}$$

Where:

$C_{THCC}$ = THC concentration, corrected to 18 percent oxygen, parts per million by volume, dry basis (ppmvd)

$C_{THC}$ = THC concentration (uncorrected), ppmvd

$_{CO2}$ = Oxygen concentration, percent.

(2) To determine compliance with the combustion efficiency limit listed in Table 1 to this subpart, you must calculate your combustion efficiency for each test run using Equation 2 of this section:

$$CE = \frac{C_{CO_2}}{\left(C_{CO_2} + C_{CO} + C_{THC}\right)} \times 100 \qquad \text{(Eq. 2)}$$

Where:

CE = Combustion efficiency, percent

$C_{CO2}$ = Carbon dioxide ($CO_2$) concentration, ppm

$C_{CO}$ = Carbon monoxide (CO) concentration, ppm

$C_{THC}$ = THC concentration (uncorrected), ppm.

(3) To determine compliance with production-based hydrogen fluoride (HF) and hydrogen chloride (HCl) emission limits in Table 1 to this subpart, you must calculate your mass emissions per unit of uncalcined clay processed for each test run using Equation 3 of this section:

$$MP = \frac{ER}{P} \qquad \text{(Eq. 3)}$$

Where:

MP = mass per unit of production, kilograms of pollutant per megagram (pounds per ton) of uncalcined clay processed

ER = mass emission rate of specific HAP (HF or HCl) during each performance test run, kilograms (pounds) per hour

P = average uncalcined clay processing rate for the performance test, megagrams (tons) of uncalcined clay processed per hour.

(4) To determine compliance with any of the emission limits based on percent reduction across an emissions control system in Table 1 to this subpart, you must calculate the percent reduction for each test run using Equation 4 of this section:

$$PR = \frac{ER_i - ER_o}{ER_i} \times 100 \qquad \text{(Eq. 4)}$$

Where:

PR = percent reduction, percent

$ER_i$ = mass emission rate of specific HAP (HF or HCl) entering the control device, kilograms (pounds) per hour

$ER_o$ = mass emission rate of specific HAP (HF or HCl) exiting the control device, kilograms (pounds) per hour.

(g) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you, as specified in Table 4 to this subpart.

(h) For each affected source that is equipped with an add-on APCD that is not addressed in Table 2 to this subpart or that is using process changes as a means of meeting the emission limits in Table 1 to this subpart, you must meet the requirements in § 63.8(f) and paragraphs (h)(1) through (3) of this section.

(1) For sources subject to the THC concentration limit specified in item 3 or 6 of Table 1 to this subpart, you must satisfy the requirements specified in paragraphs (h)(1)(i) through (iii) of this section.

(i) You must install a THC continuous emission monitoring system (CEMS) at the outlet of the control device or in the stack of the affected source.

(ii) You must meet the requirements specified in Performance Specification (PS) 8 of 40 CFR part 60, appendix B.

(iii) You must meet the requirements specified in Procedure 1 of 40 CFR part 60, appendix F.

(2) For sources subject to the emission limits specified in item 3, 6, 8, or 9 of Table 1 to this subpart, you must submit a request for approval of alternative monitoring methods to the Administrator no later than the notification of intent to conduct a performance test. The request must contain the information specified in paragraphs (h)(2)(i) through (v) of this section.

(i) A description of the alternative add-on APCD or process changes.

(ii) The type of monitoring device or method that will be used, including the sensor type, location, inspection procedures, quality assurance and quality control measures, and data recording device.

(iii) The operating parameters that will be monitored.

(iv) The frequency that the operating parameter values will be determined and recorded to establish continuous compliance with the operating limits.

(v) Averaging time.

(3) You must establish site-specific operating limits during the performance test based on the information included in the approved alternative monitoring methods request, and, as applicable, as specified in Table 4 to this subpart.

### § 63.9802 How do I develop an emissions profile?

If you decide to develop an emissions profile for an affected batch process source, as indicated in item 8(a)(i)(3) or 15(b)(1)(3) of Table 4 to this subpart, you must measure and record emissions of the applicable pollutant throughout a complete batch cycle of the affected batch process source using the procedures described in paragraphs (a) and (b) of this section.

(a) If your affected batch process source is subject to the THC concentration limit specified in item 5(a), 6, or 7 of Table 1 to this subpart, or to the combustion efficiency limit specified in item 5(b) of Table 1 to this subpart, you must measure and record the concentrations of THC and oxygen using the test methods, averaging periods, and procedures specified in items 9(a) through (e) of Table 4 to this subpart to determine the hourly average THC concentration, corrected to 18 percent oxygen, for each complete hour of the batch process cycle.

(b) If your affected batch process source is subject to the HF and HCl percent reduction emission limits in item 10 of Table 1 to this subpart, you must measure and record the HF and HCl emission rates through a series of 1-hour runs using the test method and procedures specified in item 15 of Table 4 to this subpart for each complete hour of the batch process cycle.

### § 63.9804 What are my monitoring system installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain CPMS according to your OM&M plan and the requirements in paragraphs (a)(1) through (15) of this section.

(1) You must satisfy all applicable requirements of performance specifications for CPMS specified in 40 CFR part 60, appendix B, upon promulgation of such performance specifications.

(2) You must satisfy all applicable requirements of quality assurance (QA) procedures for CPMS specified in 40 CFR part 60, appendix F, upon promulgation of such QA procedures.

(3) You must install each sensor of your CPMS in a location that provides representative measurement of the appropriate parameter over all operating conditions, taking into account the manufacturer's guidelines.

(4) You must use a CPMS that is capable of measuring the appropriate parameter over a range that extends from a value that is at least 20 percent less than the lowest value that you expect your CPMS to measure, to a value that is at least 20 percent greater than the highest value that you expect your CPMS to measure.

(5) You must use a data acquisition and recording system that is capable of recording values over the entire range specified in paragraph (a)(4) of this section.

(6) You must use a signal conditioner, wiring, power supply, and data acquisition and recording system that are compatible with the output signal of the sensors used in your CPMS.

(7) You must perform an initial calibration of your CPMS based on the procedures specified in the manufacturer's owner's manual.

(8) You must use a CPMS that is designed to complete a minimum of one cycle of operation for each successive 15-minute period. To have a valid hour of data, you must have at least three of four equally spaced data values (or at least 75 percent if you collect more than four data values per hour) for that hour (not including startup, shutdown, malfunction, or out of control periods).

(9) You must record valid data from at least 90 percent of the hours during which the process operated.

(10) You must determine and record the 15-minute block averages of all measurements, calculated after every 15 minutes of operation as the average of the previous 15 operating minutes (not including periods of startup, shutdown, or malfunction).

(11) You must determine and record the 3-hour block averages of all 15-minute recorded measurements, calculated after every 3 hours of operation as the average of the previous 3 operating hours (not including periods of startup, shutdown, or malfunction).

(12) You must record the results of each inspection, calibration, initial validation, and accuracy audit.

(13) At all times, you must maintain the monitoring system including, but not limited to, maintaining necessary parts for routine repairs of the monitoring system.

(14) You must perform an initial validation of your CPMS under the conditions specified in paragraphs (a)(14)(i) of this section.

(i) Prior to the initial performance test on the affected source for which the CPMS is required.

(ii) Within 180 days of your replacing or relocating one or more of the sensors of your CPMS.

(15) Except for redundant sensors, any device that you use to conduct an initial validation or accuracy audit of your CPMS must meet the accuracy requirements specified in paragraphs (15)(i) and (ii) of this section.

(i) The device must have an accuracy that is traceable to National Institute of Standards and Technology (NIST) standards.

(ii) The device must be at least three times as accurate as the required accuracy for the CPMS.

(b) For each temperature CPMS that is used to monitor the combustion chamber temperature of a thermal oxidizer, the catalyst bed inlet temperature of a catalytic oxidizer, or the inlet temperature of a fabric filter, you must meet the requirements in paragraphs (a) and (b)(1) through (6) of this section.

(1) Use a temperature CPMS with a minimum accuracy of ±1.0 percent of the temperature measured in degrees Celsius or 2.8 degrees Celsius (°C)(5 degrees Fahrenheit (°F)), whichever is greater.

(2) Use a data recording system with a resolution of ±0.5 percent of the temperature measured in °C or 1.4°C (2.5°F), or better.

(3) Perform an initial validation of your CPMS according to the requirements in paragraph (b)(3)(i) or (ii) of this section.

(i) Place the sensor of a calibrated temperature measurement device adjacent to the sensor of your temperature CPMS in a location that is subject to the same environment as the sensor of your temperature CPMS. The calibrated temperature measurement device must satisfy the accuracy requirements of paragraph (a)(15) of this section. With the process and control device that is monitored by your CPMS operating normally, record concurrently and compare the temperatures measured by your temperature CPMS and the calibrated temperature measurement device. Using the calibrated temperature measurement device as the reference, the temperature measured by your temperature CPMS must be within the accuracy specified in paragraph (b)(1) of this section.

(ii) Perform any of the initial validation methods for temperature CPMS specified in performance specifications for CPMS established in 40 CFR part 60, appendix B.

(4) Perform an accuracy audit of your temperature CPMS at least quarterly, according to the requirements in paragraph (b)(4)(i), (ii), or (iii) of this section.

(i) If your temperature CPMS includes a redundant temperature sensor, record three pairs of concurrent temperature measurements within a 24-hour period. Each pair of concurrent measurements must consist of a temperature measurement by each of the two temperature sensors. The minimum time interval between any two such pairs of consecutive temperature measurements is 1 hour. The measurements must be taken during periods when the process and control device that is monitored by your temperature CPMS are operating normally. Calculate the mean of the three values for each temperature sensor. The mean values must agree within the required overall accuracy of the CPMS, as specified in paragraph (b)(1) of this section.

(ii) If your temperature CPMS does not include a redundant temperature sensor, place the sensor of a calibrated temperature measurement device adjacent to the sensor of your temperature CPMS in a location that is subject to the same environment as the sensor of your temperature CPMS. The calibrated temperature measurement device must satisfy the accuracy requirements of paragraph (a)(15) of this section. With the process and control device that is monitored by your temperature CPMS operating normally, record concurrently and compare the temperatures measured by your temperature CPMS and the calibrated temperature measurement device. Using the calibrated temperature measurement device as the reference, the temperature measured by your temperature CPMS must be within the accuracy specified in paragraph (b)(1) of this section.

(iii) Perform any of the accuracy audit methods for temperature CPMS specified in QA procedures for CPMS established in 40 CFR part 60, appendix F.

(5) Conduct an accuracy audit of your CPMS following any 24-hour period throughout which the temperature measured by your CPMS exceeds the manufacturer's specified maximum operating temperature range, or install a new temperature sensor.

(6) If your CPMS is not equipped with a redundant temperature sensor, at least quarterly, perform a visual inspection of all components for integrity, oxidation, and galvanic corrosion.

(c) For each pressure CPMS that is used to monitor the pressure drop across a wet scrubber, you must meet the requirements in paragraphs (a) and (c)(1) through (7) of this section.

(1) Use a pressure CPMS with a minimum accuracy of ±5.0 percent or 0.12 kilopascals (kPa) (0.5 inches of water column (in. w.c.)), whichever is greater.

(2) Use a data recording system with a resolution of ±2.5 percent or 0.06 kPa (0.25 in. w.c.), or better.

(3) Perform an initial validation of your pressure CPMS according to the requirements in paragraph (c)(3)(i) or (ii) of this section.

(i) Place the sensor of a calibrated pressure measurement device adjacent to the sensor of your pressure CPMS in a location that is subject to the same environment as the sensor of your pressure CPMS. The calibrated pressure measurement device must satisfy the accuracy requirements of paragraph (a)(15) of this section. With the process and control device that is monitored by your CPMS operating normally, record concurrently and compare the pressure measured by your pressure CPMS and the calibrated pressure measurement device. Using the calibrated pressure measurement device as the reference, the pressure measured by your pressure CPMS must be within the accuracy specified in paragraph (c)(1) of this section.

(ii) Perform any of the initial validation methods for pressure CPMS specified in performance specifications for CPMS established in 40 CFR part 60, appendix B.

(4) Perform an accuracy audit of your pressure CPMS at least quarterly, according to the requirements in paragraph (c)(4)(i), (ii), or (iii) of this section.

(i) If your pressure CPMS includes a redundant pressure sensor, record three pairs of concurrent pressure measurements within a 24-hour period. Each pair of concurrent measurements must consist of a pressure measurement by each of the two pressure sensors. The minimum time interval between any two such pairs of consecutive pressure measurements is 1 hour. The measurements must be taken during periods when the process and control device that is monitored by your CPMS are operating normally. Calculate the mean of the three pressure measurement values for each pressure sensor. The mean values must agree within the required overall accuracy of the CPMS, as specified in paragraph (c)(1) of this section.

(ii) If your pressure CPMS does not include a redundant pressure sensor, place the sensor of a calibrated pressure measurement device adjacent to the sensor of your pressure CPMS in a location that is subject to the same environment as the sensor of your pressure CPMS. The calibrated pressure measurement device must satisfy the accuracy requirements of paragraph (a)(15) of this section. With the process and control device that is monitored by your pressure CPMS operating normally, record concurrently and compare the pressure measured by your pressure CPMS and the calibrated pressure measurement device. Using the calibrated pressure measurement device as the reference, the pressure measured by your pressure CPMS must be within the accuracy specified in paragraph (c)(1) of this section.

(iii) Perform any of the accuracy audit methods for pressure CPMS specified in QA procedures for CPMS established in 40 CFR part 60, appendix F.

(5) Conduct an accuracy audit of your CPMS following any 24-hour period throughout which the pressure measured by your CPMS exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor.

(6) At least monthly, check all mechanical connections on your CPMS for leakage.

(7) If your CPMS is not equipped with a redundant pressure sensor, at least quarterly, perform a visual inspection of all components for integrity, oxidation, and galvanic corrosion.

(d) For each liquid flow rate CPMS that is used to monitor the liquid flow rate in a wet scrubber or the water injection rate for a dry lime scrubber/fabric filter (DLS/FF), you must meet the requirements in paragraphs (a) and (d)(1) through (7) of this section.

(1) Use a flow rate CPMS with a minimum accuracy of ±5.0 percent or 1.9 liters per minute (L/min) (0.5 gallons per minute(gal/min)), whichever is greater.

(2) Use a data recording system with a resolution of ±2.5 percent or 0.95 L/min (0.25 gal/min), or better.

(3) Perform an initial validation of your CPMS according to the requirements in paragraph (d)(3)(i) or (ii) of this section.

(i) Use a calibrated flow rate measurement system to measure the liquid flow rate in a location that is adjacent to the measurement location for your flow rate CPMS and is subject to the same environment as your flow rate CPMS. The calibrated flow rate measurement device must satisfy the accuracy requirements of paragraph (a)(15) of this section. With the process and control device that is monitored by your flow rate CPMS operating normally, record concurrently and compare the flow rates measured by your flow rate CPMS and the calibrated flow rate measurement device. Using the calibrated flow rate measurement device as the reference, the flow rate measured by your flow rate CPMS must be within the accuracy specified in paragraph (d)(1) of this section.

(ii) Perform any of the initial validation methods for liquid flow rate CPMS specified in performance specifications for CPMS established in 40 CFR part 60, appendix B.

(4) Perform an accuracy audit of your flow rate CPMS at least quarterly, according to the requirements in paragraph (d)(4)(i), (ii), or (iii) of this section.

(i) If your flow rate CPMS includes a redundant sensor, record three pairs of concurrent flow rate measurements within a 24-hour period. Each pair of concurrent measurements must consist of a flow rate measurement by each of the two flow rate sensors. The minimum time interval between any two such pairs of consecutive flow rate measurements is 1 hour. The measurements must be taken during periods when the process and control device that is monitored by your flow rate CPMS are operating normally. Calculate the mean of the three flow rate measurement values for each flow rate sensor. The mean values must agree within the required overall accuracy of the CPMS, as specified in paragraph (d)(1) of this section.

(ii) If your flow rate CPMS does not include a redundant flow rate sensor, place the sensor of a calibrated flow rate measurement device adjacent to the sensor of your flow rate CPMS in a location that is subject to the same environment as the sensor of your flow rate CPMS. The calibrated flow rate measurement device must satisfy the accuracy requirements of paragraph (a)(15) of this section. With the process and control device that is monitored by your flow rate CPMS operating normally, record concurrently and compare the flow rate measured by your pressure CPMS and the calibrated flow rate measurement device. Using the calibrated flow rate measurement device as the reference, the flow rate measured by your flow rate CPMS must be within the accuracy specified in paragraph (d)(1) of this section.

(iii) Perform any of the accuracy audit methods for liquid flow rate CPMS specified in QA procedures for CPMS established in 40 CFR part 60, appendix F.

(5) Conduct an accuracy audit of your flow rate CPMS following any 24-hour period throughout which the flow rate measured by your CPMS exceeds the manufacturer's specified maximum operating range, or install a new flow rate sensor.

(6) At least monthly, check all mechanical connections on your CPMS for leakage.

(7) If your CPMS is not equipped with a redundant flow rate sensor, at least quarterly, perform a visual inspection of all components for integrity, oxidation, and galvanic corrosion.

(e) For each pH CPMS that is used to monitor the pH of a wet scrubber liquid, you must meet the requirements in paragraphs (a) and (e)(1) through (5) of this section.

(1) Use a pH CPMS with a minium accuracy of ±0.2 pH units.

(2) Use a data recording system with a resolution of 0.1 pH units, or better.

(3) Perform an initial validation of your pH CPMS according to the requirements in paragraph (e)(3)(i) or (ii) of this section.

(i) Perform a single-point calibration using an NIST-certified buffer solution that is accurate to within ±0.02 pH units at 25°C (77°F). If the expected pH of the fluid that is monitored lies in the acidic range (less than 7 pH), use a buffer solution with a pH value of 4.00. If the expected pH of the fluid that is monitored is neutral or lies in the basic range (greater than 7 pH), use a buffer solution with a pH value of 10.00. Place the electrode of your pH CPMS in the container of buffer solution. Record the pH measured by your CPMS. Using the certified buffer solution as the reference, the pH measured by your pH CPMS must be within the accuracy specified in paragraph (e)(1) of this section.

(ii) Perform any of the initial validation methods for pH CPMS specified in performance specifications for CPMS established in 40 CFR part 60, appendix B.

(4) Perform an accuracy audit of your pH CPMS at least weekly, according to the requirements in paragraph (e)(4)(i), (ii), or (iii) of this section.

(i) If your pH CPMS includes a redundant pH sensor, record the pH measured by each of the two pH sensors. The measurements must be taken during periods when the process and control device that is monitored by your pH CPMS are operating normally. The two pH values must agree within the required overall accuracy of the CPMS, as specified in paragraph (e)(1) of this section.

(ii) If your pH CPMS does not include a redundant pH sensor, perform a single point calibration using an NIST-certified buffer solution that is accurate to within ±0.02 pH units at 25°C (77°F). If the expected pH of the fluid that is monitored lies in the acidic range (less than 7 pH), use a buffer solution with a pH value of 4.00. If the expected pH of the fluid that is monitored is neutral or lies in the basic range (greater than 7 pH), use a buffer solution with a pH value of 10.00. Place the electrode of the pH CPMS in the container of buffer solution. Record the pH measured by your CPMS. Using the certified buffer solution as the reference, the pH measured by your pH CPMS must be within the accuracy specified in paragraph (e)(1) of this section.

(iii) Perform any of the accuracy audit methods for pH CPMS specified in QA procedures for CPMS established in 40 CFR part 60, appendix F.

(5) If your CPMS is not equipped with a redundant pH sensor, at least monthly, perform a visual inspection of all components for integrity, oxidation, and galvanic corrosion.

(f) For each bag leak detection system, you must meet the requirements in paragraphs (f)(1) through (11) of this section.

(1) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to the ''Fabric Filter Bag Leak Detection Guidance'' (EPA–454/R–98–015, September 1997). That document is available from the U.S. EPA; Office of Air Quality Planning and Standards; Emissions, Monitoring and Analysis Division; Emission Measurement Center (D205–02), Research Triangle Park, NC 27711 and is also available on the Technology Transfer Network (TTN) at the following address: *http://www.epa.gov/ttn/emc/cem.html.* Other types of bag leak detection systems must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(2) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter (PM) emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(3) The bag leak detection system sensor must provide an output of relative PM loadings.

(4) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

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

(6) For positive pressure fabric filter systems, a bag leak detector must be installed in each baghouse compartment or cell.

(7) 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.

(9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time according to section 5.0 of the ''Fabric Filter Bag Leak Detection Guidance.''

(10) Following initial adjustment of the system, the owner or operator must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. Record each adjustment.

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

(g) For each lime feed rate measurement device that is used to monitor the lime feed rate of a dry injection fabric filter (DIFF) or DLS/FF or the chemical feed rate of a wet scrubber, you must meet the requirements in paragraph (a) of this section.

(h) For each affected source that is subject to the emission limit specified in item 3 or 6 of Table 1 to this subpart, you must satisfy the requirements of paragraphs (h)(1) through (3) of this section.

(1) Install a THC CEMS at the outlet of the control device or in the stack of the affected source.

(2) Meet the requirements of PS–8 of 40 CFR part 60, appendix B.

(3) Meet the requirements of Procedure 1 of 40 CFR part 60, appendix F.

(i) Requests for approval of alternate monitoring methods must meet the requirements in §§ 63.9800(h)(2) and 63.8(f).

### § 63.9806 How do I demonstrate initial compliance with the emission limits, operating limits, and work practice standards?

(a) You must demonstrate initial compliance with each emission limit that applies to you according to Table 5 to this subpart.

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in § 63.9800 and Table 4 to this subpart.

(c) You must demonstrate initial compliance with each work practice standard that applies to you according to Table 6 to this subpart.

(d) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.9812(e).

## Continuous Compliance Requirements

### § 63.9808 How do I monitor and collect data to demonstrate continuous compliance?

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

(b) At all times, you must maintain your monitoring systems including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(c) Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or quality control activities, you must conduct monitoring in continuous operation at all times your affected process unit is operating. For purposes of calculating data averages, you must not use data recorded during monitoring system malfunction, associated repairs, out of control periods, or required quality assurance or quality control activities. You must use all the data collected during all other periods in assessing compliance. 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. 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. Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation, and you must notify the Administrator in accordance with § 63.9814(e).

### § 63.9810 How do I demonstrate continuous compliance with the emission limits, operating limits, and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit specified in Table 1 to this subpart that applies to you according to the requirements specified in Table 7 to this subpart.

(b) You must demonstrate continuous compliance with each operating limit in Table 2 to this subpart that applies to you according to the requirements specified in Table 8 to this subpart.

(c) You must demonstrate continuous compliance with each work practice standard in Table 3 to this subpart that applies to you according to the requirements specified in Table 9 to this subpart.

(d) For each affected source that is equipped with an add-on APCD that is not addressed in Table 2 to this subpart or that is using process changes as a means of meeting the emission limits in Table 1 to this subpart, you must demonstrate continuous compliance with each emission limit in Table 1 to this subpart and each operating limit established as required in § 63.9800(h)(3) according to the methods specified in your approved alternative monitoring methods request as described in § 63.9800(h)(2).

(e) You must report each instance in which you did not meet each emission limit and each operating limit in this subpart that applies to you. This includes periods of startup, shutdown, and malfunction. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in § 63.9814.

(1) During periods of startup, shutdown, and malfunction, you must operate according to your SSMP.

(2) 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 according to your SSMP and your OM&M 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

### § 63.9812 What notifications must I submit and when?

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

(b) As specified in § 63.9(b)(2) and (3), if you start up 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 OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**].

(c) As specified in § 63.9(b)(3), if you start up your new or reconstructed affected source on or after [DATE OF PUBLICATION OF THE FINAL RULE IN THE **Federal Register**], you must submit an Initial Notification not later than 120 calendar days after you become subject to this subpart.

(d) If you are required to 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, you must submit a Notification of Compliance Status as specified in § 63.9(h) and paragraphs (e)(1) and (2) of this section.

(1) For each compliance demonstration that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test, according to § 63.10(d)(2).

(2) In addition to the requirements in § 63.9(h)(2)(i), you must include the information in paragraphs (e)(2)(i) through (iv) of this section in your Notification of Compliance Status.

(i) The operating limit parameter values established for each affected source with supporting documentation and a description of the procedure used to establish the values.

(ii) Design information and analysis with supporting documentation demonstrating conformance with requirements for capture/collection systems in Table 2 to this subpart.

(iii) A description of the methods used to comply with any applicable work practice standard.

(iv) For each APCD that includes a fabric filter, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 63.9804(f).

### § 63.9814 What reports must I submit and when?

(a) You must submit each report in Table 10 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 10 to this subpart and as specified 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 § 63.9786 and ending on June 30 or December 31 and lasting at least 6 months but less than 12 months. For example, if your compliance date is March 1, then the first semiannual reporting period would begin on March 1 and end on December 31.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31 for compliance periods ending on June 30 and December 31, respectively.

(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 for compliance periods ending on June 30 and December 31, respectively.

(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. In such cases, you must notify the Administrator of this change.

(c) The compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

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

(4) If you had a startup, shutdown or malfunction during the reporting period, and you took actions consistent with your SSMP and OM&M plan, the information specified in § 63.10(d)(5)(i).

(5) If there are no deviations from any emission limitations (emission limit, operating limit, or work practice standard) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period.

(6) If there were no periods during which the CPMS was out of control as specified in § 63.8(c)(7), a statement that there were no periods during which the CPMS was out of control during the reporting period.

(d) For each deviation from an emission limitation (emission limit, operating limit, or work practice standard) that occurs at an affected source where you are not using a CPMS to comply with the emission limitations in this subpart, the compliance report must contain the information in paragraphs (c)(1) through (4) and (d)(1) and (2) 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) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission limitation (emission limit, operating limit, or work practice standard) occurring at an affected source where you are using a CPMS to comply with the emission limitation in this subpart, you must include the information in paragraphs (c)(1) through (4) and (e)(1) through (13) 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) The date and time that each startup, shutdown, or malfunction started and stopped.

(3) The date, time, and duration that each CPMS was inoperative.

(4) The date, time and duration that each CPMS was out of control, including the information in § 63.8(c)(8), as required by your OM&M plan.

(5) The date and time that each deviation from an emission limitation (emission limit, operating limit, or work practice standard) started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction.

(6) A description of corrective action taken in response to a deviation.

(7) 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.

(8) 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.

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

(10) A brief description of the process units.

(11) A brief description of the CPMS.

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

(13) A description of any changes in CPMS, processes, or controls since the last reporting period.

(f) If you have obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71, you 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 you submit a compliance report according to Table 10 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), then submitting the compliance report will satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submitting a compliance report will not otherwise affect any obligation you may have to report deviations from permit requirements to the permit authority.

### § 63.9816 What records must I keep?

(a) You must keep the records listed in 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 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 as required in § 63.10(b)(2)(viii).

(b) You must keep the records required in Tables 7 through 9 to this subpart to show continuous compliance with each emission limitation that applies to you.

(c) You must also maintain the records listed in paragraphs (c)(1) through (8) of this section.

(1) Records of emission data used to develop an emissions profile, as indicated in items 8(a)(i)(3) and 15(b)(i)(3) of Table 4 to this subpart.

(2) Records that document how you comply with any applicable work practice standard.

(3) For each bag leak detection system, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

(4) For each deviation of an operating limit parameter value, the date, time, and duration of the deviation, a brief explanation of the cause of the deviation and the corrective action taken, and whether the deviation occurred during a period of startup, shutdown, or malfunction.

(5) For each affected source, records of production rate on a process throughput basis (either feed rate to the process unit or discharge rate from the process unit).

(6) Records for any approved alternative monitoring or test procedures.

(7) Records of maintenance and inspections performed on the control devices.

(8) Current copies of the SSMP and the OM&M plan, including any revisions with records documenting conformance.

### § 63.9818 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 onsite 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 may keep the records offsite for the remaining 3 years.

## Other Requirements and Information

### § 63.9820 What parts of the General Provisions apply to me?

Table 11 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

### § 63.9822 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement to 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 of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the applicability requirements in §§ 63.9782 and 63.9784, the compliance date requirements in § 63.9786, and the emission limitations in § 63.9788.

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

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

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

### § 63.9824 What material is incorporated by reference?

(a) The following material is incorporated by reference in this section: chapters 3 and 5 of ''Industrial Ventilation: A Manual of Recommended Practice,'' American Conference of Governmental Industrial Hygienists, (23rd edition, 1998). The incorporation by reference of this material will be approved by the Director of the Office of the Federal Register as of the date of publication of the final rule according to 5 U.S.C. 552(a) and 1 CFR part 51. This material is incorporated as it exists on the date of approval.

(b) The materials referenced in this section are incorporated by reference and are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, 7th Floor, Washington, DC. The material is also available for purchase from the following address: Customer Service Department, American Conference of Governmental Hygienists (ACGIH), 1330 Kemper Meadow Drive, Cincinnati, OH 45240, telephone number (513) 742–2020.

### § 63.9826 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in 40 CFR 63.2, the General Provisions of this part, and in this section as follows:

*Additive* means a minor addition of a chemical, mineral, or metallic substance that is added to a refractory mixture to facilitate processing or impart specific properties to the final refractory product.

*Add-on air pollution control device (APCD)* means equipment installed on a process vent that reduces the quantity of a pollutant that is emitted to the air.

*Autoclave* means a vessel that is used to impregnate fired and/or unfired refractory shapes with pitch to form pitch-impregnated refractory products. Autoclaves can also be used as defumers following the impregnation process.

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

*Basket* means the metal container used to hold refractory shapes for pitch impregnation during the shape preheating, impregnation, defuming and, if applicable, coking processes.

*Batch process* means a process in which a set of refractory shapes is acted upon as a single unit according to a predetermined schedule, during which none of the refractory shapes being processed are added or removed. A batch process does not operate continuously.

*Binder* means a substance added to a granular material to give it workability and green or dry strength.

*Catalytic oxidizer* means an add-on air pollution control device that is designed specifically to destroy organic compounds in a process exhaust gas stream by catalytic incineration. A catalytic oxidizer includes a bed of catalyst media through which the process exhaust stream passes to promote combustion and incineration at a lower temperature than would be possible without the catalyst.

*Chromium refractory product* means a refractory product that contains at least 1 percent chromium by weight.

*Clay refractory product* means a refractory product that contains at least 10 percent uncalcined clay by weight prior to firing in a kiln. In this definition, the term ''clay'' means any of the following six classifications of clay defined by the U.S. Geologic Survey: ball clay, bentonite, common clay and shale, fire clay, fuller's earth, and kaolin.

*Coking oven* means a thermal process unit that operates at a peak temperature typically between 540° and 870°C (1000° and 1600°F) and is used to drive off the volatile constituents of pitch-impregnated refractory shapes under a reducing atmosphere.

*Combustion efficiency* means the ratio of the carbon dioxide concentration to the sum of the concentrations of carbon dioxide, carbon monoxide, and total hydrocarbons in the exhaust stream of a combustion process or combustion-based control device.

*Continuous parameter monitoring system* (CPMS) means the total equipment that is used to measure and record temperature, pressure, liquid flow rate, gas flow rate, or pH on a continuous basis in one or more locations. ''Total equipment'' includes the sensor, mechanical components, electronic components, data acquisition system, data recording system, electrical wiring, and other components of a CPMS.

*Continuous process* means a process that operates continuously. In a continuous process unit, the materials or shapes that are processed are either continuously charged (fed) to and discharged from the process unit, or are charged and discharged at regular time intervals without the process unit being shut down. Continuous thermal process units, such as tunnel kilns, generally include temperature zones that are maintained at relatively constant temperature and through which the materials or shapes being processed are conveyed continuously or at regular time intervals.

*Curing oven* means a thermal process unit that operates at a peak temperature between 90° and 340°C (200° and 650°F) and is used to activate a thermosetting resin, pitch, or other binder in refractory shapes. Curing ovens also perform the same function as shape dryers in removing the free moisture from refractory shapes.

*Defumer* means a process unit that is used for holding pitch-impregnated refractory products as the products defume or cool immediately following the impregnation process. This definition includes autoclaves that are opened to the atmosphere following an impregnation cycle and used for holding pitch-impregnated refractory products while the products defume or cool.

*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 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.

*Dry injection fabric filter (DIFF)* means an add-on air pollution control device that includes continuous injection of hydrated lime or other sorbent into a duct or reaction chamber followed by a fabric filter.

*Dry lime scrubber/fabric filter (DLS/FF)* means an add-on air pollution control device that includes continuous injection of humidified hydrated lime or other sorbent into a reaction chamber followed by a fabric filter. These systems may include recirculation of some of the sorbent.

*Emission limitation* means any restriction on the emissions a process unit may discharge.

*Fabric filter* means an add-on air pollution control device used to capture particulate matter by filtering a process exhaust stream through filter or filter media; a fabric filter is also known as a baghouse.

*Fired refractory shape* means a refractory shape that has been fired in a kiln.

*HAP* means any hazardous air pollutant that appears in section 112(b) of the Clean Air Act.

*Kiln* means a thermal process unit that operates at a peak temperature greater than 820°C (1500°F) and is used for firing or sintering refractory, ceramic, or other shapes.

*Kiln furniture* means any refractory shape that is used to hold, support, or position ceramic or refractory products in a kiln during the firing process.

*Maximum organic HAP processing rate* means the combination of process and refractory product formulation that has the greatest potential to emit organic HAP. The maximum organic HAP processing rate is a function of the organic HAP processing rate, process operating temperature, and other process operating parameters that affect emissions of organic HAP. (See also the definition of *organic HAP processing rate.*)

*Organic HAP processing rate* means the rate at which the mass of organic HAP materials contained in refractory shapes are processed in an affected thermal process unit. The organic HAP processing rate is a function of the amount of organic HAP contained in the resins, binders, and additives used in a refractory mix; the amounts of those resins, binders, and additives in the refractory mix; and the rate at which the refractory shapes formed from the refractory mix is processed in an affected thermal process unit. For continuous process units, the organic HAP processing rate is expressed in units of mass of organic HAP per unit of time (e.g., pounds per hour). For batch process units, the organic HAP processing rate is expressed in units of mass of organic HAP per unit mass of refractory shapes processed in the batch (e.g., pounds per ton).

*Particulate matter (PM)* means, for the purposes of this subpart, emissions of particulate matter that serve as a measure of total particulate emissions as measured by EPA Method 5 of 40 CFR part 60, appendix A.

*Peak emissions period* means the period of consecutive hourly emissions of the applicable pollutant, measured in the units and format of the applicable emission limit, that is greater than any other period of consecutive hourly emissions for the same pollutant over the course of a specified batch process cycle.

(1) The 4-hour THC peak emissions period is the period of 4 consecutive hours over which the sum of the hourly average THC concentrations, corrected to 18 percent oxygen, is greater than the sum of the hourly average THC emission concentrations, corrected to 18 percent oxygen, for any other period of 4 consecutive hours during the same batch process cycle.

(2) The 3-hour HF peak emissions period is the period of 3 consecutive hours over which the sum of the hourly HF emission rates is greater than the sum of the hourly HF emission rates for

any other period of 3 consecutive hours during the same batch process cycle.

*Pitch* means the residue from the distillation of petroleum or coal tar.

*Pitch-impregnated refractory product* means a refractory shape that has been fired in a kiln, then impregnated with heated coal tar or petroleum pitch under pressure. After impregnation, pitch-impregnated refractory shapes may undergo the coking process in a coking oven. The total carbon content of a pitch-impregnated refractory product is less than 50 percent.

*Pitch working tank* means a tank that is used for heating pitch to the impregnation temperature, typically between 150° and 260°C (300° and 500°F); temporarily storing heated pitch between impregnation cycles; and transferring pitch to and from the autoclave during the impregnation step in manufacturing pitch-impregnated refractory products.

*Plant site* means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

*Refractory product* means nonmetallic materials having those chemical and physical properties that make them applicable for structures, or as components of systems, that are exposed to environments above 538°C (1000°F). This definition includes, but is not limited to: refractory bricks, kiln furniture, crucibles, refractory ceramic fiber, and other materials used as linings for boilers, kilns, and other processing units and equipment where extremes of temperature, corrosion, and abrasion would destroy other materials.

*Refractory products that use organic HAP* means resin-bonded refractory products, pitch-bonded refractory products, and other refractory products that are produced using a substance that is an organic HAP, that releases an organic HAP during production of the refractory product, or that contains an organic HAP, such as methanol or ethylene glycol.

*Refractory shape* means any refractory piece forming a stable mass with specific dimensions.

*Research and development process unit* means any process unit whose purpose is to conduct research and development for new processes and products and is not engaged in the manufacture of products for commercial sale.

*Responsible official* means one of the following:

(1) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representatives is approved in advance by the Administrator;

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

(3) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or

(4) For affected sources (as defined in this subpart) applying for or subject to a title V permit: ‘‘responsible official’’ means responsible official as defined in § 63.2.

*Shape dryer* means a thermal process unit that operates at a peak temperature between 40° and 700°C (100° and 1300°F) and is used exclusively to reduce the free moisture content of a refractory shape. Shape dryers generally are the initial thermal process step following the forming step in refractory products manufacturing. (See also the definition of a *curing oven*).

*Shape preheater* means a thermal process unit that operates at a peak temperature between 180° and 320°C (350° and 600°F) and is used to heat fired refractory shapes prior to the impregnation step in manufacturing pitch-impregnated refractory products.

*Thermal oxidizer* means an add-on air pollution control device that includes one or more combustion chambers and is designed specifically to destroy organic compounds in a process exhaust gas stream by incineration.

*Uncalcined clay* means clay that has not undergone thermal processing in a calciner.

*Wet scrubber (WS)* means an add-on air pollution control device that removes pollutants from a gas stream by bringing them into contact with a liquid, typically water.

*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.

As stated in § 63.9788, you must comply with the emission limits for affected sources in the following table:

TABLE 1 TO SUBPART SSSSS OF PART 63.—EMISSION LIMITS

| For . . . | You must meet the following emission limits . . . |
|---|---|
| 1. Each new or existing curing oven, shape dryer, and kiln that is used to process refractory products that use organic HAP; each new or existing coking oven and defumer that is used to produce pitch-impregnated refractory products; each new shape preheater that is used to produce pitch-impregnated refractory products; AND each new or existing process unit that is exhausted to a thermal or catalytic oxidizer that also controls emissions from an affected shape preheater or pitch working tank. | As specified in items 2 through 7 of this table. |
| 2. Continuous process units that are controlled with a thermal or catalytic oxidizer. | a. The 3-hour block average total hydrocarbon (THC) concentration must not exceed 20 parts per million by volume, dry basis (ppmvd), corrected to 18 percent oxygen, at the outlet of the control device; OR |

TABLE 1 TO SUBPART SSSSS OF PART 63.—EMISSION LIMITS—Continued

| For . . . | You must meet the following emission limits . . . |
|---|---|
| | b. If the carbon dioxide ($CO_2$) concentration at the outlet of the control device does not exceed 3.0 percent, the 3-hour block average combustion efficiency must equal or exceed 99.8 percent at the outlet of the control device, as specified in item 5(d) of Table 4 to this subpart using Equation 2 of § 63.9800(f)(2). |
| 3. Continuous process units that are equipped with a control device other than a thermal or catalytic oxidizer or that use process changes to reduce organic HAP emissions. | The 3-hour block average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the process gas stream. |
| 4. Continuous kilns that are not equipped with a control device | The 3-hour block average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the process gas stream. |
| 5. Batch process units that are controlled with a thermal or catalytic oxidizer. | a. The average of the highest rolling 3-hour average THC concentrations must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the control device;<br>OR<br>b. If the $CO_2$ concentration at the outlet of the control device does not exceed 3.0 percent, the average of the highest rolling 3-hour average combustion efficiencies must equal or exceed 99.8 percent at the outlet of the control device, as specified in item 10(e) of Table 4 to this subpart using Equation 2 of § 63.9800(f)(2). |
| 6. Batch process units that are equipped with a control device other than a thermal or catalytic oxidizer or that use process changes to reduce organic HAP emissions. | The average of the highest rolling 3-hour average THC concentrations must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the process gas stream. |
| 7. Batch process kilns that are not equipped with a control device | The average of the highest rolling 3-hour average THC concentrations must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the process gas stream. |
| 8. Each new continuous kiln that is used to produce clay refractory products. | a. The 3-hour block average hydrogen fluoride (HF) emissions must not exceed 0.001 kilograms per megagram (kg/Mg) (0.002 pounds per ton (lb/ton)) of uncalcined clay processed, OR uncontrolled HF emissions must be reduced by at least 99.5 percent;<br>AND<br>b. The 3-hour block average hydrochloric acid (HCl) emissions must not exceed 0.0025 kg/Mg (0.005 lb/ton) of uncalcined clay processed, OR uncontrolled HCl emissions must be reduced by at least 98 percent. |
| 9. Each new batch process kiln that is used to produce clay refractory products. | a. Uncontrolled HF emissions must be reduced by at least 99.5 percent, according to the procedure specified in item 15(d) of Table 4 to this subpart;<br>AND<br>b. Uncontrolled HCl emissions must be reduced by at least 98 percent, according to the procedure specified in item 15(e) of Table 4 to this subpart. |

As stated in § 63.9788, you must comply with the operating limits for affected sources in the following table:

TABLE 2 TO SUBPART SSSSS OF PART 63.—OPERATING LIMITS

| For . . . | You must . . . |
|---|---|
| 1. Each new or existing curing oven, shape dryer, and kiln that is used to process refractory products that use organic HAP; each new or existing coking oven and defumer that is to produce pitch-impregnated refractory products; each new shape preheater that is used to produce pitch-impregnated refractory products; AND each new or existing process unit that is exhausted to a thermal or catalytic oxidizer that also controls emissions from an affected shape preheater or pitch working tank. | a. Operate all affected sources according to the requirements to this subpart on and after the date on which the initial performance test is conducted or required to be conducted, whichever date is earlier;<br>AND<br>b. Capture emissions and vent them through a closed system;<br>AND<br>c. Operate each control device that is required to comply with this subpart on each affected source during all periods that the source is operating, except where specified in item 13 of Table 4 to this subpart;<br>AND<br>d. Record all operating parameters specified in Table 8 to this subpart for the affected source;<br>AND<br>e. Prepare and implement a written operation, maintenance, and monitoring (OM&M) plan as specified in § 63.9792(d).<br>AND<br>f. Satisfy the applicable operating limits specified in items 2 through 7 of this table. |
| 2. Each affected continuous process unit | Maintain the 3-hour block average organic HAP processing rate (pounds per hour) at or below the level established during the most recent performance test. |

TABLE 2 TO SUBPART SSSSS OF PART 63.—OPERATING LIMITS—Continued

| For . . . | You must . . . |
|---|---|
| 3. Continuous process units that are equipped with a thermal oxidizer | Maintain the 3-hour block average operating temperature in the thermal oxidizer combustion chamber at or above the average hourly operating temperature established during the most recent performance test minus 14° C (25° F). |
| 4. Continuous process units that are equipped with a catalytic oxidizer | Maintain the 3-hour block average operating temperature at the inlet of the catalyst bed of the oxidizer at or above the average hourly operating temperature established during the most recent performance test minus 14° C (25° F). |
| 5. Each affected batch process unit | For each batch cycle, maintain the organic HAP processing rate (pounds per batch) at or below the level established during the most recent performance test. |
| 6. Batch process units that are equipped with a thermal oxidizer | a. From the start of each batch cycle until 3 hours have passed since the process unit reached maximum temperature, maintain the average hourly operating temperature in the thermal oxidizer combustion chamber at or above the average hourly operating temperature minus 14° C (25° F) established for the corresponding period during the most recent performance test;<br>AND<br>b. For each subsequent hour of the batch cycle, maintain the average hourly operating temperature in the thermal oxidizer combustion chamber at or above the average hourly operating temperature minus 14° C (25° F) established for the corresponding hour during the most recent performance test, as specified in item 11 of Table 4 to this subpart. |
| 7. Batch process units that are equipped with a catalytic oxidizer | a. From the start of each batch cycle until 3 hours have passed since the process unit reached maximum temperature, maintain the average hourly operating temperature at the inlet of the catalyst bed at or above the average hourly operating temperature minus 14° C (25° F) established for the corresponding period during the most recent performance test;<br>AND<br>b. For each subsequent hour of the batch cycle, maintain the average hourly operating temperature at the inlet of the catalyst bed at or above the average hourly operating temperature minus 14° C (25° F) established for the corresponding hour during the most recent performance test, as specified in item 12 of Table 4 to this subpart. |
| 8. Each new kiln that is used to process clay refractory products | Satisfy the applicable operating limits specified in items 9 through 11 of this table. |
| 9. Each affected kiln that is equipped with a DIFF or DLS/FF | a. Initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with the OM&M plan;<br>AND<br>b. Maintain the 3-hour block average fabric filter inlet temperature at or below the average temperature established during the performance test plus 14° C (25° F);<br>AND<br>c. Verify at least once each 8-hour shift that lime is free-flowing by means of a visual check, checking the output of a load cell, carrier gas/lime flow indicator, or carrier gas pressure drop measurement system;<br>AND<br>d. Record feeder setting daily to verify that the feeder setting is at or above the level established during the most recent performance test. |
| 10. Each affected kiln that is equipped with a DLS/FF | Maintain the 3-hour block average water injection rate at or above the average water injection rate established during the most recent performance test. |
| 11. Each affected kiln that is equipped with a wet scrubber (WS) | Maintain the 3-hour block average pressure drop across the scrubber, liquid pH, AND liquid flow rate at or above the levels established during the most recent performance test. |

As stated in § 63.9788, you must comply with the work practice standards for affected sources in the following table:

### TABLE 3 TO SUBPART SSSSS OF PART 63.—WORK PRACTICE STANDARDS

| For . . . | You must . . . | According to one of the following requirements . . . |
|---|---|---|
| 1. Each basket or container that is used for holding fired refractory shapes in an existing shape preheater and autoclave during the pitch impregnation process. | a. Control POM emissions from any affected shape preheater. | i. At least every 10 cycles, remove the residual pitch from the surfaces of the basket or container by abrasive blasting prior to placing the basket or container in the affected shape preheater;<br>OR<br>ii. At least every 10 cycles, subject the basket or container to a thermal process cycle that meets or exceeds the operating temperature and cycle time of the affected preheater, AND is conducted in a process unit that is exhausted to a thermal or catalytic oxidizer that is comparable to the control device used on an affected defumer or coking oven;<br>OR<br>iii. Capture emissions from the affected shape preheater and vent them to the control device that is used to control emissions from an affected defumer or coking oven, OR to a comparable thermal or catalytic oxidizer. |
| 2. Each existing and new pitch working tank. | Control POM emissions ............ | Capture emissions from the affected pitch working tank and vent them to the control device that is used to control emissions from an affected defumer or coking oven, OR to a comparable thermal or catalytic oxidizer. |
| 3. Each existing and new chromium refractory products kiln. | Minimize fuel-based HAP emissions. | Use natural gas, or equivalent, as the kiln fuel. |
| 4. Each existing clay refractory products kiln. | Minimize fuel-based HAP emissions. | Use natural gas, or equivalent, as the kiln fuel. |

As stated in § 63.9800, you must comply with the requirements for performance tests for affected sources in the following table:

### TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 1. Each affected source listed in Table 1 to this subpart. | a. Conduct performance tests ...... | i. The requirements of the general provisions in subpart A of this part and the requirements to this subpart. | (1) Record the date of the test;<br>AND<br>(2) Identify the emission source that is tested;<br>AND<br>(3) Collect and record the corresponding operating parameter and emission test data listed in this table for each run of the performance test;<br>AND<br>(4) Conduct a minimum of three separate test runs during the performance test;<br>AND<br>(5) Repeat the performance test at least every 5 years;<br>AND<br>(6) If complying with the THC or combustion efficiency limits specified in items 2 through 7 of Table 1 to this subpart, repeat the performance test under the conditions specified in items 2(a)(3) and (4) of this table. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | b. Select the locations of sampling ports and the number of traverse points. | i. Method 1 or 1A of 40 CFR, part 60, appendix A. | (1) To demonstrate compliance with the control efficiency (percent reduction) limits specified in items 8 and 9 of Table 1 to this subpart, locate sampling sites at the inlet of the control device and at either the outlet of the control device or at the stack prior to any releases to the atmosphere;<br>AND<br>(2) To demonstrate compliance with any other emission limit specified in Table 1 to this subpart, locate all sampling sites at the outlet of the control device or at the stack prior to any releases to the atmosphere. |
| | c. Determine gas velocity and volumetric flow rate. | Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A. | Measure gas velocities and volumetric flow rates at 1-hr intervals throughout each test run. |
| | d. Conduct gas molecular weight analysis. | Method 3, 3A, or 3B of 40 CFR part 60, appendix A. | As specified in the applicable test method. |
| | e. Measure gas moisture content | Method 4 of 40 CFR part 60, appendix A. | As specified in the applicable test method. |
| 2. Each new or existing curing oven, shape dryer, and kiln that is used to process refractory products that use organic HAP; each new or existing coking oven and defumer that is used to produce pitch-impregnated refractory products; each new shape preheater that is used to produce pitch-impregnated refractory products; AND each new or existing process unit that is exhausted to a thermal or catalytic oxidizer that also controls emissions from an affected shape preheater or pitch working tank. | a. Conduct performance tests ...... | | (1) Conduct the performance test while the source is operating at the maximum organic HAP processing rate reasonably expected to occur;<br>AND<br>(2) Define the maximum organic HAP processing rate as the combination of process and product or products having the greatest potential to emit organic HAP;<br>AND<br>(3) Repeat the performance test before starting production of any product for which the organic HAP processing rate is likely to exceed the maximum organic HAP processing rate established during most recent performance test;<br>AND<br>(4) Repeat the performance test on any affected uncontrolled kiln following process changes (e.g., shorter curing oven cycle time) that could increase organic HAP emissions from the affected kiln. |
| | b. Satisfy the applicable requirements listed in items 3 through 13 of this table. | | |
| 3. Each affected continuous process unit. | a. Perform a minimum of 3 test runs. | The appropriate test methods specified in items 1, 4 and 5 of this table. | Each test run must be at least 1 hour in duration. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | b. Establish the operating limit for the maximum organic HAP processing rate. | i. Method 311, OR MSDS sheets, OR product labels to determine the mass fraction of organic HAP in each resin, binder, or additive;.<br>AND<br>Product formulation data that specify the mass fraction of each resin, binder, and additive in the products that are processed during the performance test;<br>AND<br>Process feed rate data (tons per hour). | (1) Calculate and record the organic HAP content of all refractory shapes that are processed during the performance test, based on the mass fraction of organic HAP in the resins, binders, or additives; the mass fraction of each resin, binder, or additive, in the product; and the process feed rate;<br>AND<br>(2) Calculate and record the organic HAP processing rate (pounds per hour) for each test run;<br>AND<br>(3) Calculate and record the 3-run average organic HAP processing rate as the average of the average organic HAP processing rates for each test run. |
| | c. Record the operating temperature of the affected source. | Process data. ............................... | During each test run and at least once per hour, record the operating temperature in the highest temperature zone of the affected source. |
| 4. Each continuous process unit that is subject to the THC emission limit listed in item 2(a), 3, or 4 of Table 1 to this subpart. | a. Measure emissions of THC at the outlet of the control device or in the stack. | i. Method 25A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of THC in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration. |
| | b. Measure emissions of $O_2$ at the outlet of the control device or in the stack. | i. Method 3A of 40 CFR part 60, appendix A. | (1) Each minutes measure and record the concentrations of $O_2$ in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average $O_2$ concentration. |
| | c. Determine the average hourly THC concentrati on, corrected to 18 percent $O_2$. | 1. Equation 1 of § 63.9800(f)(1) ... | (1) Calculate the hourly average THC and $O_2$ concentrations for each hour of the performance test as the average of the 1-minute THC and $O_2$ measurements;<br>AND<br>(2) Correct the hourly average THC concentration to 18 percent $O_2$ using Equation 1 of § 63.9800(f)(1). |
| | d. Determine the 3-hour block average THC emission concentrati on, corrected to 18 percent $O_2$. | i. The hourly average concentrati on of THC, corrected to 18 percent $O_2$. | (1) Calculate the hourly THC emission concentration, corrected to 18 percent $O_2$, for each hour of the performance test;<br>AND<br>(2) Calculate the 3-hour block average THC emission concentration, corrected to 18 percent $O_2$, as the average of the hourly THC emission concentrations corrected to 18 percent $O_2$. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 5. Each continuous process unit that is subject to the combustion efficiency limit listed in item 2(b) of Table 1 to this subpart. | a. Measure emissions of THC at the outlet of the control device or in the stack. | i. Method 25A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of THC in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration. |
| | b. Measure emissions of $CO_2$ at the outlet of the control device. | i. Method 3A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of $CO_2$ in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average $CO_2$ concentration;<br>AND<br>(3) Calculate the hourly average $CO_2$ concentration for each hour of the performance test. |
| | c. Measure emissions of CO at the outlet of the control device. | i. Method 10 of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of CO in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average CO concentration;<br>AND<br>(3) Calculate the hourly average CO concentration for each hour of the performance test. |
| | d. Determine the 3-hour block average combustion efficiency. | i. The hourly average concentrations of $CO_2$, CO, and THC. | (1) Calculate the hourly average combustion efficiency for each hour of the performance test according to Equation 2 of § 63.9800(f)(2);<br>AND<br>(2) Calculate the 3-hour block average combustion efficiency as the average of the three hourly average combustion efficiencies. |
| 6. Continuous process units that are equipped with a thermal oxidizer. | a. Establish the operating limit for the minimum thermal oxidizer combustion chamber temperature. | i. Continuous recording of the output of the combustion chamber temperature measurement device. | (1) At least every 15 minutes, measure and record the thermal oxidizer combustion chamber temperature;<br>AND<br>(2) Provide at least one measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the hourly average thermal oxidizer combustion chamber temperature for each hour of the performance test. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 7. Continuous process units that are equipped with a catalytic oxidizer. | a. Establish the operating limit for the minimum temperature at the inlet of the oxidizer catalyst bed.. | i. Continuous recording of the output of the temperature measurement device.. | (1) At least every 15 minutes, measure and record the temperature at the oxidizer catalyst bed inlet;<br>AND<br>(2) Provide at least one catalyst bed. bed inlet temperature measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the hourly average catalyst bed inlet temperature for each hour of the performance test. |
| 8. Each affected batch process unit. | a. Perform a minimum of 3 test runs. | i. The appropriate test methods specified in ites 1, 9. and 10 of this table. | (1) Each test run must begin with the start of a batch cycle, except as specified in items 8(a)(i)(3) of this table;<br>AND<br>(2) Each test run must continue until the end of the batch cycle, except as specified in items 8(a)(i)(3) and (4) of this table;<br>AND<br>(3) If you develop an emissions profile, as described in § 63.9802(a), you can limit each test run to the 4-hour THC peak emissions period;<br>AND<br>(4) If you do not develop an emissions profile, a test run can be stopped and the results of that run considered complete if you measure emissions continuously until at least 3 hours after the affected process unit reaches maximum temperature, AND emissions of THC are not increasing during the 3-hour period since maximum process temperature was reached, AND the concentration of THC at the inlet to the control device does not exceed 20 ppmvd, corrected to 18 percent oxygen, OR the emission limits listed in items 5 and 6 of Table 1 to this subpart have been met during each of the final three 1-hour periods of the test run, AND, for sources equipped with a thermal or catalytic oxidizer, at least 1 hour has passed since any reduction in the operating temperature of the oxidizer, as specified in item 13 of this table. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | b. Establish the operating limit for the maximum organic HAP processing rate. | i. Method 311, OR MSDS sheets, OR product labels to determine the mass fraction of organic HAP in each resin, binder, or additive;<br>AND<br>ii. Product forumlation data that specify the mass fraction of each resin, binder, and additive in the products that are processed during the performance test;<br>AND<br>iii. Batch weight (tons). | (1) Calculate and record the organic HAP content of all refractory shapes that are processed during the performance test, based on the mass fraction of organic HAP in the resins, binders, or additives; the mass fraction of each resin, binder, or additive, in the product, and the batch weight prior to processing;<br>AND<br>(2) Calculate and record the organic HAP processing rate (pounds per batch) for each test run;<br>AND<br>(3) Calculate and record the 3-run average organic HAP processing rate as the average of the average organic HAP processing rates for each test run. |
| | c. Record the batch cycle time ..... | Process data ................................ | Record the total elapsed time from start to completion of the batch cycle. |
| | d. Record the operating temperature of the affected source. | Process data ................................ | Record the operating temperature of the affected source at least once every hour of the performance test. |
| 9. Each batch process unit that is subject to the THC emission limit listed in item 5(a), 6, or 7 of Table 1 to this subpart. | a. Measure emissions of THC at the outlet of the control device or in the stack. | i. Method 25A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of THC in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration. |
| | b. Measure emissions of the outlet of the control device or in the stack. | i. Method 3A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of $O_2$ in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average $O_2$ concentration. |
| | c. Determine the average hourly THC concentration, corrected to 18 percent $O_2$. | i. Equation 1 of § 63.9800(f)(1) ..... | (1) Calculate the hourly average THC and $O_2$ concentrations for each hour of the performance test as the average of the 1-minute THC and $O_2$ measurements;<br>AND<br>(2) Correct the hourly average THC concentration to 18 percent $O_2$ using Equation 1 of § 63.9800(f)(1). |
| | d. Determine the rolling 3-hour average THC emission concentrations, corrected to 18 percent $O_2$, for each test run. | The hourly average concentrations of THC, corrected to 18 percent $O_2$. | Calculate the rolling 3-hour average THC emission concentration as the average of the hourly THC emission concentrations, corrected to 18 percent $O_2$, for each period of 3 consecutive hours during each test run. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | e. Determine the average of the highest rolling 3-hour average THC concentrations, corrected to 18 percent $O_2$. | The rolling 3-hour average THC emission concentrations, corrected to 18 percent $O_2$. | Calculate the average of the highest rolling 3-hour average THC concentrations, corrected to 18 percent $O_2$, as the average of the highest rolling 3-hour THC emission concentrations, corrected to 18 percent $O_2$, for each test run. |
| 10. Batch process units that are subject to the combustion efficiency limit listed in item 5(b) of Table 1 to this subpart. | a. Measure emissions of THC at the outlet of the control device or in the stack. | i. Method 25A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of THC in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration. |
| | b. Measure emissions of $CO_2$ at the outlet of the control device. | i. Method 3A of 40 CFR part 60, appendix A. | (1) Each minute, measure and record the concentrations of $CO_2$ in the the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average $CO_2$ concentration;<br>AND<br>(3) Calculate the hourly average $CO_2$ concentration for each hour of the performance test. |
| | c. Measure emissions of CO at the outlet of the control device. | i. Method 10 of 40 CFR part 60, appendix A. | (1) Each minute, measure and record, the concentrations of CO in the exhaust stream;<br>AND<br>(2) Provide at least 50 1-minute measurements for each valid hourly average CO concentration;<br>AND<br>(3) Calculate the hourly average CO concentration for each hour of the performance test. |
| | d. Determine the rollowing 3-hour average combustion efficiencies for each test run. | The hourly average concentrations of $CO_2$, CO, and THC. | Calculate the the rolling 3-hour average combustion efficiency as theaverage of the hourly combustion efficiencies efficiencies according to Equation 2 of § 63.9800(f)(2) for each period of 3 consecutive hours during each test run. |
| | e. Determine the average of the highest rolling 3-hour average combustion efficiencies. | The rolling 3-hour average combustion efficiencies. | Calculate the average 3-hour average combustion efficiencies as the average of the highest rolling 3-hour combustion efficiencies for each test run. |
| 11. Batch process units that are equipped with a thermal oxidizer. | a. Establish the operating limit for the minimum thermal oxidizer combustion chamber temperature. | i. Continuous recording of the output of the combustion chamber temperature measurement device. | (1) At least every 15 minutes, measure and record the thermal oxidizer combustion chamber temperature;<br>AND<br>(2) Provide at least one temperature measure during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the hourly average temperature for each hour of the performance test. |

## TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 12. Batch process units that are equipped with a catlytic oxidizer. | a. Establish the operating limits for the minimum temperature at the inlet of the oxidizer catalyst bed. | i. Continuous recording of the output of the temperature measurement device. | (1) At least every 15 minutes, measure and record the temperature at the oxidizer catalyst bed inlet;<br>AND<br>(2) Provide at least one catalyst bed inlet temperature measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the hourly average catalyst bed inlet temperature for each hour of the performance test. |
| 13. Batch process units that are equipped with a thermal and catalytic oxidizer. | a. During each test run, maintain the operating temperature of the oxidizer until emission levels allow the oxidizer to be shut off or the operating temperature of the oxidizer to be reduced. | ........................................................ | (1) The oxidizer can be shut off or the oxidizer operating temperature can be reduced if at least 3 hours have passed since the affected process unit reached maximum temperature;<br>AND<br>(2) The applicable emission limit specified in items 5(a) and (b) of Table 1 to this subpart is met during each of the previous three 1-hour periods<br>AND<br>(3) Average hourly THC emissions are not increasing during the 3-hour period since maximum process temperature was reached;<br>AND<br>(4) The average THC concentration at the inlet to the oxidizer has not exceeded 20 ppmvd, corrected to 18 percent oxygen, for at least 1 hour, OR the applicable emission limit specified in items 5(a) and (b) of Table 1 to this subpart is met during each of the four 15-minute periods immediately following the oxidizer temperature reduction;<br>AND<br>(5) If the applicable emission limit specifiefd in items 5(a) and (b) of Table 1 to this subpart is not met during any of the four 15-minute periods immediately following the oxidizer temperature reduction, you must return the oxidizer to its normal operating temperature as soon as possible and maintain that temperature for at least 1 hour;<br>AND<br>(6) You must continue the test run until the applicable emission limit specified in items 5(a) and (b) of Table 1 to this subpart is met for at least four consecutive 15-minute periods that immediately follow the temperature reduction |
| 14. Each new continuous kiln that is used to process clay refractory products. | a. Measure emissions of HF and HC. | Method 26A of 40 CFR part 60, appendix A. | Conduct the test while the emissions units is operating at the maximum production level. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | b. Perform a minimum of 3 test runs. | The appropriate test methods specified in items 1 and 14(a) of this table. | Each test run must be at least 1 hour in duration. |
| | c. If complying with the production—based HF or HCl emission limits specified in items 8(a) and (b) of table 1 to this subpart, record the uncalcined clay processing rate. | i. Production data; AND<br>ii. Product formulation data that specify the mass fraction of uncalcined clay in the products that are processed during the performance test. | (1) Record the production rate (tons per hour of fired product); AND<br>(2) Calculate and record the average rate at which uncalcined clay is processed (tons per hour) for each test run; AND<br>(3) Calculate and record the 3-run average uncalcined clay processing rate as the average of the average uncalcined clay processing rates for each test run. |
| | d. If complying with the production—based HF emission limit specified in item 8(a) of Table 1 to this subpart, determine the 3-hour block average production-based HF emission rate. | i. The hourly HF emission rate; AND<br>ii. The average uncalcined clay processing rate. | (1) Calculate the hourly production-based HF emission rate for each test run using Equation 3 of § 63.9800(f)(3); AND<br>(2) Calculate the 3-hour block average production-based HF emission rate as the average of the hourly production-based HF emission rates for each test run. |
| | e. If complying with the production-based HCl emission limit specified in item 8(b) of Table 1 to this subpart, determine the 3-hour block average production-based HCl emission rate. | i. The hourly HCl emission rate; AND<br>ii. The average uncalcined clay processing rate. | (1) Calculate the hourly production-based HCl emission rate for each test run using Equation 3 of § 63.9800(f)(3); AND<br>(2) Calculate the 3-hour block average production-based HCl emission rate as the average of the hourly production-based HCl emission rates for each test run. |
| | f. If complying with the percent HF reduction emission limit specified in item 8(a) of Table 1 to this subpart, determine the 3-hour block average percent HF reduction. | i. The hourly average HF emission rates at the inlet and outlet to the control device. | (1) Calculate the hourly percent HF reduction using Equation 4 of § 63.9800(f)(4); AND<br>(2) Calculate the 3-hour block average HF percent reduction as the average of the hourly HF reductions. |
| | g. If complying with the percent HCl reduction emission limit specified in item 8(b) of Table 1 to this subpart, determine the 3-hour block average percent HCl reduction. | i. The hourly average HCl emission rates at the inlet and outlet to the control device. | (1) Calculate the hourly percent HCl reduction using Equation 4 of § 63.9800(f)(4); AND<br>(2) Calculate the 3-hour block average HCl percent reduction as the average of the hourly percent HCl reductions. |
| 15. Each new batch process kiln that is used to process clay refractory products. | a. Measure emissions of HF and HCl. | Method 26A of 40 CFR part 60, appendix A. | Conduct the test while the emissions units is operating at the maximum production level. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | b. Perform a minimum of 3 test runs. | i. The appropriate test methods specified in items 1 and 15(a) of this table. | (1) Each test run must consist of a series of 1-hour Method 26A runs, beginning with the start of a batch cycle, except as specified in item 15(b)(i)(3) of this table;<br>AND<br>(2) Each test run must continue until the end of the batch cycle, except as specified in item 15(b)(i)(3) of this table;<br>AND<br>(3) If you develop an emissions profile, as described in § 63.9802(b), you can limit each test run to the 3-hour HF peak emissions period. |
| | c. Record the average uncalcined clay processing rate. | i. Batch weight data; ....................<br>AND<br>ii. Product formulation data that specify the mass fraction of uncalcined clay in the refractory products processed during the performance test | (1) Record the batch weight (tons per batch);<br>AND<br>(2) Calculate and record the average rate at which uncalcined clay is processed (tons per batch) for each test run;<br>AND<br>(3) Calculate and record the 3-run average uncalcined clay processing rate as the average of the average uncalcined clay processing rates for each test run. |
| | d. Determine the 3-run block average percent HF reduction for the 3-hour HF peak emissions period. | i. The hourly average HF emission rates at the inlet and outlet to the control device. | (1) For each test run, determine the 3-hour HF peak emissions period, as defined in § 63.9826.<br>(2) Calculate the percent HF reduction for each hour of the 3-hour HF peak emissions period using Equation 4 of § 63.9800(f)(4);<br>AND<br>(3) Calculate the average percent HF reduction for each test run as the average of the hourly percent HF reductions for the 3-hour HF peak emissions period for that run;<br>AND<br>(4) Calculate the 3-run block average HF percent reduction as the average of the percent HF reductions for each run. |

### TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | e. Determine the 3-run block average percent HCl reduction for the 3-hour HF peak emissions period. | i. The hourly average HCl emission rates at the inlet and outlet to the control device. | (1) For each test run, determine the 3-hour HF peak emissions period, as defined in § 63.9826.<br>(2) Calculate the percent HCl reduction for each hour of the 3-hour HF peak emissions period using Equation 4 of § 63.9800(f)(4);<br>AND<br>(3) Calculate the average percent HCl reduction for each test run as the average of the hourly percent HCl reductions for the 3-hour HF peak emissions period for that run;<br>AND<br>(4) Calculate the 3-run block average HCl percent reduction as the average of the percent HCl reductions for each run. |
| 16. Each new kiln that is used to process clay refractory products and is equipped with a DIFF or DLS/FF. | a. Document conformance with specifications and requirements of the bag leak detection system. | Data from installation and calibration of the bag leak detection system. | Submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems as part of the Notification of Compliance Status. |
| | b. Establish the operating limit for the maximum average fabric filter inlet temperature. | i. Data from the temperature measurement device during the performance test. | (1) At least every 15 minutes, measure and record the temperature at the inlet to the fabric filter;<br>AND<br>(2) Provide at least one temperature measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the hourly average temperature for each hour of the performance test;<br>AND<br>(4) Calculate and record the 3-hour block average temperature as the average of the hourly average temperatures. |
| | c. Establish the operating limit for the lime feeder setting. | i. Data from the lime feeder during the performance test. | (1) For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times during the performance test;<br>AND<br>(2) Record the feeder setting for the three test runs;<br>AND<br>(3) If the feed rate setting varies during the three test runs, calculate and record the average feed rate from the three test runs. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| 17. Each new kiln that is used to process clay refractory products and is equipped with a DLS/FF. | a. Establish the operating limit for the minimum average water injection. | i. Data from the water injection rate measurement device during the performance test. | (1) At least every 15 minutes, measure the water injection rate;<br>AND<br>(2) Provide at least one water injection rate measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate and record the 3-hour block average water injection rate as the average of the hourly average water injection rates. |
| 18. Each new kiln that is used to process clay refractory products and is equipped with a WS. | a. Establish the operating limit for the minimum average scrubber pressure drop. | i. Data from the pressure drop measurement device during the performance test. | (1) At least every 15 minutes, measure the scrubber pressure drop;<br>AND<br>(2) Provide at least one pressure drop measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the average hourly pressure drop for each hour of the performance test;<br>AND<br>(4) Calculate and record the 3-hour block average pressure drop as the average of the hourly average pressure drops. |
| | b. Establish the operating limit for the minimum average scrubber liquid pH. | i. Data from the pH measurement device during the performance test. | (1) At least every 15 minutes, measure scrubber liquid pH;<br>AND<br>(2) Provide at least one pH measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the average hourly pH values for each hour of the performance test;<br>AND<br>(4) Calculate and record the 3-hour block average liquid pH as the average of the hourly average pH measurements. |
| | c. Establish the operating limit for the minimum average scrubber liquid flow rate. | i. Data from the flow rate measurement device during the performance test. | (1) At least every 15 minutes, measure the scrubber liquid flow rate;<br>AND<br>(2) Provide at least one flow rate measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the average hourly liquid flow rate for each hour of the performance test;<br>AND<br>(4) Calculate and record the 3-hour block average liquid flow rate as the average of the average hourly liquid flow rates. |

TABLE 4 TO SUBPART SSSSS TO PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

| For . . . | You must . . . | Using . . . | According to the following requirements . . . |
|---|---|---|---|
| | d. Establish the operating limit for the minimum average scrubber chemical feed rate. | i. Data from the chemical feed rate measurement device during the performance test. | (1) At least every 15 minutes, measure the scrubber chemical feed rate;<br>AND<br>(2) Provide at least one chemical feed rate measurement during at least three 15-minute periods per hour of testing;<br>AND<br>(3) Calculate the average hourly chemical feed rate for each hour of the performance test;<br>AND<br>(4) Calculate and record the 3-hour block average chemical feed rate as the average of the hourly average chemical feed rates. |

As stated in § 63.9806, you must show initial compliance with the emission limits for affected sources according to the following table:

TABLE 5 TO SUBPART SSSSS OF PART 63.—INITIAL COMPLIANCE WITH EMISSION LIMITS

| For . . . | For the following emission limit . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. Each affected source listed in Table 1 to this subpart. | a. Each applicable emission limit listed in Table 1 to this subpart. | i. Emissions measured using the test methods specified in Table 4 to this subpart satisfy the applicable emission limits specified in Table 1 to this subpart;<br>AND<br>ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the performance test period;<br>AND<br>iii. You report the results of the performance test in the Notification of Compliance Status, as specified by § 63.9812 (e)(1) and (2). |
| 2. Each new or existing curing oven, shape dryer, and kiln that is used to process refractory products that use organic HAP; each new or existing coking oven and defumer that is used to produce pitch-impregnated refractory products; each new shape preheater that is used to produce pitch-impregnated refractory products; AND each new or existing process unit that is exhausted to a thermal or catalytic oxidizer that also controls emissions from an affected shape preheater or pitch working tank. | As specified in items 3 and 4 of this table ...... | You have satisfied the applicable requirements specified in items 3 and 4 of this table. |
| 3. Each affected continuous process unit that is subject to the THC emission concentration limit listed in item 2(a), 3, or 4 of Table 1 to this subpart. | The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent $O_2$. | The 3-hour block average THC emission concentration measured during the performance test using Method 25A is equal to or less than 20 ppmvd, corrected to 18 percent oxygen. |
| 4. Each affected continuous process block unit that is subject to the combustion efficiency limit listed in item 2(b) of Table 1 to this subpart. | The average combustion efficiency must equal or exceed 99.8 percent. | The 3-hour average combustion efficiency measured during the performance test using Methods 3A, 10, and 25A and calculated using Equation 2 in § 63.9800(f) is equal to or greater than 99.8 percent. |
| 5. Each affected batch process unit subject to the THC emission concentration limit listed in item 5(a), 6, or 7 of Table 1 to this subpart. | The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent $O_2$. | The average of the highest rolling 3-hour average THC emission concentrations measured during the performance test using Method 25A is equal to or less than 20 ppmvd, corrected to 18 percent oxygen. |

### Table 5 to Subpart SSSSS of Part 63.—Initial Compliance With Emission Limits—Continued

| For . . . | For the following emission limit . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 6. Each affected batch process unit that is subject to the combustion efficiency limit listed in item 5(b) of Table 1 to this subpart. | The average combustion efficiency must equal or exceed 99.8 percent. | The average of the highest rolling 3-hour average combustion efficiencies measured during the performance test using Methods 3A, 10, and 25A and calculated using Equation 2 in § 63.9800(f) is equal to or greater than 99.8 percent. |
| 7. Each affected process unit that is equipped with a control device other than a thermal or catalytic oxidizer. | a. The average THC concentration must not exceed 20 ppmvd. | i. You have installed a THC CEMS at the outlet of the control device or in the stack of the affected source;<br>AND<br>ii. You have satisfied the requirements of PS–8 of 40 CFR part 60, appendix B. |
| 8. Each new kiln that is used to process clay refractory products. | As specified in items 9 and 10 of this table .... | You have satisfied the applicable requirements specified in items 9 and 10 of this table. |
| 9. Each affected continuous kiln ........................ | a. The average HF emissions must not exceed 0.001 kg/Mg (0.002 lb/ton) of uncalcined clay processed, OR the average uncontrolled HF emissions must be reduced by at least 99.5 percent. | i. The average HF emissions measured during the performance test using Method 26A is equal to or less than 0.001 kg/Mg (0.002 lb/ton) of fired product;<br>OR<br>ii. The HF emission reduction measured during the performance test is equal to or greater than 99.5 percent. |
| | b. The average HCl emissions must not exceed 0.0025 kg/Mg (0.005 lb/ton) uncalcined clay processed, OR the average uncontrolled HCl emissions must be reduced by at least 98 percent. | i. The average HCl emissions measured during the performance test using Method 26A is equal to or less than 0.0025 kg/Mg (0.005 lb/ton) of fired product;<br>OR<br>ii. The HCl emission reduction measured during the performance test is equal to or greater than 98 percent. |
| 10. Each affected batch process kiln ................. | a. The average uncontrolled HF emissions must be reduced by at least 99.5 percent. | The HF emission reduction measured during the performance test is equal to or greater than 99.5 percent. |
| | b. The average uncontrolled HCl emission must be reduced by at least 98 percent. | The HCl reduction emissions measured during the performance test is equal to or greater than 98 percent. |

As stated in § 63.9806, you must show initial compliance with the work practice standards for affected sources according to the following table:

### Table 6 to Subpart SSSSS of Part 63.—Initial Compliance With Work Practice Standards

| For each . . . | For the following standard . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 1. Each affected source listed in Table 3 to this subpart. | a. Each applicable work practice standard listed in Table 3 to this subpart. | i. You have selected a method for performing each of the applicable work practices listed in Table 3 to this subpart.<br>AND<br>ii. You have included in your Initial Notification a description of the method selected for complying with any applicable work practice standard, as required by § 63.9(b);<br>AND<br>iii. You submit a signed statement with the Notification of Compliance Status that you have implemented the applicable work practices listed in Table 3 to this subpart;<br>AND<br>iv. You have described in your OM&M plan the method for complying with each applicable work practice standard specified in Table 3 to this subpart. |

TABLE 6 TO SUBPART SSSSS OF PART 63.—INITIAL COMPLIANCE WITH WORK PRACTICE STANDARDS—Continued

| For each . . . | For the following standard . . . | You have demonstrated initial compliance if . . . |
|---|---|---|
| 2. Each basket or container that is used for holding fired refractory shapes in an existing shape preheater and autoclave during the pitch impregnation process. | a. Control POM emissions from any affected shape preheater. | i. You have implemented at least one of the work practices listed in item 1 of Table 3 to this subpart;<br>AND<br>ii. You have established a system for recording the date and cleaning method for each time you clean an affected basket or container. |
| 3. Each affected existing and new pitch working tank. | Control POM emissions .................................. | You have captured and vented emissions from the affected pitch working tank to the device that is used to control emissions from an affected defumer or coking oven, or to a thermal or catalytic oxidizer that is comparable to the control device used on an affected defumer or coking oven. |
| 4. Each existing and new chromium refractory products kiln. | Minimize fuel-based HAP emissions .............. | You use natural gas, or equivalent, as the kiln fuel. |
| 5. Each existing clay refractory products kiln .... | Minimize fuel-based HAP emissions .............. | You use natural gas, or equivalent, as the kiln fuel. |

As stated in § 63.9810, you must show continuous compliance with the emission limits for affected sources according to the following table:

TABLE 7 TO SUBPART SSSSS TO PART 63.—CONTINUOUS COMPLIANCE WITH EMISSION LIMITS

| For . . . | For the following emission limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 1. Each affected source listed in Table 1 to this subpart. | a. Each applicable emission limit listed in Table 1 to this subpart. | i. Collecting and recording the monitoring and process data listed in Table 2 (operating limits) to this subpart;<br>AND<br>ii. Reducing the monitoring and process data associated with the operating limits specified in Table 2 to this subpart;<br>AND<br>iii. Recording the results of any control device inspections. |
| 2. Each new or existing curing oven, shape dryer, and kiln that is used to process refractory products that use organic HAP; each new or existing coking oven and defumer that is used to produce pitch-impregnated refractory products; each new shape preheater that is used to produce pitch-impregnated refractory products; AND each new or existing process unit that is exhausted to a thermal or catalytic oxidizer that also controls emissions from an affected shape preheater or pitch working tank. | As specified in items 3 though 6 of this table | Satisfying the applicable requirements specified in items 3 through 6 of this table. |
| 3. Each affected process unit that is equipped with a thermal or catalytic oxidizer. | a. The average THC concentration must not exceed 20 ppmvd;<br>OR<br>b. The average combustion efficiency must equal or exceed 99.8 percent | i. Collecting the applicable data measured by the control device temperature monitoring system, as specified in items 4, 5, 7, and 8 of Table 8 to this subpart;<br>AND<br>ii. Reducing the applicable data measured by the control device temperature monitoring system, as specified in items 4, 5, 7, and 8 of Table 8 to this subpart;<br>AND<br>iii. Maintaining the average hourly control device operating temperature at or above the average hourly temperature established during the most recent performance test minus 14°C (25°F);<br>AND |

Table 7 to Subpart SSSSS to Part 63.—Continuous Compliance With Emission Limits—Continued

| For . . . | For the following emission limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| | | iv. Reporting, in accordance with § 9814(e), any average hourly operating temperatures below the control device average hourly operating temperature measured during the most recent performance test minus 14°C (25°F). |
| 4. Each affected process unit that is equipped with a control device other than a thermal or catalytic oxidizer. | The average THC concentration must not exceed 20 ppmvd. | Operating and maintaining a THC CEMS at the outlet of the control device or in the stack of the affected source, according to the requirements of Procedure 1 of 40 CFR part 60, appendix F. |
| 5. Each affected continuous process unit | a. The average THC concentration must not exceed 20 ppmvd;.<br>OR<br>b. The average combustion efficiency must equal or exceed 99.8 percent | Recording the organic HAP processing rate (pounds per hour) AND the operating temperature of the affected source, as specified in items 3(b) and (c) of Table 4 to this subpart. |
| 6. Each affected batch process unit | a. The average THC concentration must not exceed 20 ppmvd;.<br>OR<br>b. The average combustion efficiency must equal or exceed 99.8 percent | Recording the organic HAP processing rate (pounds per batch); AND process cycle time for each batch cycle; AND average hourly operating temperature of the affected source, as specified in items 8(b) through (d) of Table 4 to this subpart. |
| 7. Each new kiln that is used to process clay refractory products. | As specified in items 8 through 10 of this | Satisfying the applicable requirements specified in items 8 through 10 of this table. |
| 8. Each affected kiln that is equipped with a DIFF or DLS/FF. | a. The average HF emissions must not exceed 0.001 kg/Mg (0.002 lb/ton) of uncalcined clay processed, OR the average uncontrolled HF emissions must be reduced by at least 99.5 percent;<br>AND<br>b. the average HCl emissions must not exceed 0.0025 kg/Mg (0.005 lb/ton) of uncalcined clay processed, OR the average uncontrolled HCl emissions must be reduced by at least 98 percent | i. Maintaining the average fabric filter inlet temperature at or below the average temperature established during the performance test plus 14°C (25°F);<br>AND<br>ii. Verifying at least once each 8-hour shift that lime is free-flowing by means of a visual check, checking the output of a load cell, carrier gas/lime flow indicator, or carrier gas pressure drop measurement systems;<br>AND<br>iii. Recording feeder setting daily to verify that the feeder setting is at or above the level established during the most recent performance tests;<br>AND<br>iv. Initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions the OM M plan; operate and maintain the fabric filter such that the alarm does not engage for more than 5 percent of the total operating time in a 6-month block reporting period. |
| 9. Each affected kiln that is equipped with a DLS/FF. | a. The average HF emissions must not exceed 0.001 kg/Mg (0.002 lb/ton) of uncalcined clay processed, OR the average uncontrolled HF emissions must be reduced by at least 99.5 percent;<br>AND<br>b. The average HCl emissions must not exceed 0.0025 kg/Mg (0.005 lb/ton) of uncalcined clay processed, OR the average uncontrolled HCl emissions must be reduced by at least 98 percent | Maintaining the average water injection rate at or above the average water injection rate established during the most recent performance test. |
| 10. Each affected kiln that is equipped with a WS. | a. The average HF emissions must not exceed 0.001 kg/Mg (0.002 lb/ton) of uncalcined clay processed, OR the average uncontrolled HF emissions must be reduced by at least 99.5 percent;<br>AND<br>b. The average HCl emissions must not exceed 0.0025 kg/Mg (0.005 lb/ton) of uncalcined clay processed, OR the average uncontrolled HCl emissions must be reduced by at least 98 percent | Maintaining the pressure drop across the scrubber, liquid pH, AND liquid flow rate at or above the levels established during the most recent performance test. |

As stated in § 63.9810, you must show continuous compliance with the operating limits for affected sources according to the following table:

### TABLE 8 TO SUBPART SSSSS OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS

| For . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 1. Each affected source listed in Table 2 to this subpart. | a. Each applicable operating limit listed in Table 2 to this subpart. | Maintaining all applicable process and control device operating parameters within the limits established during the most recent performance test. |
| | b. Prepare and implement a written OM&M plan. | Conducting annually an inspection of all duct work, vents, and capture devices to verify that no leaks exist and that the capture device is operating such that all emissions are properly vented to the control device in accordance with the OM&M plan. |
| 2. Each new or existing curing oven, shape dryer, and kiln that is used to process refractory products that use organic HAP; each new or existing coking oven and defumer that is used to produce pitch-impregnated refractory products; each new shape preheater that is used to produce pitch-impregnated refractory products; AND each new or existing process unit that is exhausted to a thermal or catalytic oxidizer that also controls emissions from an affected shape preheater or pitch working tank. | As specified in items 3 through 8 of this table | Satisfying the applicable requirements specified in items 3 through 8 of this table. |
| 3. Each affected continuous process unit .......... | a. Maintain process operating parameters within the limits established during the performance test. | i. Recording the organic HAP processing rate (pounds per hour);<br>AND<br>ii. Recording the operating temperature of the affected source at least hourly;<br>AND<br>iii. Maintaining the organic HAP processing rate at or below the levels established during the most recent performance test. |
| 4. Continuous process units that are equipped with a thermal oxidizer. | a. Maintain the average hourly operating temperature in the thermal oxidizer combustion chamber at or above the average hourly operating temperature established during the most recent performance test. | i. Measuring and recording the thermal oxidizer combustion chamber temperature at least every 15 minutes;<br>AND<br>ii. Calculating the hourly average thermal oxidizer combustion chamber temperature;<br>AND<br>iii. Maintaining the thermal oxidizer combustion chamber temperature for each 1-hour block period at or above the temperature established during the most recent performance test minus 14°C (25°F);<br>AND<br>iv. Reporting, in accordance with § 63.9814(e), any temperature measurements below the thermal oxidizer combustion chamber temperature measured during the most recent performance test minus 14°C (25°F). |

### TABLE 8 TO SUBPART SSSSS OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS—Continued

| For . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 5. Continuous process units that are equipped with a catalytic oxidizer. | a. Maintain the average hourly temperature at the inlet of the catalyst bed of the oxidizer at or above the corresponding average hourly temperature established during the most recent performance test. | i. Measuring and recording the temperatures at the inlet of the catalyst bed of the oxidizer at least every 15 minutes;<br>AND<br>ii. Calculating the hourly average temperature at the inlet of the catalyst bed of the oxidizer;<br>AND<br>iii. Maintaining the temperature at the inlet of the catalyst bed of the oxidizer for each 1-hour block period at or above the corresponding temperature established during the most recent performance test minus 14°C (25°F);<br>AND<br>iv. Reporting, in accordance with § 63.9814(e), any oxidizer catalyst bed inlet temperature measurements below the corresponding temperatures measured during the most recent performance test minus 14°C (25°F). |
| 6. Each affected batch process unit ................. | a. Maintain process operating parameters within the limits established during the performance test. | i. Recording the organic HAP processing rate (pounds per batch);<br>AND<br>ii. Recording the average hourly operating temperature of the affected source;<br>AND<br>iii. Recording the process cycle time for each batch cycle;<br>AND<br>iv. Maintaining the organic HAP processing rate at or below the level established during the most recent performance test. |
| 7. Batch process units that are equipped with a thermal oxidizer. | a. Maintain the average hourly temperature in the thermal oxidizer combustion chamber at or above the average hourly temperature established for the corresponding 1-hour period of the cycle during the most recent performance test. | i. Measuring and recording the thermal oxidizer combustion chamber temperature at least every 15 minutes;<br>AND<br>ii. Calculating the hourly average thermal oxidizer combustion chamber temperature;<br>AND<br>iii. Maintaining the thermal oxidizer combustion chamber temperature for each 1-hour block period at or above the temperature established for the corresponding 1-hour period of the cycle during the most recent performance test;<br>AND<br>iv. Reporting, in accordance with § 63.9814(e), any temperature measurements below the corresponding thermal oxidizer combustion chamber temperature measured during the most recent performance test minus 14°C (25°F). |
| 8. Batch process units that are equipped with a catalytic oxidizer. | a. Maintain the average hourly temperature at the inlet of the catalyst bed of the oxidizer at or above the corresponding average hourly temperature established for the corresponding 1-hour period of the cycle during the most recent performance test. | i. Measuring and recording the temperatures at the inlet of the catalyst bed of the oxidizer at least every 15 minutes;<br>AND<br>ii. Calculating the hourly average temperature at the inlet of the catalyst bed of the oxidizer;<br>AND<br>iii. Maintaining the temperature at the inlet of the catalyst bed for each 1-hour block period at or above the corresponding temperature established for the corresponding 1-hour period of the cycle during the most recent performance test minus 14°C (25°F);<br>AND |

### TABLE 8 TO SUBPART SSSSS OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS—Continued

| For . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| | | iv. Reporting, in accordance with § 63.9814(e), any oxidizer catalyst bed inlet temperature measurements below the corresponding temperatures measured during the most recent performance test minus 14°C (25°F). |
| 9. Each new kiln that is used to process clay refractory products. | As specified in items 10 through 12 of this table. | Satisfying the applicable requirements specified in items 10 through 12 of this table. |
| 10. Kilns that are equipped with a DIFF or DLS/FF. | a. Initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with the OM&M plan; and operate and maintain the fabric filter such that the alarm does not engage for more than 5 percent of the total operating time in a 6-month block reporting period. | i. Initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with the OM&M plan;<br>AND<br>ii. Operating and maintaining the fabric filter such that the alarm does not engage for more than 5 percent of the total operating time in a 6-month block reporting period; in calculating this operating time fraction, 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 by you to initiate corrective action. |
| | b. Maintain the average fabric filter inlet temperature for each 3-hour block period at or below the average temperature established during the performance test plus 14°C (25°F). | i. Collecting the fabric filter inlet temperature data, as specified in item 16(b) of Table 4 to this subpart;<br>AND<br>ii. Reducing the fabric filter inlet temperature data to 1-hour and 3-hour block averages;<br>AND<br>iii. Maintaining the average fabric filter inlet temperature for each 3-hour block period at or below the average temperature established during the performance test plus 14°C (25°F). |
| | c. Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; and maintain feeder setting at or above the level established during the performance test for continuous injection systems. | i. Verifying at least once each 8-hour shift that lime is free-flowing via a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system, or other system; recording all monitor or sensor output, and if lime is found not to be free flowing, promptly initiating and completing corrective actions;<br>AND<br>ii. Recording the feeder setting once each day of operation to verify that the feeder setting is being maintained at or above the level established during the performance test. |
| 11. Kilns that are equipped with a DLS/FF ........ | a. Maintain the average water injection rate for each 3-hour block period at or above the average water injection rate established during the performance test. | i. Collecting the water injection rate data, as specified in item 17 of Table 4 to this subpart;<br>AND<br>ii. Reducing the water injection rate data to 1-hour and 3-hour block averages;<br>AND<br>iii. Maintaining the average water injection rate for each 3-hour block period at or above the average water injection rate established during the performance test. |

TABLE 8 TO SUBPART SSSSS OF PART 63.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS—Continued

| For . . . | For the following operating limit . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 12. Each new kiln that is used to process clay refractory products and is equipped with a WS. | a. Maintain the average scrubber pressure drop for each 3-hour block period at or above the average pressure drop established during the performance test. | i. Collecting the scrubber pressure drop data, as specified in item 18(a) of Table 4 to this subpart;<br>AND<br>ii. Reducing the scrubber pressure drop data to 1-hour and 3-hour block averages;<br>AND<br>iii. Maintaining the average scrubber pressure drop for each 3-hour block period at or above the average pressure drop established during the performance test. |
| | b. Maintain the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the performance test. | i. Collecting the scrubber liquid pH data, as specified in item 18(b) of Table 4 to this subpart;<br>AND<br>ii. Reducing the scrubber liquid pH data to 1-hour and 3-hour block averages;<br>AND<br>iii. Maintaining the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the performance test. |
| | c. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the average scrubber liquid flow rate established during the performance test. | i. Collecting the scrubber liquid flow rate data, as specified in item 18(c) of Table 4 to this subpart;<br>AND<br>ii. Reducing the scrubber liquid flow rate data to 1-hour and 3-hour block averages;<br>AND<br>iii. Maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the average scrubber liquid flow rate established during the performance test. |

As stated in § 63.9810, you must show continuous compliance with the work practice standards for affected sources according to the following table:

TABLE 9 TO SUBPART SSSSS OF PART 63.—CONTINUOUS COMPLIANCE WITH WORK PRACTICE STANDARDS

| For . . . | For the following work practice standard . . . | You must demonstrate continuous compliance by . . . |
|---|---|---|
| 1. Each affected source listed in Table 3 to this subpart. | a. Each applicable work practice requirement listed in Table 3 to this subpart. | i. Performing each applicable work practice standard listed in Table 3 to this subpart;<br>AND<br>ii. Maintaining records that document the method and frequency for complying with each applicable work practice standard listed in Table 3 to this subpart, as required by §§ 63.10(b) and 63.9816(c)(2). |
| 2. Each basket or container that is used for holding fired refractory shapes in an existing shape preheater and autoclave during the pitch impregnation process. | a. Control POM emissions from any affected shape preheater. | i. Controlling emissions from the volatilization of residual pitch by implementing one of the work practices listed in item 1 of Table 3 to this subpart;<br>AND<br>ii. Recording the date and cleaning method each time you clean an affected basket or container. |
| 3. Each existing and new pitch working tank ..... | Control PM emissions ..................................... | Capturing and venting emissions from the affected pitch working tank to the control device that is used to control emissions from an affected defumer or coking oven, or to a thermal or catalytic oxidizer that is comparable to the control device used on an affected defumer or coking oven. |
| 4. Each existing and new chromium refractory products kiln. | Minimize fuel-based HAP emissions .............. | Using natural gas, or equivalent, as the kiln fuel. |
| 5. Each existing clay refractory products kiln .... | Minimize fuel-based HAP emissions .............. | Using natural gas, or equivalent, as the kiln fuel. |

As stated in ¶63.9814, you must comply with the requirements for reports in the following table:

### Table 10 to Subpart SSSSS of Part 63.—Requirements for Reports

| You must submit a(n) . . . | The report must contain . . . | You must submit the report . . . |
|---|---|---|
| 1. Compliance report | The information in § 63.9814(a) through (f) | Semiannually according to the requirements in § 63.9814(a) through (f). |
| 2. Immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your SSMP. | a. Actions taken for the event | By fax or telephone within 2 working days after starting actions inconsistent with the plan. |
| | b. The information in § 63.10(d)(5)(ii) | By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority. |

As stated in § 63.9818, you must comply with the applicable General Provisions requirements according to the following table:

### Table 11 to Subpart SSSSS of Part 63.—Applicability of General Provisions to Subpart SSSSS

| Citation | Subject | Brief description | Applies to subpart SSSSS |
|---|---|---|---|
| § 63.1 | Applicability | | Yes. |
| § 63.2 | Definitions | | Yes. |
| § 63.3 | Units and Abbreviations | | Yes. |
| § 63.4 | Prohibited Activities | Compliance date; circumvention, severability | Yes. |
| § 63.5 | Construction/Reconstruction | Applicability; applications; approvals | Yes. |
| § 63.6(a) | Applicability | General Provisions (GP) apply unless compliance extension; GP apply to area sources that become major. | 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 section 112(f). | Yes. |
| § 63.6(b)(5) | Notification | | Yes. |
| § 63.6(b)(6) | [Reserved] | | |
| § 63.6(b)(7) | Compliance Dates for New and Reconstructed Area Sources That Become Major. | Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were area sources. | Yes. |
| § 63.6(c)(1)–(2) | Compliance Dates for Existing Sources. | Comply according to date in subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension. | Yes. |
| § 63.6(c)(3)–(4) | [Reserved] | | |
| § 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 | Operate to minimize emissions at all times; correct malfunctions as soon as practicable; requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met. | Yes. |
| § 63.6(e)(3) | Startup, Shutdown, and Malfunction Plan (SSMP). | | Yes. |
| § 63.6(f)(1) | Compliance Except During SSM. | You must 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)–(9) | Opacity/Visible Emission (VE) Standards. | | Not applicable. |
| § 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 | Yes. |

TABLE 11 TO SUBPART SSSSS OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART SSSSS—Continued

| Citation | Subject | Brief description | Applies to subpart SSSSS |
|---|---|---|---|
| § 63.7(a)(1)–(2) | Performance Test Dates | Dates for conducting initial performance testing and other compliance demonstrations; must conduct 180 days after first subject to rule. | Yes. |
| § 63.7(a)(3) | § 114 Authority | Administrator may require a performance test under CAA § 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 | Must notify Administrator 5 days before scheduled date of rescheduled date. | Yes. |
| § 63.7(c) | Quality Assurance/Test Plan | Requirements; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing. | Yes. |
| § 63.7(d) | Testing Facilities | | Yes. |
| § 63.7(e)(1) | Conditions for Conducting Performance Tests. | Performance tests must be conducted under representative conditions; Cannot conduct performance tests during SSM; not a violation to exceed standard during SSM. | No, § 63.9800 specifies requirements; Yes; Yes. |
| § 63.7(e)(2) | Conditions for Conducting Performance Tests. | Must conduct according to subpart and EPA test methods unless Administrator approves alternatives. | Yes. |
| § 63.7(e)(3) | Test Run Duration | Must have three test runs of at least 1 hour each; Compliance is based on arithmetic mean of three runs; Conditions when data from an additional test run can be used. | Yes; Yes, except where specified in § 63.9800 for batch process sources of organic HAP; Yes. |
| § 63.7(f) | Alternative Test Method | | Yes. |
| § 63.7(g) | Performance Test Data Analysis. | | Yes. |
| § 63.7(h) | Waiver of Test | | Yes. |
| § 63.8(a)(1) | Applicability of Monitoring Requirements. | | Yes. |
| § 63.8(a)(2) | Performance Specifications | Performance Specifications in appendix B of 40 CFR part 60 apply. | Yes |
| § 63.8(a)(3) | [Reserved] | | |
| § 63.8(a)(4) | Monitoring with Flares | | Not applicable. |
| § 63.8(b)(1) | Monitoring | Must conduct monitoring according to standard unless Administrator approves alternative. | Yes. |
| § 63.8(b)(2)–(3) | Multiple Effluents and Multiple Monitoring Systems. | Specific requirements for installing and reporting on monitoring system. | Yes. |
| § 63.8(c)(1) | Monitoring System Operation and Maintenance. | Maintenance consistent with good air pollution control practices. | Yes. |
| § 63.8(c)(1)(i) | Routine and Predictable SSM | Reporting requirements for SSM when action is described in SSMP. | Yes. |
| § 63.8(c)(1)(ii) | SSM not in SSMP | Reporting requirements for SSM when action is not described in SSMP. | Yes. |
| § 63.8(c)(1)(iii) | Compliance with Operation and Maintenance Requirements. | How Administrator determines if source complying with operation and maintenance requirements. | Yes. |
| § 63.8(c)(2)–(3) | Monitoring System Installation | Must install to get representative emission and parameter measurements. | Yes. |
| § 63.8(c)(4) | Continuous Monitoring System (CMS) Requirements. | | No, § 63.9808 specifies requirements. |
| § 63.8(c)(5) | COMS Minimum Procedures | | Not applicable. |
| § 63.8(c)(6) | CMS Requirements | | Applies only to sources required to install and operate a THC CEMS. |
| § 63.8(c)(7)(i)(A) | CMS Requirements | | Applies only to sources required to install and operate a THC CEMS. |
| § 63.8(c)(7)(i)(B) | CMS Requirements | | Applies only to sources required to install and operate a THC CEMS. |
| § 63.8(c)(7)(i)(C) | CMS Requirements | | Not applicable. |
| § 63.8(c)(7)(ii) | CMS Requirements | Corrective action required when CMS is out of control. | Yes. |
| § 63.8(c)(8) | CMS Requirements | | Yes. |
| § 63.8(d) | CMS Quality Control | | Applies only to sources required to install and operate a THC CEMS. |

### Table 11 to Subpart SSSSS of Part 63.—Applicability of General Provisions to Subpart SSSSS—Continued

| Citation | Subject | Brief description | Applies to subpart SSSSS |
|---|---|---|---|
| § 63.8(e) | CMS Performance Evaluation | | Applies only to sources required to install and operate a THC CEMS |
| § 63.8(f)(1)–(5) | Alternative Monitoring Method | | Yes. |
| § 63.8(f)(6) | Alternative to Relative Accuracy Test. | | Yes. |
| § 63.8(g) | Data Reduction | | Not applicable. |
| § 63.8(g) | Data Reduction | | Applies only to sources required to install and operate THC CEMS. |
| § 63.9(a) | Notification Requirements | | Yes. |
| § 63.9(b)(1)–(5) | Initial Notifications | | Yes. |
| § 63.9(c) | Request for Compliance Extension. | | Yes. |
| § 63.9(d) | Notification of Special Compliance Requirements for New Source. | | Yes. |
| § 63.9(e) | Notification of Performance Test. | Notify Administrator 60 days prior | Yes. |
| § 63.9(f) | Notification of VE/Opacity Test. | | Not applicable. |
| § 63.9(g) | Additional Notifications When Using CMS. | | Applies only to sources required to install and operate a THC CEMS. |
| § 63.9(h) | Notification of Compliance Status. | | Yes. |
| § 63.9(i) | Adjustment of Submittal Deadlines. | | Yes. |
| § 63.9(j) | Change in Previous Information. | | Yes. |
| § 63.10(a) | Recordkeeping/Reporting | | Yes. |
| § 63.10(b)(1) | Recordkeeping/Reporting | | Yes. |
| § 63.10(b)(2)(i)–(iv) | Records related to Startup, Shutdown, and Malfunction. | | Yes. |
| § 63.10(b)(2)(vi) and (x–xi) | CMS Records | | Yes. |
| § 63.10(b)(2)(vii)–(ix) | Records | Measurements to demonstrate compliance with emission limitations; Performance test, performance evaluation, and visible emission observation results; Measurements to determine conditions of performance tests and performance evaluations. | 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. | Not applicable. |
| § 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 CMS | Not applicable. |
| § 63.10(c)(7)–(8) | Records | Records of excess emissions and parameter monitoring exceedances for CMS. | No, § 63.9816 specifies requirements. |
| § 63.10(d)(1) | General Reporting Requirements. | Requirements for reporting | 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. | | Not applicable. |
| § 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 CMS Reports | | Applies only to sources required to install and operate a THC CEMS. |
| § 63.10(e)(3) | Reports | | No, § 63.9814 specifies requirements. |
| § 63.10(e)(4) | Reporting COMS data | | Not applicable. |
| § 63.10(f) | Waiver for Recordkeeping/Reporting. | | Yes. |
| § 63.11 | Flares | | Not applicable. |
| § 63.12 | Delegation | | Yes. |
| § 63.13 | Addresses | | Yes. |

### TABLE 11 TO SUBPART SSSSS OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART SSSSS—Continued

| Citation | Subject | Brief description | Applies to subpart SSSSS |
|---|---|---|---|
| § 63.14 | Incorporation by Reference |  | Yes. |
| § 63.15 | Availability of Information |  | Yes. |

[FR Doc. 02–13979 Filed 6–19–02; 8:45 am]

**BILLING CODE 6560–50–P**