ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR–2002–0088, FRL–7462–6]

RIN 2060–AG68

National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) for new and existing refractory products manufacturing facilities and implements section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emission standards reflecting the application of maximum achievable control technology (MACT). The final rule will 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. The final rule will reduce nationwide emissions of HAP from these facilities by an estimated 124 megagrams per year (Mg/yr) (137 tons per year (tpy)).

EFFECTIVE DATE: April 16, 2003.

ADDRESSES: Docket No. OAR–2002–0088 contains supporting information used in developing the final rule. The docket is located at the Air and Radiation Docket and Information Center in the EPA Docket Center, (EPA/DC), EPA West, Room B102, 1301 Constitution Avenue, NW, Washington, DC 20460, telephone (202) 566–1744.

FOR FURTHER INFORMATION CONTACT: Ms. Susan Fairchild, U.S. EPA, Office of Air Quality Planning and Standards, Emission Standards Division, Minerals and Inorganic Chemicals Group, (C504–05), Research Triangle Park, NC 27711, telephone number (919) 541–5167, electronic mail address *fairchild.susan@epa.gov*.

SUPPLEMENTARY INFORMATION:

Regulated Entities. Categories and entities potentially regulated by this action include those listed in the following table:

Category	NAICS	Examples of regulated entities
Industrial	327124	Clay refractories manufacturing plants.
Industrial	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 facility is regulated by this action, you should examine the applicability criteria in § 63.9782 of today's final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Electronic Docket (E-Docket). The EPA has established an official public docket for this action under Docket ID No. OAR–2002–0088. The official public docket is the collection of materials that is available for public viewing in the Refractory Products Manufacturing NESHAP Docket at the Air and Radiation Docket and Information Center in the EPA Docket Center, (EPA/DC), EPA West, Room B102, 1301 Constitution Avenue, NW., Washington, DC 20460. The Docket Center is open from 8:30 a.m. to 5:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

Electronic Access. An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at *http://www.epa.gov/edocket/* to submit or view public comments, access the index of the contents of the official public docket, and access those documents in the public docket that are available electronically. Once in the system, select ''search'' and key in the appropriate docket identification number.

Certain types of information will not be placed in the EPA Dockets. Information claimed as confidential business information and other information whose disclosure is restricted by statute, which are not included in the official public docket, will not be available for public viewing in EPA's electronic public docket. The EPA's policy is that copyrighted material will not be placed in EPA's electronic public docket but will be available only in printed, paper form in the official public docket. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified in this document.

Worldwide Web (WWW). In addition to being available in the docket, an electronic copy of today's document also will be available on the WWW. Following the Administrator's signature, a copy of this action will be posted at *http://www.epa.gov/ttn/oarpg* on EPA's Technology Transfer Network (TTN) policy and guidance page for newly proposed or promulgated rules. 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.

Judicial Review. Under section 307(b)(1) of the CAA, judicial review of the final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by June 16, 2003. Under section 307(d)(7)(B) of the CAA, only an objection to the final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Moreover, under section 307(b)(2) of the CAA, the requirements established by the final rule may not be challenged separately in any civil or criminal proceedings brought by EPA to enforce these requirements.

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

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I. Background and Public Participation

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. Major sources of HAP are those that have the potential to emit greater than 10 tpy of any one HAP or 25 tpy of any combination of HAP. The category of major sources covered by the final rule was listed as Chromium Refractories Production on July 16, 1992 (57 FR 31576).

Section 112(c) of the CAA allows EPA to revise the source category list at any time. After obtaining information from chromium refractories manufacturing plants that indicated that some facilities were major sources due to HAP emissions from the manufacturing of nonchromium refractories, we decided to expand the scope of the source category to include most manufacturers of refractory products. 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. At proposal (67 FR 42108, June 20, 2002), we changed the source category name from Refractories Manufacturing to Refractory Products Manufacturing to further clarify the source category.

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 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 standards are 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 the cost of achieving the emissions reductions, any non-air quality health and environmental impacts, and energy requirements.

C. How Was the Rule Developed?

We proposed the standards for refractory products manufacturing on June 20, 2002 (67 FR 42108). The public comment period lasted from June 20, 2002 to August 19, 2002. Industry representatives, regulatory agencies, environmental groups, and the general public were given the opportunity to comment on the proposed rule and to provide additional information during the public comment period. We offered at proposal the opportunity for oral presentation of data, views, or arguments concerning the proposed rule at a public hearing. One organization requested a public hearing, but it later withdrew the request, and a hearing was not held.

We received a total of eight public comments on the proposed rule. Comments were submitted by three industry trade associations, two refractory products manufacturing companies, and two other companies. One trade association submitted two sets of comments. The final rule reflects our full consideration of all of the comments received. Major public comments on the proposed rule, along with our responses to those comments, are summarized in this preamble.

II. Summary of the Final Rule

A. What Source Category Is Affected by the Final Rule?

Today's final rule applies 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, fired 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 Affected Sources?

Today's final rule establishes emission limitations (emission limits and operating limits) and work practice standards for several types of refractory products manufacturing sources. Table 1 of this preamble lists the affected sources that will be subject to today's final rule.

TABLE 1.—AFFECTED SOURCES FOR THE REFRACTORY PRODUCTS MANUFACTURING RULE

Refractory product type	Affected sources
Sources subject to emission limits:	
Resin-bonded	Existing and new curing ovens and kilns.
Pitch-bonded ..	Existing and new curing ovens and kilns.

TABLE 1.—AFFECTED SOURCES FOR THE REFRACTORY PRODUCTS MANUFACTURING RULE—Continued

Refractory product type	Affected sources
Pitch-impregnated.	Existing and new defumers and coking ovens, and new shape preheaters.
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.
Clay	New kilns.
Sources subject to work practice standards:	
Pitch-impregnated.	Existing shape preheaters and existing and new pitch working tanks.
Chromium	Existing and new kilns.
Clay	Existing kilns.

C. What Are the Emission Limits?

Today's final rule specifies separate emission limits for existing and new thermal process sources that emit organic HAP and new clay refractory products kilns. Facilities that operate thermal process sources that emit organic HAP have the option of meeting a total hydrocarbon (THC) concentration limit of 20 parts per million by volume, dry basis (ppmvd), corrected to 18 percent oxygen, or reducing THC mass emissions by at least 95 percent. The sources that will 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 will be subject to these same emission limits. For continuous process sources of organic HAP, the format of the emission limits is a 3-hour block average. For batch process sources, the format of the standard is the average of the 3-hour peak THC emissions periods for two test runs.

For affected new clay refractory products kilns, the final rule includes separate emission limits for HF and HCl. For affected continuous kilns, you will have to meet an HF emission limit of 0.019 kilograms per megagram (kg/Mg) (0.038 pounds per ton (lb/ton)) of uncalcined clay processed or reduce HF mass emissions by at least 90 percent. You will also be required to meet an HCl emission limit of 0.091 kg/Mg (0.18 lb/ton) of product or reduce uncontrolled HCl emissions by at least 30 percent. If you own or operate a new affected periodic (batch process) clay refractory products kiln, you will be required to reduce HF emissions by at least 90 percent and HCl emissions by at least 30 percent.

D. What Are the Operating Limits?

Operating limits are limits on operating parameters of process equipment or control devices. Today's final rule specifies process and control device operating limits for thermal process sources that emit organic HAP and for clay refractory kilns. For each of these operating limits, you will 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 will be required to monitor those parameters and ensure that the established limits are not exceeded.

For affected thermal process sources that emit organic HAP, we are requiring 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 requires you to maintain the rate at which organic HAP are processed in an affected process unit at or below the rate measured during the most recent performance test. For sources that are controlled with a thermal oxidizer, you will be required to establish the operating limit for the combustion chamber temperature. For affected sources that are controlled with a catalytic oxidizer, you will be required to establish the operating limit for the temperature at the inlet of the catalyst bed. Also, you must check the activity level of the catalyst at least every 12 months.

If you have a new clay refractory products kiln that is controlled with a dry limestone adsorber (DLA), you will be required to monitor continuously the pressure drop across the DLA and check the limestone feed hopper and feeder setting at least daily to ensure that the limestone is free flowing. You will also be required to document the source of the limestone used during the most recent performance test and maintain records that demonstrate that the source of limestone has not changed.

If you own or operate a new clay refractory products kiln that is controlled with dry lime injection fabric filters (DIFF) or dry lime scrubber/fabric filters (DLS/FF), you will 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 will also be required to verify at least once every 8 hours that lime is free flowing and record the lime feeder setting daily to confirm that the feeder setting is at or above the level established during the most recent performance test. If you use a wet scrubber, you will be required to establish operating limits for the pressure drop across the scrubber, liquid pH, liquid flow rate, and chemical feed rate (if applicable).

If you use a control device or technique listed in today's final rule, you may establish operating limits for alternative operating parameters subject to prior written approval by the Administrator on a case-by-case basis. You will be required to submit the application for approval of alternative operating parameters no later than the notification of the performance test. You will have to install, operate, and maintain the alternative parameter monitoring systems in accordance with the application approved by the Administrator.

E. What Are the Work Practice Standards?

Today's final rule establishes 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 will be required to control emissions of POM from the shape preheater by cleaning the residual pitch from the surfaces of the baskets or containers that are used for holding refractory shapes in a shape preheater and autoclave at least every ten impregnation cycles, or by ducting 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 may remove residual pitch by abrasive blasting or 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. If you choose to duct shape preheater emissions to a control device, you may 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 must 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 have an affected existing or new chromium refractory products kiln or an affected existing clay refractory products kiln, you must use natural gas, or an equivalent fuel, as the kiln fuel at all times except during periods of natural gas curtailment or other periods when natural gas is not available.

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

Under today's final rule, you must 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 are required to conduct the test within 180 days after the compliance date using specified test methods.

If you have an affected existing or new shape dryer, curing oven, kiln, coking oven, or defumer, or a new shape preheater, and you choose to comply with the THC concentration limit of 20 ppmvd corrected to 18 percent oxygen, you must measure emissions of THC in stack gases exhausted to the atmosphere using EPA Method 25A of 40 CFR part 60, appendix A, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer. You must also measure the oxygen concentration of the stack gas using EPA Method 3A of 40 CFR part 60, appendix A, Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources (Instrumental Analyzer Procedure). If you decide to comply with the 95 percent THC reduction limit, you must measure THC mass emissions at the inlet and outlet of the control device using EPA Method 25A.

For continuous process sources, you must conduct a minimum of three 1-hour test runs. For batch process sources, you must conduct at least two test runs. Each batch process test run must be conducted over a separate batch cycle, unless you manufacture the product associated with the maximum organic HAP processing rate infrequently and it will disrupt production to perform the compliance test over multiple process cycles. In such cases, you may conduct both runs of the performance test simultaneously over a single batch process cycle using paired sampling trains.

Today's final rule requires affected batch process sources to be tested throughout two complete batch cycles unless you develop an emissions profile or meet certain conditions for terminating a performance test run before the completion of the batch cycle. If you choose to develop an emissions profile, you must sample THC emissions throughout a complete batch cycle, determine the average THC mass emissions rate for each hour of the batch cycle, and identify the 3-hour period of peak THC emissions. During any subsequent test runs, you are not required to sample emissions outside that 3-hour period of peak THC emissions. During subsequent performance tests, you will have to complete at least two test runs, but you will only have to test during the 3-hour peak emissions period for each run.

If you choose not to develop an emissions profile, you may terminate testing before the completion of a batch cycle if you meet certain conditions. For each of two test runs, you will have to begin testing at the start of the batch cycle and continue testing for at least 3 hours beyond the precise time when the process reaches peak operating temperature. You may stop the test run at that time if you can show that the following conditions are met: (1) THC concentrations are not increasing over the 3-hour period since the process peak temperature was reached; (2) at least 1 hour has passed since any reduction in the operating temperature of the control device (thermal or catalytic oxidizer); and (3) 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 oxygen, or your source met the applicable emission limit at the control device outlet during each of the previous 3 hours after the process reached peak temperature.

For both continuous process and batch process performance tests, you must conduct performance tests on affected thermal process sources under the conditions that will result in the highest levels of organic HAP emissions expected to occur for that affected source. You 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.

If you decide to start production of a refractory product that is likely to have an organic HAP processing rate that is more than 10 percent greater than the rate established during the most recent performance test, you will be required to conduct a new performance test for that product and establish a new operating limit for the organic HAP processing rate. You will also have to conduct a new performance test on an affected uncontrolled kiln following any process changes that are likely to increase kiln emissions of organic HAP.

If the source is a batch process source and is controlled with a thermal or catalytic oxidizer, you may reduce the operating temperature of the control device or shut the control device off if you satisfy all of the following conditions: (1) You do not use an emissions profile and limit testing to the 3-hour peak emissions period; (2) at least 3 hours have passed since the process unit reached its maximum temperature; (3) the applicable emission limit (THC concentration or THC percentage reduction) has been met during each of the three 1-hour periods since the process reached peak temperature; (4) mass emissions of THC have not increased during the 3-hour period since maximum process temperature was reached; and (5) either 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 has been met during each of the four 15-minute periods immediately following the oxidizer temperature reduction. If you elect to shut off or reduce the temperature of a thermal or catalytic oxidizer by satisfying these conditions, you may use the results from the performance test to establish the time at which the oxidizer for that specific source can be shut off (or temperature reduced) during the production of other refractory products that use organic HAP. For any such product, you must 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 will have to maintain that oxidizer temperature for the same length of time beyond the process peak temperature as during the performance test.

For each new kiln that manufactures clay refractory products, you must measure emissions of HF and HCl using one of three methods: (1) EPA Method 26A of 40 CFR part 60, appendix A, Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources—Isokinetic Method; (2) EPA Method 26 of 40 CFR part 60, appendix A, Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources—Non-isokinetic Method; or (3)

EPA Method 320 of 40 CFR part 63, appendix A, Measurement of Vapor Phase Organic and Inorganic Emissions by Extractive Fourier Transfer Infrared (FTIR) Spectroscopy. You can use Method 26 only if the gas stream does not contain HF or HCl in the solid phase (*e.g.,* HF as PM or HCl as PM). You must conduct the tests for HF and HCl while the affected kiln is operating at the maximum production level likely to occur. Each test run must last at least 1 hour in duration.

If you have an affected continuous clay refractory products kiln, you must 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 rate at which uncalcined clay is processed (on a fired-product basis), as measured during your performance test. To determine initial compliance with any of the percentage reduction emission limits, you must measure mass emissions of the specific HAP (HF or HCl) at the inlet and outlet of the control device for each test run.

If you have an affected batch process clay refractory kiln, you must comply with the percentage reduction limit. You will be required to test throughout two complete batch cycles unless you develop an emissions profile. If you choose to develop an emissions profile, you must sample HF and HCl emissions throughout one complete batch cycle. For both continuous and batch process kilns, you must measure and record the average uncalcined clay processing rate for each test run.

If you own or operate an affected new clay refractory products kiln that is controlled with a DLA, and you decide to change the source of limestone, you must repeat the performance test on the kiln within 60 days of the date when you begin using limestone from the new limestone source.

In addition to the procedures previously described, you will be required to follow the procedures specified in EPA Methods 1 to 4 of appendix A of 40 CFR part 60, where applicable. You must perform EPA 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 must perform EPA 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 must perform EPA Method 3, Gas Analysis for the Determination of Dry Molecular Weight, (or Method 3A or 3B) to determine the exhaust gas molecular weight. You must perform EPA 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 must install any continuous parameter monitoring systems (CPMS) that are required for demonstrating continuous compliance. During the performance test, you must use those CPMS to establish the applicable operating limits (*e.g.,* minimum thermal oxidizer combustion chamber temperature).

G. 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 must select a method for complying with the applicable 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). For affected shape preheaters, if you choose to comply with the work practice standard by cleaning pitch from basket or container surfaces, you must describe in your initial notification the cleaning method. If you choose to comply by capturing and ducting emissions from the shape preheater to a control device, you must 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 must describe, in your initial notification, the design and operation of the control device to which the emissions from the working tank are exhausted. You also must verify that the performance of the control device is the same as, or is 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 must indicate, in your initial notification, the type of fuel used in those kilns.

H. What Are the Continuous Compliance Requirements for Sources Subject to Emission Limits?

Today's final rule requires owners and operators of affected sources to demonstrate continuous compliance with each emission limitation. You must 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 must inspect each system at least once each calendar year and record the results of each inspection. You must install, operate, and maintain each required CPMS to monitor the operating parameters established during your initial performance test. You must collect all data while the process is operational. You will have to operate the CPMS at all times when the process is operating. You must also conduct proper maintenance of the CPMS, including inspections, calibrations, and validation checks. You must repeat any required performance tests at least every 5 years.

For each affected source, you must monitor and maintain the organic HAP processing rate below the level established during the most recent performance test. You must also record the process operating temperature hourly. For batch process sources, you must record the cycle time for each batch cycle. If you decide to start production of a refractory product that is likely to have an organic HAP processing rate that is more than 10 percent greater than the maximum organic HAP processing rate established during the most recent performance test, you will have to conduct a new performance test for that product and establish a new operating limit for the maximum organic HAP processing rate.

For affected continuous sources that are controlled with a thermal oxidizer, you must maintain the 3-hour block average combustion chamber temperature at or above the combustion chamber temperature operating limit established during the most recent performance test. For affected continuous sources that are controlled with a catalytic oxidizer, you must maintain the 3-hour block average temperature at the inlet of the catalyst bed at or above the corresponding temperature operating limit established during the most recent performance test. For affected batch process sources that are controlled with a thermal oxidizer, you must maintain the average hourly combustion chamber temperature at or above the combustion chamber temperature operating limit established during the most recent performance test.

To document compliance with these operating limits for thermal or catalytic oxidizers, you must measure and record the specified average hourly temperatures. You must also report any average hourly control device operating temperature below the operating limit

established during the most recent performance test.

If you control emissions from an affected source using process modifications or an add-on control device other than a thermal or catalytic oxidizer, you must demonstrate continuous compliance by operating a THC continuous emission monitoring system (CEMS) in accordance with Procedure 1 of 40 CFR part 60, appendix F.

For new clay refractory kilns that are controlled with a DLA, you must monitor continuously the pressure drop across the DLA. You also must check the limestone feed hopper and limestone feeder setting daily to ensure that there is limestone in the hopper, the limestone is free flowing, and the feed rate has not changed. In addition, you must continue using the same source of limestone as was used during the most recent performance test and maintain records that demonstrate that the source of limestone has not changed.

For new clay refractory kilns that are controlled with a DIFF or DLS/FF, you must maintain free-flowing lime in the feed hopper or silo at all times. You also must maintain the lime feeder setting at or above the level established during the most recent performance test and record the feeder setting once each day. You must initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions according to your OM&M plan.

For kilns that are controlled with a wet scrubber, you must 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 corresponding operating limits established during the most recent performance test. Finally, you must record the uncalcined clay processing rate for all affected kilns.

If you operate an affected continuous kiln, you may bypass the control device and continue operating the kiln during periods of scheduled maintenance on the kiln control device, upon approval of the permitting authority. However, you must request prior approval from the permitting authority before taking the control device offline. You must minimize HAP emissions during the period when the control device is offline. You must also minimize the time period when the control device is offline. Unlike scheduled maintenance, a malfunction of a control device must be addressed in your SSMP. As specified in 40 CFR 63.6(f)(1) and (h)(1), emission standards do not apply during periods of startup, shutdown, or malfunction.

I. 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 must perform the appropriate work practice, and you must document in your Notification of Compliance Status that you have complied with the work practice standard, as required by 40 CFR 63.9.

For affected new or existing chromium refractory products kilns and for existing clay refractory products kilns, you must use natural gas, or its equivalent, as the kiln fuel, and document the type of fuel used. During periods of natural gas curtailment or other periods when natural gas is unavailable, you are allowed to use an alternative fuel. However, you must meet the notification requirements specified in 40 CFR 63.9812(f) and the reporting requirements specified in 40 CFR 63.9814(g). You must also incorporate procedures for using alternative fuels in your OM&M Plan.

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

If you have an affected refractory products manufacturing source, you must submit initial notifications, notifications of performance tests, and notifications of compliance status by the specified dates in the final 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), you must also include the following in your Notification of Compliance Status: (1) The operating limit parameter values established for each affected source and a description of the procedures used to establish the values; (2) design information and analysis demonstrating conformance with requirements for capture and collection systems; (3) your OM&M plan, as specified in 40 CFR 63.9794; (4) your SSMP; and (5) descriptions of the methods you use to comply with any applicable work practice standards. You must submit semiannual compliance reports containing statements and information concerning emission limitation deviations, out of control CPMS, and periods of startup, shutdown, or malfunction when actions consistent with the approved SSMP were taken in accordance with 40 CFR 63.6(e)(3).

If you operate an affected clay or chromium refractory products kiln and you must use an alternative fuel due to a natural gas curtailment or other interruption of natural gas supply, you must submit a notification of alternative fuel use that includes the information specified in 40 CFR 63.9812(f). You must submit a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel. The report must include the information specified in 40 CFR 63.9814(g).

If you operate a continuous kiln that is an affected thermal process source of organic HAP or is a new clay refractory products kiln, and you must take the control device offline for scheduled maintenance, you must request prior approval from the permitting authority, as specified in 40 CFR 63.9792(e). In addition, you must maintain records of all maintenance activities and the time intervals when the control device is offline. Finally, you must incorporate into your OM&M plan the procedures for minimizing HAP emissions when the control device is out of service.

For all affected sources, you must maintain records for at least 5 years from the date on which the data are recorded. You must keep the records onsite for at least the first 2 years, but you can store the records offsite for the remaining 3 years.

K. What Are the Compliance Deadlines?

Existing sources must comply within 3 years of the date of publication of today's final rule. New or reconstructed sources must comply at startup or upon the date of publication of today's final rule, depending on their startup date.

III. Summary of Major Changes Since Proposal

A. Emission Limits and Work Practice Standards

For thermal process sources of organic HAP, we replaced the proposed combustion efficiency limit with a 95 percent THC reduction limit. We believe that the 95 percent THC reduction limit will result in organic HAP emissions reductions that are comparable to the reductions that would have been achieved through the proposed 99.8 percent combustion efficiency limit. Furthermore, percentage reduction provides a better measure of the performance of a control device in reducing organic emissions than does combustion efficiency, because percentage reduction is a direct measure of reductions in THC emissions across the control device. In addition, the combination of the proposed THC concentration and the percentage reduction limits allows considerable flexibility in how owners and operators

choose to comply with today's final rule.

The available emission data for the refractory products manufacturing industry indicate that sources that are controlled to levels above the MACT floor (i.e., more stringent than the MACT floor control level) achieve THC emissions reductions of at least 95 percent, and sources that are controlled to levels below the MACT floor achieve THC emissions reductions that are less than 95 percent. Based on our analysis of the data, we concluded that a 95 percent THC reduction represents the level of emissions control that is achieved by a thermal process source of organic HAP that is controlled to the MACT floor level. Additional information on our analysis of the available THC emission reduction data is provided in Docket No. OAR–2002–0088.

We did not propose a percentage THC reduction because we believed that testing the inlets of the control devices used on thermal process sources of organic HAP was not feasible for most sources. However, based on the public comments received on the proposed rule, we believe that refractory products manufacturers can measure THC at the inlets and outlets of most affected sources. Furthermore, those facilities that cannot obtain inlet and outlet measurements still have the option of complying with the 20 ppmvd THC emission limit.

For the proposed rule, we developed HF and HCl emission limits based on the emission levels that could be achieved by the best-controlled kiln in the brick and structural clay products industry. Since proposal, we have obtained additional information on the types of emission controls used in the brick and structural clay products industry to reduce emissions of HF and HCl from kilns. Based on that information, we have concluded that the best-controlled similar source for clay refractory products kilns is a small brick kiln that is controlled with a DLA. A small brick kiln is a kiln with a production capacity of less than 9.1 Mg per hour (Mg/hr) (10 tons per hour (tons/hr)). The data indicate that a DLA can achieve HF emissions reductions of 90 percent and HCl emissions reductions of 30 percent. We used those emissions reductions to develop the HF and HCl emission limits specified in the final rule. The revised emission limits for HF are a 90 percent reduction or 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed. For HCl, the revised emission limits are a 30 percent reduction or 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed.

For proposal, we based the HF and HCl emission limits for new clay refractory products kilns on emission data for a brick kiln that was controlled with a DLS/FF. When we developed those proposed emission limits, we made no distinction between kiln size and control options. However, a review of the emission data for controlled brick kilns indicates that kiln size must be considered when determining feasible control options for reducing emissions of HF and HCl. For brick kilns with production capacities of 9.1 Mg/hr (10 tons/hr) or greater (i.e., large kilns), several control devices have been demonstrated to be highly effective in reducing HF and HCl emissions. Those controls include DLS/FF, DIFF, and wet scrubbers. However, for brick kilns that are designed with production capacities below 9.1 Mg/hr (10 tons/hr), only the DLA has been demonstrated to be a feasible control option for HF and HCl. With DLS/FF, DIFF, and wet scrubbers, it is necessary to maintain minimum exhaust gas flow rates for effective HF and HCl removal, and those minimum exhaust flow rates are significantly greater than the flow rates characteristic of small brick kilns. On the other hand, the performance of the DLA is unaffected by exhaust gas flow rates through the system, and DLA have been used on small brick kilns. Consequently, we have concluded that the best-controlled small brick kiln is equipped with a DLA. We have also concluded that clay refractory products kilns are similar to small brick kilns because 90 percent of the clay refractory products tunnel kilns currently in use were designed to operate at 4.5 Mg/hr (5 tons/hr) or less, and there are no clay refractory products kilns that operate with production rates greater than 8.2 Mg/hr (9 tons/hr).

For existing clay and chromium refractory products kilns, we are still requiring limits on the types of fuels that can be used in affected kilns. However, we have also included a provision for the affected facilities to use alternative fuels during specified times of natural gas curtailment and during other times when natural gas is unavailable. To comply with this provision, owners or operators of affected kilns must notify the permitting authority within 48 hours following the declaration of such an emergency or the interruption of the natural gas supply. In addition, within 10 working days after the facility terminates the use of the alternative fuel, the final rule requires submittal of a report that details the dates of alternative fuel usage and the amount of alternative fuel used.

B. Compliance Testing

For batch process sources, we have reduced the minimum number of compliance test runs from three to two. We believe that two test runs are adequate for characterizing emissions from batch process sources. Although we are still requiring a minimum of three 1-hour test runs for continuous sources, we believe that it is unnecessary to test batch process sources for three runs. Under the final rule, each test run on a batch process source will last at least 3 hours, and in most cases a test run will last considerably longer (*i.e.*, in excess of 10 hours). Thus, even with the reduced number of test runs, an emission test on a batch process source will still require a much longer test period than a test on a continuous process source. Because of the extensive duration of each test run, we believe that a second test run is adequate for corroborating the results of the initial test run, and a third test run is unnecessary. Many batch process refractory products are specialty items that are produced infrequently. Because we are requiring each test run to be conducted over a separate batch process cycle, it may not be practical, and it may disrupt production of other products, to require testing over separate cycles. In some cases, conducting the compliance test over multiple process cycles could require a testing period of weeks or months, thereby preventing the use of the batch process source for manufacturing other refractory products. For this same reason, we have included in today's final rule a provision for allowing owners and operators to conduct both test runs simultaneously over a single batch process cycle using paired sampling trains, under certain conditions. Rather than basing compliance on a rolling 3-hour average, today's final rule requires compliance for batch process sources to be based on emissions over the 3-hour peak emissions period.

For situations in which a facility begins production of a new product that constitutes a slight increase in the maximum organic HAP processing rate, we are no longer requiring a repeat performance test. Specifically, if the organic HAP processing rate for the new product is no more than 10 percent greater than the organic HAP processing rate established during the most recent compliance test, a repeat performance test is not required. We believe this change is appropriate for several reasons. The HAP content of some raw materials used in refractory products manufacturing can vary slightly from shipment to shipment, and those

variations may be beyond the control of the user. The net increase in controlled emissions from a source that uses a material with a slightly higher HAP content would most likely be within the measurement error of the test method. On the other hand, if the organic HAP processing rate for the new product is more than 10 percent greater than the operating limit for the maximum organic HAP processing rate, a new compliance test must be performed.

C. Control Device Monitoring and Operation

In the final rule, we have added the requirement that owners or operators of affected sources that are controlled with a catalytic oxidizer must have the catalyst activity level checked at least every 12 months and take any necessary corrective action, such as replacing the catalyst, to ensure that the catalyst is performing as designed. We continue to require catalyst bed inlet temperature monitoring. However, we believe this additional requirement is needed because, unlike thermal oxidizers, catalytic oxidizer performance cannot be ensured simply by monitoring the operating temperature. Catalyst beds can become poisoned and rendered ineffective without any apparent change in operation. Requiring an annual check of catalyst activity will help to identify catalyst poisoning and other potential performance problems before they become serious. An activity level check can consist of passing an organic compound of known concentration through a sample of the catalyst, measuring the percentage reduction of the compound across the catalyst sample, and comparing that percentage reduction to the percentage reduction for a fresh sample of the same type of catalyst.

We have made several changes to the monitoring requirements for new clay refractory products kilns. We have added monitoring requirements for kilns controlled with a DLA. Specifically, owners or operators of affected kilns are required to monitor continuously the pressure drop across the DLA, check the limestone feed hopper daily to ensure that limestone is free flowing, check the limestone feeder setting daily, use the same source of limestone as was used during the most recent performance test, and maintain records that demonstrate that the source of limestone has not changed. We have eliminated the requirement to monitor the fabric filter inlet temperature for affected clay refractory kilns that are controlled with a DIFF or a DLS/FF. Finally, we have eliminated the requirement to monitor the water injection rate for kilns that are controlled with a DLS/FF.

We have also included in the final rule a provision to allow owners and operators of affected continuous process kilns to bypass the control device and continue operating the kilns during periods when the control device is offline for scheduled maintenance. However, the owner or operator must request approval from the permitting authority before taking the control device out of service. The owner or operator must minimize the time periods during which the control device is offline and must also minimize HAP emissions from the affected sources during these periods. The owner or operator must also maintain records of all maintenance activities and the time when the control device was offline. In addition, procedures for minimizing HAP emissions during periods when the control device is offline must be incorporated into the OM&M plan for the kiln.

D. Definitions

We have modified the definitions of *refractory product* and *research and development process unit,* and have added definitions for *dry limestone adsorber, period of natural gas curtailment or supply interruption, resin-bonded refractory products, pitch-bonded refractory products,* and *redundant sensor.* We also deleted the incorporation by reference of the publication ''Industrial Ventilation: A Manual of Recommended Practice.''

IV. Summary of Responses to Major Comments

A. MACT Floors

Comment: One commenter pointed out that more than 30 refractory products manufacturing plants have closed permanently over the past 3 years. The commenter stated that the MACT floors used to develop the proposed rule are based on data that no longer reflect the current status of the industry. The commenter believes that it is improper for us to use the old data while the industry is in the process of realignment. In response to a request by us, the same commenter provided a list of 35 plants that have closed recently.

Response: We have reviewed the list of 35 recently closed plants provided by the commenter and among those plants, we considered only one, the North American Refractories plant in Womelsdorf, PA, to be a major or synthetic area source of organic HAP. However, we were aware of the impending closure of that particular facility before we determined the MACT floors for the proposed rule, and we did not include affected sources at that plant in our MACT floor analyses. Because we based our determination of the MACT floors for sources of organic HAP emissions only on major and synthetic area sources and none of those plants has closed, the closing of the 35 plants has no impact on the MACT floor analyses used to develop the proposed or final NESHAP.

B. Emission Limits

Comment: One commenter stated that the proposed combustion efficiency limit has no relationship to the MACT floors for thermal process sources of organic HAP. He believes that the proposed combustion efficiency limit is an arbitrary limit based on theoretical calculations and is not supported by the data. The commenter also stated that we cannot identify any plants that have met a 99.8 percent combustion efficiency. He believes that the proposed combustion efficiency limit cannot be met by existing sources; consequently, the stringency of the 99.8 percent combustion efficiency limit will force all affected facilities to meet the alternative proposed limit on THC. The same commenter stated that he has been informed by control device vendors that sources would have to operate well above the MACT floor level of control to meet a 99.8 percent combustion efficiency limit. Another commenter agreed that the combustion efficiency limit will force the industry to meet the alternative THC limit. Both commenters also stated that most of the thermal oxidizers currently used in the refractory products manufacturing industry would not be able to meet the outlet exhaust gas limitation of 3 percent carbon dioxide that is a prerequisite for choosing the combustion efficiency limit compliance option. One commenter added that sources controlled with catalytic oxidizers would be unable to meet the 99.8 percent combustion efficiency limit.

The same two commenters also commented on the appropriateness of a combustion efficiency limit. One of the commenters stated that he contacted thermal oxidizer vendors and a trade association that represents control device manufacturers and vendors, all of whom stated that they were unfamiliar with combustion efficiency. They indicated that thermal oxidizer performance guarantees invariably are written in terms of destruction and removal efficiency (DRE). The other commenter concurred that vendors offer performance guarantees in terms of DRE and not in terms of combustion

efficiency. The commenter stated that he believes that there is no known correlation between combustion efficiency and DRE, and he noted that we also have made that point on several occasions. Finally, the same commenter stated that the Pennsylvania Department of Environmental Resources informed him that they do not incorporate emission limits for combustion efficiency in their operating permits.

Response: After reviewing these comments, we have decided not to include the combustion efficiency limit in the final rule. Although we still maintain that the proposed combustion efficiency limit could be achieved by refractory products manufacturing sources that are controlled to the MACT floor level, we acknowledge that refractory products manufacturing industry personnel, vendors, emission testing contractors, and permitting agency personnel may not be familiar with the concept of using combustion efficiency as a measure of the control of organic pollutants. In addition, combustion efficiency is essentially an indicator of control device performance rather than a direct measure of emissions reductions or control. There are alternatives to a combustion efficiency limit that provide reliable measures of control device performance and emissions reductions, and we have included one such alternative, a percentage THC reduction, in the final rule. We believe that a THC percentage reduction is a more appropriate format for an emission limit than is combustion efficiency because percentage reduction is a measure of emissions reductions and can be related directly to the MACT floor for thermal process sources of organic HAP.

Comment: Two commenters recommended that we consider a limit on DRE instead of a combustion efficiency limit. One of the commenters stated that control device vendors typically offer performance guarantees in terms of a DRE limit, coupled with an outlet concentration limit for low-emitting sources. The other commenter stated that an alternative limit of 95 percent DRE for THC would be appropriate for the refractory products manufacturing industry. One of the commenters evaluated two catalytic oxidizers used at his facility. He concluded that the oxidizers would be unable to meet a 99.8 percent combustion efficiency limit or the proposed THC limit of 20 ppmvd, corrected to 18 percent oxygen. However, he believes that both of the catalytic oxidizers he evaluated could achieve a DRE of approximately 95 percent. The same commenter also disagreed with our statement that a DRE limit would be problematic due to the lack of access to control device inlets for emission testing on most affected sources. He stated that facilities can retrofit existing sources to allow for control device inlet testing.

Response: We agree with the commenters that a DRE limit, which generally is referred to as a percentage reduction limit in NESHAP, would be appropriate for the refractory products manufacturing industry. Consequently, we have decided to incorporate an emission limit of 95 percent THC reduction in today's final rule as an alternative to the THC emission concentration limit. We believe that percentage reduction provides the best measure of the performance of a control device in reducing organic emissions. Because percentage reduction is a direct measure of emissions reductions, we also believe it is more consistent with the MACT floor concept than is the proposed combustion efficiency limit. Unlike combustion efficiency, we have THC percentage reduction data for several refractory products manufacturing sources. By comparing those data to the MACT floor levels established by today's rule (see Docket No. OAR–2002–0088), we were able to conclude that the 95 percent THC reduction limit that we have incorporated into the final rule is representative of the emissions reductions that sources controlled to the MACT floor level should be able to achieve on a consistent basis.

Comment: One commenter commented on the fact that the same combustion efficiency limit was proposed for several different types of thermal process sources, such as periodic kilns, tunnel kilns, dryers, and coking ovens. He believes that differences in the operation of these various types of sources warrant different emission limits.

Response: We considered establishing separate emission limits for each type of thermal process source of organic HAP. However, the MACT floors for both existing and new sources are based on thermal oxidizer control, and the MACT floor level thermal oxidizer operating temperatures and residence times are similar for the various types of thermal process sources. These thermal oxidizers represent relatively high levels of control, and based on their design and operating parameters, we would not expect there to be significant differences in performance levels among them. Furthermore, when the theoretical performance levels of these thermal oxidizers are compared, the Arrhenius equation predicts that all of them would achieve essentially complete control of organic emissions. The available valid emission test data on organic emissions from controlled thermal process sources of organic HAP also do not support making such distinctions in emission limits. Consequently, we decided to establish the same emission limits for all types of thermal process sources of organic HAP subject to today's final rule.

Comment: Two commenters stated that the available emission data do not support the proposed THC limit of 20 ppmvd. The commenters believe that the data support an emission limit of 30 ppmvd THC, based on the average THC emission concentration for the available test data on controlled kilns.

Response: To determine the MACT floors and the corresponding emission limits for existing sources, we first must consider the number of sources in operation at major and synthetic area source facilities. In the case of kilns that are used to fire refractory products that contain organic HAP, there are fewer than 30 kilns that can be considered in establishing the MACT floor. Under section 112(d)(3) of the CAA, we must select the average or median of the best-performing five sources. In this case, the MACT floor for kilns corresponds to the third-best performing kiln.

To rank kilns in terms of their performance in controlling organic HAP emissions, we needed emissions data for each of the best-performing kilns. However, we did not have data on emissions of organic HAP (or THC as a surrogate for organic HAP) for any of the best-controlled kilns. The specific kilns referenced by the commenters are not among the best-performing kilns in operation at major or synthetic area source facilities, so it would be contrary to the requirements of the CAA to average emission data for those kilns, as the commenters suggest, because such an average would include data from sources that are clearly not among the top five best-performing kilns located at major or synthetic area source facilities.

An alternative approach to determining MACT floors by ranking sources according to demonstrated emissions reductions is to rank the sources based on the likely performance level of the control devices in place. We used this alternative approach to determine the MACT floors for organic HAP emissions from thermal process sources. Using the Arrhenius equation, we ranked all of the controlled kilns located at major or synthetic area source facilities and selected the third-best kiln as the MACT floor. However, to develop the 20 ppmvd THC emission limit, we did consider all of the available data,

including the kiln emission data referenced by the commenters. After considering the design of the control devices for those kilns and the likely variations in emission data, we concluded that the available data support a 20 ppmvd THC emission limit.

Comment: One commenter stated that Congress intended MACT standards to be industry-specific, and he objected to the use of data for the brick and structural clay products industry to establish emission limits for HF and HCl from clay refractory products kilns. The commenter stated that it is inappropriate to use data from another industry to develop emission limits for the refractory products manufacturing industry.

Response: Section 112(d) of the CAA requires us to establish emission limits for new sources based on the performance of the best-controlled similar source. The CAA does not specify that the similar source must be within the same source category. To the contrary, our interpretation of section 112(d) is that we are obligated to consider similar sources from other source categories in determining the best-controlled similar source for establishing MACT for new sources.

For clay refractory products kilns, we concluded that the best-controlled similar sources are found in the brick and structural clay products industry. We believe that brick kilns are similar to clay refractory products kilns for several reasons: (1) Most clay refractory products are fired in tunnel kilns, as is the case for brick manufacturing; (2) in both industries, tunnel kilns are designed to have three temperature zones, a preheating or drying zone, a firing zone, and a cooling zone; (3) in both industries, unfired shapes (bricks or refractories) are loaded onto rail cars and transported through each successive temperature zone through a series of timed pushes; (4) both clay refractory kilns and brick kilns typically operate at peak temperatures of approximately 2000°F; (5) firing times in clay refractory and brick kilns are similar; (6) the raw materials used in producing bricks (primarily common clay and shale, but also fire clay) and clay refractories (primarily fire clay) are similar; and (7) at least one refractory products manufacturer fires both clay refractory products and brick and structural clay products in the same kilns.

The HF and HCl controls currently used in the brick and structural clay products industry are a function of kiln size (*i.e.*, production rate). Kilns with production capacities of less than 9.1 Mg/hr (10 tons/hr) are classified as small kilns, and those with production capacities of at least 9.1 Mg/hr (10 tons/hr) are classified as large kilns. For small brick kilns, the best-performing source is a kiln controlled with a DLA. For large kilns, the best-performing sources are those controlled with either a DIFF, DLS/FF, or wet scrubber. Although DIFF, DLS/FF, and wet scrubbers generally are more effective than DLA in reducing emissions of HF and HCl, large kiln controls require minimum exhaust gas flow rates that are significantly higher than the flow rates characteristic of small kilns. Consequently, the DLA is the only device that has been demonstrated to be feasible for controlling HF and HCl emissions from small brick kilns. Using the same size classification system, the clay refractory products kilns currently in operation would all be classified as small kilns. All operate at less than 9.1 Mg/hr (10 tons/hr), and 90 percent operate at no more than 4.5 Mg/hr (5 tons/hr). Because of the similarities in design and operation discussed in the previous paragraph, and taking into account kiln size, we have concluded that small brick kilns and clay refractory products kilns are similar sources. In the final rule, we are incorporating HF and HCl emission limits based on the performance of DLA-controlled brick kilns.

Comment: One commenter expressed concern with how we used data for the brick and structural clay products industry to develop emission limits for new clay refractory products kilns. He stated that we used the same data to propose more stringent HF and HCl limits for new clay refractory products kilns than were proposed for new brick and structural clay products kilns under the proposed Brick and Structural Clay Products NESHAP (67 FR 47894, July 22, 2002). The proposed HF emission limit for new brick and structural clay products kilns is 0.014 kg/Mg (0.027 lb/ton), whereas the proposed HF limit for new clay refractory products kilns is 0.001 kg/Mg (0.002 lb/ton). In addition, the proposed HCl emission limit for new brick and structural clay products kilns is 0.019 kg/Mg (0.037 lb/ton), whereas the proposed HCl limit for new clay refractory products kilns is 0.0025 kg/Mg (0.005 lb/ton).

Response: In selecting the proposed HF and HCl emission limits for new clay refractory products kilns, we reviewed the available emission data from the brick and structural clay products industry and selected the single best-performing similar source, which was an individual brick kiln controlled with a DLS/FF. To select the HF and HCl emission limits for brick kilns in the proposed Brick and Structural Clay Products NESHAP, we used a different approach based on the overall performance of the available control technologies. We reviewed the available data and concluded that the three best-performing control technologies (DLS/FF, DIFF, and wet scrubbers) are essentially comparable in terms of reducing HF and HCl emissions. We also considered the variability in the data and selected the percentage reductions that we believe all three technologies can achieve on a continuous basis according to the available test data. We used those percentage reductions, which were 95 percent for HF and 90 percent for HCl, to derive the proposed production-based emission limits from the emission factors for uncontrolled HF and HCl from brick kilns. Those production-based emission limits were 0.014 kg/Mg (0.027 lb/ton) for HF and 0.019 kg/Mg (0.037 lb/ton) for HCl. After reconsidering both approaches for selecting emission limits, we have concluded that the technology-based approach that we used to develop the emission limits for the proposed Brick and Structural Clay Products NESHAP is the appropriate method for establishing HF and HCl emission limits for new clay refractory products kilns.

In the proposed Brick and Structural Clay Products NESHAP, we also subcategorized according to kiln size by differentiating between large kilns (*i.e.*, those with production capacities of 9.1 Mg/hr (10 tons/hr) or greater) and small kilns (*i.e.*, those with production capacities that are less than 9.1 Mg/hr (10 tons/hr)). For today's final rule, we have incorporated this same size classification system into our determination of the emission limits for new clay refractory products kilns. We have concluded that small brick kilns are similar to clay refractory products kilns and that the best-controlled similar source for clay refractory products kilns is a small brick kiln controlled with a DLA. Although there are other technologies that perform well in controlling HF and HCl emissions from brick kilns (*i.e.*, DLS/FF, DIFF, and wet scrubbers), those control devices have been used only on large brick kilns. On the other hand, DLA are currently in use on both large and small brick kilns. The available data indicates that a DLA can achieve emissions reductions of 90 percent HF and 30 percent HCl on a consistent basis. We have applied these emissions reductions to HF and HCl data from uncontrolled clay refractory products kilns and are incorporating into today's final rule the

revised emission limits for new clay refractory products kilns. The resulting emission limits for HF are a 90 percent reduction or 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed. For HCl, the limits are a 30 percent reduction or 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed.

Comment: One commenter questioned the need to establish emission limits for chromium refractory products kilns. He stated that chromium compounds should be treated no differently than any of the other listed HAP. He noted that the use of chromium for refractory products manufacturing has decreased significantly in recent years, and that our own estimates indicate that total chromium compound emissions in 1996 were less than 10 tpy for the entire industry. He also pointed out that the large chromium refractory products facility referenced in the proposal has been shut down.

Response: As noted by the commenter, chromium compounds are one of the listed HAP in section 112(b) of the CAA. Chromium, in the form of chromite or chromium oxide, is a principal ingredient in the formulation of many refractory products and is emitted from kilns that fire chromium refractory products. Some of the chromium is emitted in the hexavalent form, which is a known human carcinogen. Under section 112(d) of the CAA, we are required to establish emission standards that are at least as stringent as the MACT floor for all listed HAP that are emitted from major sources. Consequently, regardless of the trend in chromium refractory production, we are required to establish emission limits based on the MACT floor level of control, which for chromium refractory products kilns is the work practice of firing kilns with natural gas or the equivalent.

Comment: One commenter opposed the provision in the proposed rule that limits the types of fuels used to fire clay and chromium refractory products kilns. He stated that many refractory products manufacturing industry kilns are designed to use fuels other than natural gas, such as fuel oil, propane, and pulverized coal. The need to use these alternative fuels is of particular importance during natural gas shortages or price increases. He pointed out that during natural gas shortages, residential users receive priority over industrial users of natural gas. He believes that prohibiting the use of these alternative fuels could adversely impact the viability of some refractory products manufacturing operations.

Response: We agree with the commenter that the Refractory Products Manufacturing NESHAP should include appropriate provisions for the use of alternative fuels during specified times of natural gas curtailment and other situations when natural gas is unavailable. We consider such situations analogous to malfunctions, which are addressed in 40 CFR 63.6. Just as an exceedance of emission limits during a malfunction is not considered a violation, as indicated in 40 CFR 63.6(f)(1) and (h)(1), we believe that using other fuels during periods when natural gas is unavailable should also not be considered a violation of the work practice standard for clay and chromium refractory products kilns. We also note that operating permits for existing refractory products manufacturing facilities generally allow the use of fuel oil and other substitutes for natural gas in some situations. Thus, the MACT floor for existing clay and chromium refractory products kilns is the use of natural gas or equivalent fuel except during periods when natural gas is unavailable.

In the final rule, we are allowing owners and operators of affected chromium and clay refractory products kilns to use alternative fuels during periods when natural gas in unavailable due to a supply curtailment or other factors. However, we do not believe that natural gas price increases constitute such a situation, and the final rule makes it clear that natural gas prices cannot be considered the basis for a MACT floor that requires using an alternative fuel. The final rule also requires owners or operators to notify the regulatory authority within 48 hours after the declaration of natural gas curtailment or the interruption of natural gas supply. In addition, the owner or operator must submit a report that details the dates of alternative fuel usage and the amount of alternative fuel used within 10 working days after the facility terminates the use of the alternative fuel.

C. Compliance Testing and Monitoring

Comment: One commenter stated that the requirement to test batch process sources during three separate process cycles is redundant, unnecessary, and burdensome. He believes that it would be adequate to test one process cycle. He pointed out that there are significant variations in product mixes and raw materials from cycle to cycle, and that while it could be argued that testing one cycle is adequate, it could also be argued that testing ten cycles is inadequate for characterizing emissions. He noted that testing during cool-down periods, in particular, is unnecessary.

Response: We agree with the commenter that testing batch process sources for three cycles of a ''worst-case'' batch may be unnecessary to characterize emissions and control device performance. Under the final rule, we are requiring owners and operators of affected batch process sources to perform at least two test runs on each of two separate process cycles. We believe that a second test run is necessary to corroborate the results of the initial test run. However, we also note that each test run on a batch process source must be a minimum of 3 hours in duration, and for many batch process sources, the minimum test run duration is likely to be in excess of 10 hours. Thus, even requiring only two test runs will necessitate at least 20 hours of testing for such sources, and we consider a test of that duration to be adequate for demonstrating compliance with emission limits. We also note that other NESHAP, such as subparts U, JJJ, OOO, and UUUU to 40 CFR part 63, do not require batch process sources to be tested for three test runs.

We are also including in the final rule a separate batch process testing provision for refractory products that are produced infrequently. In such cases, we are allowing owners and operators of affected batch process sources to test a single batch process cycle using two separate sampling trains simultaneously, rather than requiring them to conduct test runs over two separate batch cycles. Many refractory products that are produced in batch process sources are specialty items that may only be manufactured a few times per year. When such products represent the ''worst-case'' in terms of organic HAP emissions, requiring multiple test runs over separate process cycles could extend the test period over several weeks or months. Production of other refractory products could inadvertently be disrupted while the facility attempts to complete its compliance demonstration. We also point out that requiring performance tests on batch process sources to be conducted over no more than a single process cycle is not without precedent; at least four other NESHAP (subparts U, JJJ, OOO, and UUUU to 40 CFR part 63) require batch process sources to be tested over only a single process cycle. To satisfy this provision of today's final rule, owners or operators will be required to include in the Notification of Performance Test an explanation for why testing two separate batch cycles is impractical.

Comment: Two commenters expressed concern with the requirement that the compliance test on an affected source would have to be repeated before

the facility began manufacturing a new product that represents the ''worst-case'' in terms of organic HAP emissions (*i.e.*, the organic HAP processing rate for the new product would exceed the maximum organic HAP processing rate established during the most recent performance test). One commenter stated that this requirement would be costly, time-consuming, and could result in disruptions in production. Another commenter further elaborated that production delays could result while the facility tries to schedule a performance test. Both commenters requested that we specify a level for the allowable changes in the HAP content of raw materials and not require a new compliance test when the changes in HAP content are below that level. One of the commenters stated that a level of 10 percent would be appropriate.

Response: We agree with the commenters that a new compliance test should not be required when a facility begins producing a new product that constitutes a slight increase in the maximum organic HAP processing rate established during the most recent performance test. We have written this provision in the final rule to allow increases in the maximum organic HAP processing rate up to 10 percent without triggering a new performance test. We believe this is appropriate for two reasons. The HAP content of some raw materials (*e.g.*, resins or binders) used in refractory products manufacturing can vary slightly from shipment to shipment, and those variations may be beyond the control of the user. Even if the HAP content of the resin or binder is 10 percent more than the HAP content of the same material that was processed during the compliance test, the net increase in controlled emissions would most likely be within the measurement error of the test method. Therefore, we believe it is reasonable to allow increases of up to 10 percent in the organic HAP processing rate without requiring a new compliance test.

Comment: Two commenters questioned the requirement for monitoring catalytic oxidizer temperatures at the inlet to the catalyst bed. Both commenters stated that monitoring the catalyst bed outlet temperatures would be a much better indicator of performance.

Response: We disagree with the commenters that monitoring catalyst bed outlet temperatures would provide a better indication of catalyst oxidizer performance than monitoring catalyst bed inlet temperatures. Monitoring catalyst bed inlet temperatures ensures that the inlet gas stream is heated to the minimum temperature at which catalytic oxidation will occur. Above this minimum temperature, as temperature increases through catalytic oxidization, control (destruction) efficiency increases. We also note that the monitoring of inlet temperature must be performed at the inlet to the catalyst bed and not at the inlet to the oxidizer itself. After passing through the inlet to the oxidizer, the waste gases pass through a preheat zone, which raises the temperature to the minimum required for catalytic oxidization. Monitoring must take place between this preheat zone and the inlet to the catalyst bed. We do not believe that monitoring catalyst bed outlet temperatures would be appropriate for two reasons: (1) Catalyst bed outlet temperature is more of an indicator of the concentration of organics in the inlet gas stream; the higher the organic concentration at the inlet, the higher the bed outlet temperature; and (2) some catalytic oxidizers are equipped with heat recovery units that are located at the outlet of the catalyst bed and can interfere with bed outlet temperature monitoring. Consequently, we have concluded that monitoring the bed inlet temperature is a better indicator of the performance of catalytic oxidizers than bed outlet temperature monitoring. We continue to require catalyst bed inlet temperature monitoring in the final rule. In addition, we are requiring owners or operators of affected sources that are controlled with catalytic oxidizers to measure the activity of the catalyst bed at least every 12 months and take whatever corrective action is needed, such as replacing the catalyst, to ensure that the catalyst is performing as designed.

D. Economic and Environmental Impacts

Comment: Two commenters disagreed with our estimates of the annual increase in energy costs that would be associated with the proposed NESHAP. One of the commenters stated that, based on our estimated annual energy costs of $569,800 and estimated annual natural gas consumption of 644 million cubic feet (644×10^6 ft^3), the unit price for natural gas would be $0.89 per thousand standard cubic feet (scf) ($/1,000 scf) without accounting for electricity costs. If the cost of electricity is considered, the resulting unit price for natural gas would be even lower. He pointed out that current unit prices for natural gas are considerably higher. The average natural gas unit prices in four States (Kentucky, Missouri, Indiana, and Pennsylvania) for the years 2000 to 2002 ranged from $6.34 to $6.97/1,000 scf and averaged $6.37/1,000 scf for the four States. Based on data from the Department of Energy's Energy Information Administration (DOE-EIA), one of the commenters stated that the average unit price for natural gas in 2001 was $4.56/1,000 scf. The commenter believes that, regardless of which of these current unit prices are used, the estimated annual energy costs should have been several times greater.

Response: After reviewing our estimated annual energy costs, we discovered an error in our estimate that an additional 644×10^6 ft^3 of natural gas would be consumed annually under the proposed NESHAP. That estimate was based on the inclusion of several sources that would not have been subject to the final rule. However, we did not use that figure (644×10^6 ft^3) to estimate annual energy costs. Our estimated annual energy costs were based on the assumption that annual natural gas consumption would increase by 158×10^6 ft^3. That figure was derived from the models used to estimate annual control costs, and we believe that figure is accurate. Using a consumption of 158×10^6 ft^3 of natural gas per year and a natural gas unit price of $3.30/1,000 scf, we estimated the cost of natural gas to be $520,200/yr. The difference between this cost and the total energy costs presented in the preamble to the proposed rule ($569,800) is the cost of electricity, which we estimated to be approximately $49,600/yr.

We agree with the commenters that current natural gas unit prices are considerably higher than the unit price ($3.30/1,000 scf) that we used to estimate energy costs for the proposed rule. However, according to DOE–EIA, natural gas prices are projected to drop back to their pre-1999 levels within a year and remain below $4.00/1,000 scf until the year 2020. Natural gas unit prices are projected to average $3.45/1,000 scf for the years 2006 to 2009, which represent the first 3 years in which facilities will be required to comply with the Refractory Products Manufacturing NESHAP. This average unit price is only slightly higher than the unit price of $3.30/1,000 scf that we used to estimate energy costs for the proposed rule. Furthermore, electricity prices are projected by DOE-EIA to average $0.043 per kilowatt-hour (kw-hr) for the same 3-year period, whereas our estimated energy costs were based on electricity unit prices of $0.059/kw-hr. Using those projected unit prices for natural gas and electricity, our energy costs for the proposed rule would have been $580,000, as compared to the figure of $569,800 reported in the preamble to the proposed rule. (*See*

Docket No. OAR–2002–0088 for additional information).

Comment: Two commenters stated that the proposed Refractory Products Manufacturing NESHAP does not account for the current economic status of the refractory products manufacturing industry. One of the commenters noted that approximately 40 percent of the domestic steel industry is in bankruptcy, and the steel industry accounts for about 60 percent of the domestic refractory products market. He also pointed out that three major refractory products manufacturing companies are in bankruptcy, more than 30 plants have permanently closed in recent years, and pressure from foreign competition in the refractory products market is increasing. The other commenter reiterated the statements of the first commenter regarding bankruptcies among major domestic refractory producers and the increase in foreign competition.

Response: During the early stages of regulatory development, we issued an information collection request (ICR) to the refractory products manufacturing industry. Our economic impact analysis (EIA) makes use of detailed facility-level data on production for the year 1997 obtained from the industry's responses to the ICR. This information, along with publically available data (*i.e.*, U.S. Census Bureau), was used at proposal to construct a model of the markets for refractory products that is consistent with market, facility, and company conditions in 1997. Because the ICR provided data only for 1997, we are limited in our ability to update the model completely to reflect conditions in later years. However, for the final rule we have, to the extent practicable, updated the economic model to reflect current market conditions, including: (1) The exclusion of refractory manufacturing facilities known to have closed since the base year of 1997; (2) the assumption that producers will absorb the full cost of the rule; with only six out of 147 producers affected by the rule and the financial stress on the industry, we assume producers will be unable to increase market prices to recover some of their increase in production costs; and (3) the incorporation of parameters from a recent update of an iron and steel model to inform the estimated demand for refractories (*i.e.*, the demand elasticity, or the sensitivity of demand from the steel market based on market conditions in the iron and steel industry). The iron and steel model was specifically revised to address current conditions in the steel industry.

We also acknowledged in the EIA at proposal that both steel and refractory manufacturing companies are currently under financial stress. In the EIA, we discussed several trends that have placed considerable pressure on refractory manufacturers, including reduced production by integrated domestic steelmakers, improved quality of refractories (thus requiring less frequent replacement), and increased imports of refractory products.

We note that the vast majority of facilities in the industry (both foreign and domestic producers) are unaffected by the rule. The regulatory costs of the rule are approximately $2 million per year, which represents a small share of total industry production costs of approximately $2,300 million per year. In the model for the final rule, prices are not predicted to change, and the quantities of refractories produced are projected to decrease by 3,792 tons. It is assumed that the loss in domestic production will be absorbed by foreign imports. Our analysis concludes these six facilities incurring regulatory costs will absorb the majority of the costs and burden of the rule, with one facility projected to close as a result of the rule. At the parent company level, the costs uniformly are less than 1 percent of baseline corporate sales. Overall, we have adjusted the economic model to address the issues raised by the commenters, and we believe that the final rule will have a limited impact on the refractory products manufacturing industry.

E. Definitions

Comment: Two commenters commented on how the term *refractory product* is defined in the proposed rule. Both commenters stated that, based on this definition, some graphite manufacturing sources could be confused with certain refractory products manufacturing sources that would be affected by the final rule. It is their understanding that we intend to develop a separate NESHAP for the graphite manufacturing industry, and graphite manufacturing sources, although similar to some refractory products manufacturing sources, would not be subject to the Refractory Products Manufacturing NESHAP. The commenters suggested adding the phrase, ''. . . containing less than 50 percent carbon'' to the definition of *refractory product.*

Response: We agree with the commenters that the definition of *refractory product* in the proposed rule could inadvertently affect certain graphite manufacturing sources. Consequently, we have written the definition as requested by the commenters. In addition, we are including a definition for pitch-bonded refractory products in the final rule. We believe that definition will help to preclude graphite baking ovens, which are not subject to today's final rule, from being classified as pitch-bonded curing ovens, which are regulated under today's final rule.

Comment: One commenter commented on how the term *research and development process unit* is defined in the proposed rule. The commenter stated that the proposed definition is inconsistent with the definition of research and development facilities specified in section 112(c)(7) of the CAA, 40 CFR 63.41, and several other NESHAP published in 40 CFR part 63. The difference between those definitions and the proposed definition specified in the Refractory Products Manufacturing NESHAP is the exclusion of the phrase ''in a de minimis manner'' from the proposed rule.

Response: We agree with the commenter that the definition of *research and development process unit* in the Refractory Products Manufacturing NESHAP should be consistent with the definition of research facilities in the CAA and in other rules. We have written the definition of *research and development process unit* as suggested by the commenter.

V. Summary of Impacts

A. What Are the Health Impacts?

The HAP that will be controlled by today's final 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 final 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 today's final rule reduces emissions, subsequent exposures will be reduced.

Following is a discussion of the health effects of seven HAP: ethylene glycol, formaldehyde, HF, HCl, methanol, phenol, and POM. Although today's rule will reduce emissions of HF and HCl from any new clay refractory product kilns that emit these HAP, it will not reduce emissions of these HAP from existing kilns. We estimate that emissions of methanol from affected existing thermal process sources of organic HAP (*i.e.*, shape dryers, curing ovens, and kilns) also will not be reduced by today's final rule. However, methanol is a constituent of some resins used in resin-bonded refractory production, and today's final rule will regulate methanol emissions from any affected source that produces refractory products made with resins that contain methanol.

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.

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).

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.

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.

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.

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.

Polycyclic Organic Matter

The term polycyclic organic matter defines a broad class of compounds that includes the polycyclic aromatic hydrocarbon (PAH) compounds, 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.

B. What Are the Air Emission Reduction 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 246 Mg/yr (271 tpy). For the eight refractory products facilities that we estimate to be major sources, baseline annual HAP emissions are about 153 Mg/yr (169 tpy). We estimate that today's final rule will reduce nationwide HAP emissions by about 124 Mg/yr (137 tpy).

Among the major sources, POM emissions account for approximately 60 percent of the total annual HAP emissions. Phenol, HF, HCl, and ethylene glycol account for 13 percent, 10 percent, 7 percent, and 7 percent of total annual HAP emissions,

respectively. Formaldehyde and chromium compounds each account for less than 1 percent of total baseline annual HAP emissions. Today's final rule will reduce annual POM emissions by as much as 90 Mg/yr (99 tpy). Emissions of phenol and ethylene glycol will be reduced by approximately 19 Mg/yr (21 tons/year) and 11 Mg/yr (12 tpy), respectively. Implementing today's rule will also reduce volatile organic compound (VOC) and carbon monoxide (CO) emissions by 166 Mg/yr (182 tpy) and 71 Mg/yr (78 tpy), respectively. The final rule will result in an increase in annual nitrogen oxides (NO_X) emissions of about 79 Mg/yr (87 tpy) due to the operation of additional thermal oxidizers to control organic HAP emissions.

Indirect or secondary air impacts of today's final rule result from increased electricity usage associated with operation of control devices required by the rule. Assuming that affected plants will purchase electricity from a power plant, we estimate that the final rule will result in increases of secondary emissions of criteria pollutants, including particulate matter less than 10 micrometers in aerodynamic diameter (PM–10), sulfur dioxide (SO_2), NO_X, and CO from power plants. Under today's final rule, secondary PM–10 emissions will increase by 0.22 Mg/yr (0.24 tpy); secondary SO_2 emissions will increase by about 8.9 Mg/yr (9.8 tpy); secondary NO_X emissions will increase about 4.5 Mg/yr (4.9 tpy); and secondary CO emissions will increase by about 0.15 Mg/yr (0.16 tpy).

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 today's final rule.

C. What Are the Cost Impacts?

The estimated total capital costs of today's final rule are $4.6 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 today's final rule is $2.3 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.

D. What Are the Economic Impacts?

Given the estimated costs to comply with the regulation, we prepared an economic analysis to evaluate how these costs would impact producers and consumers of refractories, and society as a whole. The refractory products manufacturing industry currently consists of 147 establishments. There are eight major sources in the industry affected by the rule, six of which will incur costs to reduce emissions and report compliance, and two of which only incur minor recordkeeping and reporting costs. In recent years, the industry has experienced substantial financial stress that coincides with the decline in the steel industry, which is a major consumer of refractory products. Since our analysis at proposal, the number of facilities in operation has decreased by 14 due to bankruptcies or closures.

The industry consists of three market sectors, including: bricks and shapes, monolithics, and RCF. In 1997, the industry produced about two million tons of bricks and shapes, 870,000 tons of monolithics, and about 34,000 tons of RCF for a total market value of approximately two billion dollars.

The total annualized regulatory compliance cost of the rule is $2.3 million (in 1998 dollars), which represents 0.001 percent of total market value. Because foreign competition currently has a strong influence on this industry, and only six out of 147 producers are affected by the rule, our analysis of the final rule assumes that producers of bricks and shapes will not be able to increase prices to recover a portion of the compliance costs. Thus, these producers are assumed to absorb the full cost of the regulation, which represents the maximum potential impact on producers. If prices happen to rise as a result of the regulation, impacts on producers will be lower than reported here.

Our analysis predicts that domestic production of bricks and shapes will decrease by approximately 4,000 tons (or 2/10ths of one percent). Foreign imports are assumed to absorb this loss in domestic production, which represents approximately two percent of total foreign imports. The monolithics and RCF sectors of the market are not subject to the rule and thus no price or production level changes are predicted. After accounting for the changes in the market for refractories and the increase in foreign imports, the total cost of the regulation on society as a whole is approximately $2 million.

Of the eight plants affected by the rule, one facility may close due to regulatory costs. The estimated regulatory cost to this facility assumes the use of add-on controls, which would exceed the total revenues of this facility, hence our model estimates that it would close. However, we recognize 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 regulation, our analysis assumes that only add-on control technology will be installed.

E. What Are the Non-Air Quality Environmental and Energy Impacts?

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

Energy impacts consist of the electricity and fuel needed to operate control devices and other equipment that are required under the final rule. Assuming that affected facilities comply with the final rule by installing and operating thermal oxidizers, we project that today's final rule will increase overall energy demand (*i.e.*, electricity and natural gas) by about 280 thousand gigajoules per year (265 billion British thermal units per year). Electricity requirements are expected to increase by about 1,570 megawatt-hours per year under today's rule. Natural gas requirements are expected to increase by about 7 million cubic meters per year (250 million cubic feet per year) under today's final rule.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), 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 obligation of recipients thereof; or

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

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is not a ''significant regulatory action'' because none of the listed criteria applies to this action. Consequently, this action was not submitted to OMB for review under Executive Order 12866.

B. Paperwork Reduction Act

The information collection requirements in the final 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 Susan Auby by mail at U.S. EPA, Office of Environmental Information, Collection Strategies Division (MD–2822T), 1200 Pennsylvania Avenue, NW., Washington, DC 20460; by e-mail at *auby.susan@epa.gov*; or by calling (202) 566–1672. You may also download a copy off the Internet at *http://www.epa.gov/icr*. The information requirements are not enforceable until OMB approves them.

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

With two exceptions, the final rule will not require any notifications, reports, or recordkeeping beyond those required by the NESHAP General Provisions. The first exception applies to facilities that operate sources that are subject to limits on the type of fuel used. In such cases, the owner or operator may use an alternative fuel under certain conditions but must submit a notification before using the alternative fuel, must report on alternative fuel use after terminating use of the alternative fuel, and must maintain records of alternative fuel use. The second exception pertains to continuous kilns; the final rule requires reporting and recordkeeping whenever the control device used on a continuous kiln is taken offline for scheduled maintenance.

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 726 labor hours per year at a total annual cost of $31,460. 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 annualized 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 $45,390, with operation and maintenance costs of $910/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 current valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

C. Regulatory Flexibility Act (RFA)

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule. The EPA has also determined that the rule will not have a significant economic impact on a substantial number of small entities. For purposes of assessing the impact of today's rule on small entities, small entities are defined as: (1) A small business whose parent company has fewer than 500 employees, according to Small Business Administration size standards established under the NAICS for the industries affected by today's rule; (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; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. We have determined that of the six facilities affected by the rule, there is one facility owned by a small company that will experience an impact of less than one-half of one percent (<0.50 percent) of company sales.

Although the final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of the rule on small entities. However, we were unable to identify any specific requirements of the final rule that we could relax to reduce the burden of today's rule on small entities. If the final rule had established emission limits more stringent than the MACT floor, we could have reduced the stringency of the emission limits for small entities. However, the emission limits established by today's rule are based on the MACT floor, which is the minimum level of stringency allowed under section 112 of the CAA. Today's rule does provide two options for owners and operators of affected thermal process sources of organic HAP. Thus, the one small entity that is affected by today's rule can choose to comply with either of two organic HAP emission limits. Having the choice between compliance options will provide small business with some measure of flexibility in how it chooses to comply with the final rule.

Today's rule requires continuous parameter monitoring rather than continuous emission monitoring. We believe that the parameter monitoring requirements we have incorporated in the final rule satisfy the requirements of section 114(a)(3) of the CAA for enhanced monitoring without the additional expense that would have been associated with continuous emission monitoring. Finally, the reporting and recordkeeping requirements of today's rule are consistent with the requirements of the General Provisions to 40 CFR part 63. For these reasons, we believe that today's rule satisfies the requirements of

the CAA without imposing any unnecessary burden on small businesses or any other affected entity.

D. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law No. 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 today's final 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 of today's final rule for any year has been estimated to be approximately $2.3 million. Thus, this final rule is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that this final 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 final rule is not subject to the requirements of section 203 of the UMRA.

E. 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.''

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the affected facilities is owned or operated by State governments, and the rule requirements will not supercede State regulations that are more stringent. Thus, Executive Order 13132 does not apply to the rule.

F. 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 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' The final rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. No tribal governments own or operate refractory products manufacturing facilities. Thus, Executive Order 13175 does not apply to the final rule.

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

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that 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 rule is preferable to other potentially effective and reasonably feasible alternatives that EPA considered.

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 final rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks. No children's risk analysis was performed because no alternative technologies exist that would provide greater stringency at a reasonable cost. Furthermore, the final rule has been determined not to be ''economically significant'' as defined under Executive Order 12866.

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

Today's final 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.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. 104–113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to the OMB, with explanations when an agency does not

use available and applicable voluntary consensus standards.

Today's final rule involves technical standards. The EPA cites the following standards: EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 3, 3A, 3B, 4, 25A, 26, 26A, 311, and 320. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA method/performance specifications. No applicable voluntary consensus standards were identified for EPA Methods 1A, 2A, 2D, 2F, 2G, and 311. The search and review results have been documented and can be found in Docket No. OAR–2002–0088.

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

Also, five voluntary consensus standards: ASTM D1979–91, ASTM D3432–89, ASTM D4747–87, ASTM D4827–93, and ASTM PS9–94 are incorporated by reference in EPA Method 311.

In addition to the voluntary consensus standards EPA cites in the rule, the search for emissions measurement procedures identified 13 other voluntary consensus standards. The EPA determined that ten of the 13 standards identified for measuring emissions of the HAP or surrogates subject to emission standards in the rule were impractical alternatives to EPA test methods for the purposes of the rule. Therefore, EPA does not intend to adopt these standards for this purpose. The reasons for this determination for the ten methods are discussed in the docket.

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

The voluntary consensus standard ASTM D6348–98, ''Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy,'' has been reviewed by the EPA as a potential alternative to EPA Method 320. Suggested revisions to ASTM D6348–98 were sent to ASTM by the EPA that would allow the EPA to accept ASTM D6348–98 as an acceptable alternative. The ASTM Subcommittee D22–03 is currently undertaking a revision of ASTM D6348–98. Because of this, we are not citing this standard as a acceptable alternative for EPA Method 320 in the rule today. However, upon successful ASTM balloting and demonstration of technical equivalency with the EPA FTIR methods, the revised ASTM standard could be incorporated by reference for EPA regulatory applicability. In the interim, facilities have the option to request ASTM D6348–98 as an alternative test method under 40 CFR 63.7(f) and 63.8(f) on a case-by-case basis.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until June 16, 2003. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

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: February 28, 2003.

Christine Todd Whitman,

Administrator.

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

PART 63—[AMENDED]

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

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

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

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

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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), as defined in § 63.9824. 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 research and development (R&D) process units are not subject to the requirements of this subpart. (See definition of *research and development process unit* in § 63.9824).

(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 April 16, 2003, then you must comply with the emission limitations for new and reconstructed sources in this subpart no later than April 16, 2003.

(2) If the initial startup of your affected source is after April 16, 2003, 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 April 17, 2006.

(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 applicable emission limits in Table 1 to this subpart, and demonstrate 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 applicable 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 specified in paragraphs (a)(1) and (2) of this section.

(1) Periods of startup, shutdown, and malfunction.

(2) Periods of scheduled maintenance on a control device that is used on an affected continuous kiln, as specified in paragraph (e) of this section.

(b) Except as specified in paragraph (e) of this section, 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) If you own or operate an affected continuous kiln and must perform scheduled maintenance on the control device for that kiln, you may bypass the kiln control device and continue operating the kiln upon approval by the Administrator, provided you satisfy the conditions listed in paragraphs (e)(1) through (3) of this section.

(1) You must request approval from the Administrator to bypass the control device while the scheduled maintenance is performed. You must submit a separate request each time you plan to bypass the control device, and your request must include the information specified in paragraphs (e)(1)(i) through (vi) of this section.

(i) Reason for the scheduled maintenance.

(ii) Explanation for why the maintenance cannot be performed when the kiln is shut down.

(iii) Detailed description of the maintenance activities.

(iv) Time required to complete the maintenance.

(v) How you will minimize HAP emissions from the kiln during the period when the control device is out of service.

(vi) How you will minimize the time when the kiln is operating and the control device is out of service for scheduled maintenance.

(2) You must minimize HAP emissions during the period when the kiln is operating and the control device is out of service.

(3) You must minimize the time period during which the kiln is operating and the control device is out of service.

(f) 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 paragraphs (a)(1) through (13) of this section.

(1) A list and identification of each process and add-on APCD that is required by this subpart 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 (a)(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 when 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).

(12) If you operate a kiln that is subject to the limits on the type of fuel used, as specified in items 3 and 4 of Table 3 to subpart SSSSS, procedures for using alternative fuels.

(13) If you operate an affected continuous kiln and you plan to take the kiln control device out of service for scheduled maintenance, as specified in § 63.9792(e), the procedures specified in paragraphs (a)(13)(i) and (ii) of this section.

(i) Procedures for minimizing HAP emissions from the kiln during periods of scheduled maintenance of the kiln control device when the kiln is operating and the control device is out of service.

(ii) Procedures for minimizing any period of scheduled maintenance on the kiln control device when the kiln is operating and the control device is out of service.

(b) 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 (b)(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).

(c) 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 40 CFR 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 9 of Table 1 to this subpart, you must conduct a performance test on the source(s) listed in paragraphs (c)(1) and (2) of this section before you start production of any refractory product for which the organic HAP processing rate is likely to exceed by more than 10 percent the maximum organic HAP processing rate established during the most recent performance test on that same source.

(1) Each affected shape dryer or curing oven that is used to process the refractory product with the higher organic HAP processing rate.

(2) Each affected kiln that follows an affected shape dryer or curing oven and is used to process the refractory product with the higher organic HAP processing rate.

(d) If you own or operate a kiln that is subject to the emission limits specified in item 5 or 9 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 (*e.g.*, a decrease in the curing cycle time for a curing oven that precedes the affected kiln in the process line).

(e) If you own or operate a clay refractory products kiln that is subject to the emission limits specified in item 10 or 11 of Table 1 to this subpart and is controlled with a dry limestone adsorber (DLA), you must conduct a performance test on the affected kiln following any change in the source of limestone used in the DLA.

§ 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.

(f) For batch process sources, you must satisfy the requirements specified in paragraphs (f)(1) through (5) of this section.

(1) You must conduct at least two test runs.

(2) Each test run must last an entire batch cycle unless you develop an emissions profile, as specified in items 8(a)(i)(4) and 17(b)(i)(4) of Table 4 to this subpart, or you satisfy the conditions for terminating a test run prior to the completion of a batch cycle as specified in item 8(a)(i)(5) of Table 4 to this subpart.

(3) Each test run must be performed over a separate batch cycle unless you satisfy the conditions for conducting both test runs over a single batch cycle, as described in paragraphs (f)(3)(i) and (ii) of this section.

(i) You do not produce the product that corresponds to the maximum organic HAP processing rate for that batch process source in consecutive batch cycles.

(ii) To produce that product in two consecutive batch cycles would disrupt production of other refractory products.

(4) If you want to conduct a performance test over a single batch cycle, you must include in your Notification of Performance Test the rationale for testing over a single batch cycle.

(5) If you are granted approval to conduct a performance test over a single batch cycle, you must use paired sampling trains and collect two sets of emissions data. Each set of data can be considered a separate test run.

(g) You must use the data gathered during the performance test and the equations in paragraphs (g)(1) through (3) 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_{THC-C}=THC concentration, corrected to 18 percent oxygen, parts per million by volume, dry basis (ppmvd)

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

C_{O2}=oxygen concentration, percent.

(2) To determine compliance with any of the emission limits based on percentage reduction across an emissions control system specified in Table 1 to this subpart, you must calculate the percentage reduction for each test run using Equation 2 of this section:

$$PR = \frac{ER_i - ER_o}{ER_i} \times 100 \qquad \text{(Eq. 2)}$$

Where:

PR=percentage reduction, percent

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

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

(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 emissions 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.

(h) 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.

(i) 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 (i)(1) through (3) of this section.

(1) For sources subject to the THC concentration limit specified in item 3 or 7 of Table 1 to this subpart, you must satisfy the requirements specified in paragraphs (i)(1)(i) through (iii) of this section.

(i) You must install a THC continuous emissions 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, 4, 7, or 8 of Table 1 to this subpart, you must submit a request for approval of alternative monitoring methods to the Administrator no later than the submittal date for the Notification of Performance Test, as specified in § 63.9812(d). The request must contain the information specified in paragraphs (i)(2)(i) through (v) of this section.

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

(ii) 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) Operating parameters that will be monitored.

(iv) 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)(4) or 17(b)(i)(4) of Table 4 to this subpart, you must measure and record mass emissions of the applicable pollutant throughout a complete batch cycle of the affected batch process source according to the procedures described in paragraph (a) or (b) of this section.

(a) If your affected batch process source is subject to the THC concentration limit specified in item 6(a), 7(a), 8, or 9 of Table 1 to this subpart or the THC percentage reduction limit specified in item 6(b) or 7(b) of Table 1 to this subpart, you must measure and record the THC mass emissions rate at the inlet to the control device using the test methods, averaging periods, and procedures specified in items 10(a) and (b) of Table 4 to this subpart for each complete hour of the batch process cycle.

(b) If your affected batch process source is subject to the HF and HCl percentage reduction emission limits in item 11 of Table 1 to this subpart, you must measure and record the HF mass emissions rate at the inlet to the control device through a series of 1-hour test runs according to the test method specified in item 14(a) 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 each CPMS required by this subpart 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 of at least 20 percent less than the lowest value that you expect your CPMS to measure, to a value of 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 of the total number of values 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 affected source or process operates.

(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 your CPMS including, but not limited to, maintaining necessary parts for routine repairs of the CPMS.

(14) You must perform an initial validation of your CPMS under the conditions specified in paragraphs (14)(i) and (ii) 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, as defined in § 63.9824, 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 or the catalyst bed inlet temperature of a catalytic oxidizer, 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 value or 2.8 degrees Celsius (°C) (5 degrees Fahrenheit (°F)), whichever is greater.

(2) Use a data recording system with a minimum resolution of one-half or better of the required CPMS accuracy specified in paragraph (b)(1) of this section.

(3) Perform an initial validation of your CPMS according to the requirements in paragraph (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. While the process and control device that is monitored by your CPMS are 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 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. While the process and control device that is monitored by your temperature CPMS are operating normally, record concurrently and compare the temperatures measured by your CPMS and the calibrated temperature measurement device. Using the calibrated temperature measurement device as the reference, the temperature measured by your 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, perform at least quarterly a visual inspection of all components of the CPMS for integrity, oxidation, and galvanic corrosion.

(c) For each pressure CPMS that is used to monitor the pressure drop across a DLA or 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 minimum resolution of one-half the required CPMS accuracy specified in paragraph (c)(1) of this section, 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. While the process and control device that is monitored by your CPMS are operating normally, record concurrently and compare the pressure measured by your CPMS and the calibrated pressure measurement device. Using the calibrated pressure measurement device as the reference, the pressure measured by your 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. While the process and control device that is monitored by your pressure CPMS are operating normally, record concurrently and compare the pressure measured by your CPMS and the calibrated pressure measurement device. Using the calibrated pressure measurement device as the reference, the pressure measured by your 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, perform at least quarterly a visual inspection of all components of the CPMS 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, 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 minimum resolution of one-half the required CPMS accuracy specified in paragraph (d)(1) of this section, or better.

(3) Perform an initial validation of your CPMS according to the requirements in paragraph (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. While the process and control device that is monitored by your flow rate CPMS are 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 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. While the process and control device that is monitored by your flow rate CPMS are 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 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, perform at least quarterly a visual inspection of all components of the CPMS 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 minimum 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 liquid 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 liquid that is monitored is neutral or lies in the basic range (equal to or 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 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 liquid 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 liquid that is monitored is neutral or lies in the basic range (equal to or 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 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, perform at least monthly a visual inspection of all components of the CPMS 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. It 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 by more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection that demonstrates that the fabric filter is in good operating condition. You must record each adjustment of your bag leak detection system.

(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 dry lime scrubber/fabric filter (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, 4, 7, or 8 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(i)(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 the requirements specified in 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 specified 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 the requirements specified in 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 system malfunctions, associated repairs, and required quality assurance or quality control activities, you must monitor continuously whenever your affected process unit is operating. For purposes of calculating data averages, you must not use data recorded during monitoring system malfunctions, associated repairs, and required quality assurance or quality control activities. You must use all the data collected during all other periods in assessing compliance. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system malfunctions include out of control continuous monitoring systems (CMS), such as a CPMS. Any averaging period for which you do not have valid monitoring data as a result of a monitoring system malfunction and for which such data are required constitutes a deviation, and you must notify the Administrator in accordance with § 63.9814(e). Monitoring system failures are different from monitoring system malfunctions in that they are caused in part by poor maintenance or careless operation. Any period for which there is a monitoring system failure and data are not available for required calculations 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 specified 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 specified 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(i)(3) according to the methods specified in your approved alternative monitoring methods request as described in § 63.9800(i)(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 April 16, 2003, you must submit an Initial Notification not later than 120 calendar days after April 16, 2003.

(c) As specified in § 63.9(b)(3), if you start up your new or reconstructed affected source on or after April 16, 2003, 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 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).

(f) If you operate a clay refractory products kiln or a chromium refractory products kiln that is subject to the work practice standard specified in item 3 or 4 of Table 3 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected kiln, you must submit a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.9824. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected kiln.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

(g) If you own or operate an affected continuous kiln and must perform scheduled maintenance on the control device for that kiln, you must request approval from the Administrator before bypassing the control device, as specified in § 63.9792(e). You must submit a separate request for approval each time you plan to bypass the kiln control device.

§ 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 compliance report must include 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, the compliance report must include a statement that there were no deviations from the emission limitations during the reporting period.

(6) If there were no periods during which any affected CPMS was out of control as specified in § 63.8(c)(7), the compliance report must include 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 compliance report must include the total operating time of each affected source during the reporting period.

(2) The compliance report must include information on the number, duration, and cause of deviations (including unknown cause, if 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, the compliance report 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 deviations during the reporting period and the total duration as a percentage 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 percentage 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 initial validation or accuracy 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.

(g) If you operate a clay refractory products kiln or a chromium refractory products kiln that is subject to the work practice standard specified in item 3 or 4 of Table 3 to this subpart, and you use a fuel other than natural gas or equivalent to fire the affected kiln, you must submit a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel. The report must include the information in paragraphs (g)(1) through (6) of this section.

(1) Company name and address.

(2) Identification of the affected kiln.

(3) Reason for using the alternative fuel.

(4) Type of alternative fuel used to fire the affected kiln.

(5) Dates that the use of the alternative fuel started and ended.

(6) Amount of alternative fuel used.

§ 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 (10) of this section.

(1) Records of emission data used to develop an emissions profile, as indicated in items 8(a)(i)(4) and 17(b)(i)(4) 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 kiln controlled with a DLA, records that document the source of limestone used.

(5) 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.

(6) 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).

(7) Records of any approved alternative monitoring method(s) or test procedure(s).

(8) Records of maintenance activities and inspections performed on control devices, including all records associated with the scheduled maintenance of continuous kiln control devices, as specified in § 63.9792(e).

(9) If you operate a source that is subject to the THC emission limits specified in item 2, 3, 6, or 7 of Table 1 to this subpart and is controlled with a catalytic oxidizer, records of annual checks of catalyst activity levels and subsequent corrective actions.

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

§ 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 specified 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 (U.S. 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 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 also can 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 or oxygen-deprived atmosphere.

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 typically 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 shapes as the shapes defume or cool immediately following the impregnation process. This definition includes autoclaves that are opened and exhausted to the atmosphere following an impregnation cycle and used for holding pitch-impregnated refractory shapes while the shapes 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 (emission limit, 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 (emission limit, 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.

Dry limestone adsorber (DLA) means an air pollution control device that includes a limestone storage bin, a reaction chamber that is essentially a packed-tower filled with limestone, and may or may not include a peeling drum that mechanically scrapes reacted limestone to regenerate the stone for reuse.

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 a 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 are 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 during the batch process cycle (*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 mass emissions of the applicable pollutant that is greater than any other period of consecutive hourly mass emissions for the same pollutant over the course of a specified batch process cycle, as defined in paragraphs (1) and (2) of this definition. The peak emissions period is a function of the rate at which the temperature of the refractory shapes is increased, the mass and loading configuration of the shapes in the process unit, the constituents of the refractory mix, and the type of pollutants emitted.

(1) The 3-hour peak THC emissions period is the period of 3 consecutive hours over which the sum of the hourly THC mass emissions rates is greater than the sum of the hourly THC mass emissions rates for any other period of 3 consecutive hours during the same batch process cycle.

(2) The 3-hour peak HF emissions period is the period of 3 consecutive hours over which the sum of the hourly HF mass emissions rates is greater than the sum of the hourly HF mass emissions rates for any other period of 3 consecutive hours during the same batch process cycle.

Period of natural gas curtailment or supply interruption means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

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

Pitch-bonded refractory product means a formed refractory product that is manufactured using pitch as a bonding agent. Pitch-bonded refractory products are manufactured by mixing pitch with magnesium oxide, graphite, alumina, silicon carbide, silica, or other refractory raw materials, and forming the mix into shapes. After forming, pitch-bonded refractory products are cured in a curing oven and may be subsequently fired in a kiln.

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.

Redundant sensor means a second sensor or a back-up sensor that is integrated into a CPMS and is used to check the parameter value (*e.g.*, temperature, pressure) measured by the primary sensor of the CPMS.

Refractory product means nonmetallic materials containing less than 50 percent carbon by weight and 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, except in a de minimis manner.

Resin-bonded refractory product means a formed refractory product that is manufactured using a phenolic resin or other type of thermosetting resin as a bonding agent. Resin-bonded refractory products are manufactured by mixing resin with alumina, magnesium oxide, graphite, silica, zirconia, or other refractory raw materials, and forming the mix into shapes. After forming, resin-bonded refractory products are cured in a curing oven and may be subsequently fired in a kiln.

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 decisionmaking 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'' shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Shape dryer means a thermal process unit that operates at a peak temperature typically 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 typically 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 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.

Tables to Subpart SSSSS of Part 63

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 9 of this table.
2. Continuous process units that are controlled with a thermal or catalytic oxidizer.	a. The 3-hour block average 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 b. The 3-hour block average THC mass emissions rate must be reduced by at least 95 percent.
3. Continuous process units that are equipped with a control device other than a thermal or catalytic oxidizer.	a. The 3-hour block average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the control device; or b. The 3-hour block average THC mass emissions rate must be reduced by at least 95 percent.
4. Continuous process units 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.
5. 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.
6. Batch process units that are controlled with a thermal or catalytic oxidizer.	a. The 2-run block average THC concentration for the 3-hour peak emissions period must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the control device; or b. The 2-run block average THC mass emissions rate for the 3-hour peak emissions period must be reduced by at least 95 percent.
7. Batch process units that are equipped with a control device other than a thermal or catalytic oxidizer.	a. The 2-run block average THC concentration for the 3-hour peak emissions period must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the control device; or b. The 2-run block average THC mass emissions rate for the 3-hour peak emissions period must be reduced by at least 95 percent.
8. Batch process units that use process changes to reduce organic HAP emissions.	The 2-run block average THC concentration for the 3-hour peak emissions period must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the process gas stream.
9. Batch process kilns that are not equipped with a control device	The 2-run block average THC concentration for the 3-hour peak emissions period must not exceed 20 ppmvd, corrected to 18 percent oxygen, at the outlet of the process gas stream.
10. Each new continuous kiln that is used to produce clay refractory products.	a. The 3-hour block average HF emissions must not exceed 0.019 kilograms per megagram (kg/Mg) (0.038 pounds per ton (lb/ton)) of uncalcined clay processed, OR the 3-hour block average HF mass emissions rate must be reduced by at least 90 percent; and b. The 3-hour block average HCl emissions must not exceed 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed, OR the 3-hour block average HCl mass emissions rate must be reduced by at least 30 percent.
11. Each new batch process kiln that is used to produce clay refractory products.	a. The 2-run block average HF mass emissions rate for the 3-hour peak emissions period must be reduced by at least 90 percent; and b. The 2-run block average HCl mass emissions rate for the 3-hour peak emissions period must be reduced by at least 30 percent.

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 affected source listed in Table 1 to this subpart	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; and b. Capture emissions and vent them through a closed system; and 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 § 63.9792(e), item 2 of this table, and item 13 of Table 4 to this subpart; and

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

For . . .	You must . . .
	d. Record all operating parameters specified in Table 8 to this subpart for the affected source; and e. Prepare and implement a written OM&M plan as specified in § 63.9792(d).
2. Each affected continuous kiln that is equipped with an emission control device.	a. Receive approval from the Administrator before taking the control device on the affected kiln out of service for scheduled maintenance, as specified in § 63.9792(e); and b. Minimize HAP emissions from the affected kiln during all periods of scheduled maintenance of the kiln control device when the kiln is operating and the control device is out of service; and c. Minimize the duration of all periods of scheduled maintenance of the kiln control device when the kiln is operating and the control device is out of service.
3. 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.	Satisfy the applicable operating limits specified in items 4 through 9 of this table.
4. Each affected continuous process unit	Maintain the 3-hour block average organic HAP processing rate (pounds per hour) at or below the maximum organic HAP processing rate established during the most recent performance test.
5. 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 minimum allowable operating temperature for the oxidizer established during the most recent performance test.
6. Continuous process units that are equipped with a catalytic oxidizer	a. Maintain the 3-hour block average operating temperature at the inlet of the catalyst bed of the oxidizer at or above the minimum allowable operating temperature for the oxidizer established during the most recent performance test; and b. Check the activity level of the catalyst at least every 12 months.
7. Each affected batch process unit	For each batch cycle, maintain the organic HAP processing rate (pounds per batch) at or below the maximum organic HAP processing rate established during the most recent performance test.
8. 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 hourly average operating temperature in the thermal oxidizer combustion chamber at or above the minimum allowable operating temperature established for the corresponding period during the most recent performance test, as determined according to item 11 of Table 4 to this subpart; and b. For each subsequent hour of the batch cycle, maintain the hourly average operating temperature in the thermal oxidizer combustion chamber at or above the minimum allowable operating temperature established for the corresponding hour during the most recent performance test, as specified in item 13 of Table 4 to this subpart.
9. 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 hourly average operating temperature at the inlet of the catalyst bed at or above the minimum allowable operating temperature established for the corresponding period during the most recent performance test, as determined according to item 12 of Table 4 to this subpart; and b. For each subsequent hour of the batch cycle, maintain the hourly average operating temperature at the inlet of the catalyst bed at or above the minimum allowable operating temperature established for the corresponding hour during the most recent performance test, as specified in item 13 of Table 4 to this subpart; and c. Check the activity level of the catalyst at least every 12 months.
10. Each new kiln that is used to process clay refractory products	Satisfy the applicable operating limits specified in items 11 through 13 of this table.
11. Each affected kiln that is equipped with a DLA	a. Maintain the 3-hour block average pressure drop across the DLA at or above the minimum levels established during the most recent performance test; and b. Maintain free-flowing limestone in the feed hopper, silo, and DLA at all times; and c. Maintain the limestone feeder at or above the level established during the most recent performance test; and

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

For . . .	You must . . .
	d. Use the same grade of limestone from the same source as was used during the most recent performance test and maintain records of the source and type of limestone used.
12. 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; and b. 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; and c. Record the lime feeder setting daily to verify that the feeder setting is at or above the level established during the most recent performance test.
13. Each affected kiln that is equipped with a wet scrubber	a. Maintain the 3-hour block average pressure drop across the scrubber, liquid pH, and liquid flow rate at or above the minimum levels established during the most recent performance test; and b. If chemicals are added to the scrubber liquid, maintain the 3-hour block average chemical feed rate at or above the minimum chemical feed rate 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 preheating cycles, clean 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; or ii. At least every 10 preheating 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; or 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 new or existing 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 new or existing chromium refractory products kiln.	Minimize fuel-based HAP emissions	Use natural gas, or equivalent, as the kiln fuel, except during periods of natural gas curtailment or supply interruption, as defined in § 63.9824.
4. Each existing clay refractory products kiln	Minimize fuel-based HAP emissions	Use natural gas, or equivalent, as the kiln fuel, except during periods of natural gas curtailment or supply interruption, as defined in § 63.9824.

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; and (2) Identify the emission source that is tested; and (3) Collect and record the corresponding operating parameter and emission test data listed in this table for each run of the performance test; and (4) Repeat the performance test at least every 5 years; and (5) Repeat the performance test before changing the parameter value for any operating limit specified in your OM&M plan; and (6) If complying with the THC concentration or THC percentage reduction limits specified in items 2 through 9 of Table 1 to this subpart, repeat the performance test under the conditions specified in items 2.a.2. and 2.a.3. of this table; and (7) If complying with the emission limits for new clay refractory products kilns specified in items 10 and 11 of Table 1 to this subpart, repeat the performance test under the conditions specified in items 14.a.i.4. and 17.a.i.4. of this table.
	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 percentage reduction limits specified in items 2.b., 3.b., 6.b., 7.b., 10, and 11 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; and (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-hour intervals throughout each test run.
	d. Conduct gas molecular weight analysis.	(i) Method 3, 3A, or 3B of 40 CFR part 60, appendix A; or (ii) ASME PTC 19.10–1981–Part 10	As specified in the applicable test method. You may use ASME PTC 19.10–1981–Part 10 (available for purchase from Three Park Avenue, New York, NY 10016–5990) as an alternative to EPA Method 3B.
	e. Measure gas moisture content	Method 4 of 40 CFR part 60, appendix A.	As specified in the applicable test method.

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
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, as defined in § 63.9824, reasonably expected to occur; and (2) 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 the most recent performance test by more than 10 percent, as specified in § 63.9798(c); and (3) 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, as specified in § 63.9798(d).
	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.
	b. Establish the operating limit for the maximum organic HAP processing rate.	i. Method 311 of 40 CFR part 63, appendix A, OR material safety data sheets (MSDS), OR product labels to determine the mass fraction of organic HAP in each resin, binder, or additive; and	(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; and
		ii. Product formulation data that specify the mass fraction of each resin, binder, and additive in the products that are processed during the performance test; and	(2) Calculate and record the organic HAP processing rate (pounds per hour) for each test run; and
		iii. Process feed rate data (tons per hour).	(3) Calculate and record the maximum organic HAP processing rate as the average of the organic HAP processing rates for the three test runs.
	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.a., 4, or 5 of Table 1 to this subpart.	a. Measure THC concentrations 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; and (2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration.

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Measure oxygen concentrations at 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 oxygen in the exhaust stream; and (2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration.
	c. Determine the hourly average THC concentration, corrected to 18 percent oxygen.	i. Equation 1 of § 63.9800(g)(1); and ... ii. The 1-minute THC and oxygen concentration data.	(1) Calculate the hourly average THC concentration for each hour of the performance test as the average of the 1-minute THC measurements; and (2) Calculate the hourly average oxygen concentration for each hour of the performance test as the average of the 1-minute oxygen measurements; and (3) Correct the hourly average THC concentrations to 18 percent oxygen using Equation 1 of § 63.9800(g)(1).
	d. Determine the 3-hour block average THC emission concentration, corrected to 18 percent oxygen.	The hourly average concentration of THC, corrected to 18 percent oxygen, for each test run.	Calculate the 3-hour block average THC emission concentration, corrected to 18 percent oxygen, as the average of the hourly average THC emission concentrations, corrected to 18 percent oxygen.
5. Each continuous process unit that is subject to the THC percentage reduction limit listed in item 2.b. or 3.b. of Table 1 to this subpart.	a. Measure THC concentrations at the inlet and outlet of the control device.	i. Method 25A of 40 CFR part 60, appendix A.	(1) Each minute, measure and record the concentrations of THC at the inlet and outlet of the control device; and (2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration at the control device inlet and outlet.
	b. Determine the hourly THC mass emissions rates at the inlet and outlet of the control device.	i. The 1-minute THC concentration data at the control device inlet and outlet; and ii. The volumetric flow rates at the control device inlet and outlet.	Calculate the hourly THC mass emissions rates at the control device inlet and outlet for each hour of the performance test.
	c. Determine the 3-hour block average THC percentage reduction.	i. The hourly THC mass emissions rates at the inlet and outlet of the control device.	(1) Calculate the hourly THC percentage reduction for each hour of the performance test using Equation 2 of § 63.9800(g)(1); and (2) Calculate the 3-hour block average THC percentage reduction.
6. Each continous process unit that is equipped with a thermal oxidizer.	a. Establish the operating limit for the minimum allowable 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; and (2) Provide at least one measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average thermal oxidizer combustion chamber temperature for each hour of the performance test; and (4) Calculate the minimum allowable combustion chamber temperature as the average of the combustion chamber temperatures for the three test runs, minus 14°C (25°F).
7. Each continuous process unit that is equipped with a catalytic oxidizer.	a. Establish the operating limit for the minimum allowable temperature at the inlet of the 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 inlet of the catalyst bed; and (2) Provide at least one catalyst bed inlet temperature measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average catalyst bed inlet temperature for each hour of the performance test; and

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
			(4) Calculate the minimum allowable catalyst bed inlet temperature as the average of the catalyst bed inlet temperatures for the three test runs, minus 14°C (25°F).
8. Each affected batch process unit.	a. Perform a minimum of two test runs	i. The appropriate test methods specified in items 1, 9, and 10 of this table.	(1) Each test run must be conducted over a separate batch cycle unless you satisfy the requirements of § 63.9800(f)(3) and (4); and (2) Each test run must begin with the start of a batch cycle, except as specified in item 8.a.i.4. of this table; and (3) Each test run must continue until the end of the batch cycle, except as specified in items 8.a.i.4. and 8.a.i.5. of this table; and (4) If you develop an emissions profile, as described in § 63.9802(a), AND for sources equipped with a thermal or catalytic oxidizer, you do not reduce the oxidizer operating temperature, as specified in item 13 of this table, you can limit each test run to the 3-hour peak THC emissions period; and (5) 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 has reached maximum temperature, AND the hourly average THC mass emissions rate has not increased during the 3-hour period since maximum process temperature was reached, and the hourly average concentrations of THC at the inlet of the control device have not exceeded 20 ppmvd, corrected to 18 percent oxygen, during the 3-hour period since maximum process temperature was reached or the hourly average THC percentage reduction has been at least 95 percent during the 3-hour period since maximum process temperature was reached, 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.
	b. Establish the operating limit for the maximum organic HAP processing rate.	i. Method 311 of 40 CFR part 63, appendix A, OR MSDS, OR product labels to determine the mass fraction of organic HAP in each resin, binder, or additive; and	(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 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; and
		ii. Product formulation data that specify the mass fraction of each resin, binder, and additive in the products that are processed during the performance test; and	(2) Calculate and record the organic HAP processing rate (pounds per batch) for each test run; and
		iii. Batch weight (tons)	(3) Calculate and record the maximum organic HAP processing rate as the average of the organic HAP processing rates for the two test runs.

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
	c. Record the batch cycle time	Process data	Record the total elapsed time from the start to the 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 from the start to the completion of the batch cycle.
9. Each batch process unit that is subject to the THC emission limit listed in item 6.a., 7.a., 8, or 9 of Table 1 to this subpart.	a. Measure THC concentrations 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; and (2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration.
	b. Measure oxygen concentrations at 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 oxygen in the exhaust stream; and (2) Provide at least 50 1-minute measurements for each valid hourly average oxygen concentration.
	c. Determine the hourly average THC concentration, corrected to 18 percent oxygen.	i. Equation 1 of § 63.9800(g)(1); and ii. The 1-minute THC and oxygen concentration data.	(1) Calculate the hourly average THC concentration for each hour of the performance test as the average of the 1-minute THC measurements; and (2) Calculate the hourly average oxygen concentration for each hour of the performance test as the average of the 1-minute oxygen measurements; and (3) Correct the hourly average THC concentrations to 18 percent oxygen using Equation 1 of § 63.9800(g)(1).
	d. Determine the 3-hour peak THC emissions period for each test run.	The hourly average THC concentrations, corrected to 18 percent oxygen.	Select the period of 3 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 3 consecutive hours during the test run.
	e. Determine the average THC concentration, corrected to 18 percent oxygen, for each test run.	The hourly average THC emission concentrations, corrected to 18 percent oxygen, for the 3-hour peak THC emissions period.	Calculate the average of the hourly average THC concentrations, corrected to 18 percent oxygen, for the 3 hours of the peak emissions period for each test run.
	f. Determine the 2-run block average THC concentration, corrected to 18 percent oxygen, for the emission test.	The average THC concentration, corrected to 18 percent oxygen, for each test run.	Calculate the average of the average THC concentrations, corrected to 18 percent oxygen, for each run.
10. Each batch process unit that is subject to the THC percentage reduction limit listed in item 6.b. or 7.b. of Table 1 to this subpart.	a. Measure THC concentrations at the inlet and outlet of the control device.	i. Method 25A of 40 CFR part 60, appendix A.	(1) Each minute, measure and record the concentrations of THC at the control device inlet and outlet; and (2) Provide at least 50 1-minute measurements for each valid hourly average THC concentration at the control device inlet and outlet.
	b. Determine the hourly THC mass emissions rates at the control device inlet and outlet.	i. The 1-minute THC concentration data at the control device inlet and outlet; and ii. The volumetric flow rates at the control device inlet and outlet.	(1) Calculate the hourly mass emissions rates at the control device inlet and outlet 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 . . .
	c. Determine the 3-hour peak THC emissions period for each test run.	The hourly THC mass emissions rates at the control device inlet.	Select the period of 3 consecutive hours over which the sum of the hourly THC mass emissions rates at the control device inlet is greater than the sum of the hourly THC mass emissions rates at the control device inlet for any other period of 3 consecutive hours during the test run.
	d. Determine the average THC percentage reduction for each test run.	i. Equation 2 of § 63.9800(g)(2); and ... ii. The hourly THC mass emissions rates at the control device inlet and outlet for the 3-hour peak THC emissions period.	Calculate the average THC percentage reduction for each test run using Equation 2 of § 63.9800(g)(2).
	e. Determine the 2-run block average THC percentage reduction for the emission test.	The average THC percentage reduction for each test run.	Calculate the average of the average THC percentage reductions for each test run.
11. Each batch process unit that is 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; and (2) Provide at least one temperature measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average combustion chamber temperature for each hour of the 3-hour peak emissions period, as defined in item 9.d. or 10.c. of this table, whichever applies; and (4) Calculate the minimum allowable thermal oxidizer combustion chamber operating temperature as the average of the hourly combustion chamber temperatures for the 3-hour peak emissions period, minus 14°C (25°F).
12. Each batch process unit that is equipped with a catalytic oxidizer.	a. Establish the operating limit for the minimum temperature at the inlet of the 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 inlet of the catalyst bed; and (2) Provide at least one catalyst bed inlet temperature measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average catalyst bed inlet temperature for each hour of the 3-hour peak emissions period, as defined in item 9.d. or 10.c. of this table, whichever applies; and (4) Calculate the minimum allowable catalytic oxidizer catalyst bed inlet temperature as the average of the hourly catalyst bed inlet temperatures for the 3-hour peak emissions period, minus 14°C (25°F).
13. Each batch process unit that is equipped with a thermal or catalytic oxidizer.	a. During each test run, maintain the applicable 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 you do not use an emission profile to limit testing to the 3-hour peak emissions period, as specified in item 8.a.i.4. of this table; and (2) At least 3 hours have passed since the affected process unit reached maximum temperature; and

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
			(3) The applicable emission limit specified in item 6.a. or 6.b. of Table 1 to this subpart was met during each of the previous three 1-hour periods; and (4) The hourly average THC mass emissions rate did not increase during the 3-hour period since maximum process temperature was reached; and (5) The applicable emission limit specified in item 6.a. and 6.b. of Table 1 to this subpart was met during each of the four 15-minute periods immediately following the oxidizer temperature reduction; and (6) If the applicable emission limit specified in item 6.a. or 6.b. of Table 1 to this subpart was 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; and (7) Continue the test run until the applicable emission limit specified in items 6.a. and 6.b. of Table 1 to this subpart is met for at least four consecutive 15-minute periods that immediately follow the temperature reduction; and (8) Calculate the hourly average oxidizer operating temperature for each hour of the performance test since the affected process unit reached maximum temperature.
14. Each new continuous kiln that is used to process clay refractory products.	a. Measure emissions of HF and HCl ..	i. Method 26A of 40 CFR part 60, appendix A; or ii. Method 26 of 40 CFR part 60, appendix A; or iii. Method 320 of 40 CFR part 63, appendix A.	(1) Conduct the test while the kiln is operating at the maximum production level; and (2) You may use Method 26 of 40 CFR part 60, appendix A, only if no acid PM (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a wet scrubber) is present; and (3) If you use Method 320 of 40 CFR part 63, appendix A, you must follow the analyte spiking procedures of Section 13 of Method 320 unless you can demonstrate that the complete spiking procedure has been conducted at a similar source; and (4) Repeat the performance test if the affected source is controlled with a DLA and you change the source of the limestone used in the DLA.
	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.

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
15. Each new continuous kiln that is subject to the production-based HF and HCl emission limits specified in items 10.a. and 10.b. of Table 1 to this subpart.	a. Record the uncalcined clay processing rate.	i. Production data; and ..... 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 (2) Calculate and record the average rate at which uncalcined clay is processed (tons per hour) for each test run; and (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.
	b. Determine the HF mass emissions rate at the outlet of the control device or in the stack.	i. Method 26A of 40 CFR part 60, appendix A; or ii. Method 26 of 40 CFR part 60, appendix A; or iii. Method 320 of 40 CFR part 63, appendix A.	Calculate the HF mass emissions rate for each test.
	c. Determine the 3-hour block average production-based HF emissions rate.	i. The HF mass emissions rate for each test run; and ii. The average uncalcined clay processing rate.	(1) Calculate the hourly production-based HF emissions rate for each test run using Equation 3 of § 63.9800(g)(3); and (2) Calculate the 3-hour block average production-based HF emissions rate as the average of the hourly production-based HF emissions rates for each test run.
	d. Determine the HCl mass emissions rate at the outlet of the control device or in the stack.	i. Method 26A of 40 CFR part 60, appendix A; or ii. Method 26 of 40 CFR part 60, appendix A; or iii. Method 320 of 40 CFR part 63, appendix A.	Calculate the HCl mass emissions rate for each test run.
	e. Determine the 3-hour block average production-based HCl emissions rate.	i. The HCl mass emissions rate for each test run; and ii. The average uncalcined clay processing rate.	(1) Calculate the hourly production-based HCl emissions rate for each test run using Equation 3 of § 63.9800(g)(3); and (2) Calculate the 3-hour block average production-based HCl emissions rate as the average of the production-based HCl emissions rates for each test run.
16. Each new continuous kiln that is subject to the HF and HCl percentage reduction limits specified in items 10.a. and 10.b. of Table 1 to this subpart.	a. Measure the HF mass emissions rates at the inlet and outlet of the control device.	i. Method 26A of 40 CFR part 60, appendix A; or ii. Method 26 of 40 CFR part 60, appendix A; or iii. Method 320 of 40 CFR part 63, appendix A.	Calculate the HF mass emissions rates at the control device inlet and outlet for each test run.
	b. Determine the 3-hour block average HF percentage reduction.	i. The HF mass emissions rates at the inlet and outlet of the control device for each test run	(1) Calculate the hourly HF percentage reduction using Equation 2 of § 63.9800(g)(2); and (2) Calculate the 3-hour block average HF percentage reduction as the average of the HF percentage reductions for each test run.
	c. Measure the HCl mass emissions rates at the inlet and outlet of the control device.	i. Method 26A of 40 CFR part 60, appendix A; or ii. Method 26 of 40 CFR part 60, appendix A; or iii. Method 320 of 40 CFR part 63, appendix A.	Calculate the HCl mass emissions rates at the control device inlet and outlet for each test run.
	d. Determine the 3-hour block average HCl percentage reduction.	i. The HCl mass emissions rates at the inlet and outlet of the control device for each test run.	(1) Calculate the hourly HCl percentage reduction using Equation 2 of § 63.9800(g)(2); and (2) Calculate the 3-hour block average HCl percentage reduction as the average of HCl percentage reductions for 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 . . .
17. Each new batch process kiln that is used to process clay refractory products.	a. Measure emissions of HF and HCl at the inlet and outlet of the control device.	i. Method 26A of 40 CFR part 60, appendix A; or ii. Method 26 of 40 CFR part 60, appendix A; or iii. Method 320 of 40 CFR part 63, appendix A.	(1) Conduct the test while the kiln is operating at the maximum production level; and (2) You may use Method 26 of 40 CFR part 60, appendix A, only if no acid PM (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a wet scrubber) is present; and (3) If you use Method 320 of 40 CFR part 63, you must follow the analyte spiking procedures of Section 13 of Method 320 unless you can demonstrate that the complete spiking procedure has been conducted at a similar source; and (4) Repeat the performance test if the affected source is controlled with a DLA and you change the source of the limestone used in the DLA.
	b. Perform a minimum of 2 test runs ...	i. The appropriate test methods specified in items 1 and 17.a. of this table.	(1) Each test run must be conducted over a separate batch cycle unless you satisfy the requirements of § 63.9800(f)(3) and (4); and (2) Each test run must consist of a series of 1-hour runs at the inlet and outlet of the control device, beginning with the start of a batch cycle, except as specified in item 17.b.i.4. of this table; and (3) Each test run must continue until the end of the batch cycle, except as specified in item 17.b.i.4. of this table; and (4) If you develop an emissions profile, as described in § 63.9802(b), you can limit each test run to the 3-hour peak HF emissions period.
	c. Determine the hourly HF and HCl mass emissions rates at the inlet and outlet of the control device.	i. The appropriate test methods specified in items 1 and 17.a. of this table.	Determine the hourly mass HF and HCl emissions rates at the inlet and outlet of the control device for each hour of each test run.
	d. Determine the 3-hour peak HF emissions period.	The hourly HF mass emissions rates at the inlet of the control device.	Select the period of 3 consecutive hours over which the sum of the hourly HF mass emissions rates at the control device inlet is greater than the sum of the hourly HF mass emissions rates at the control device inlet for any other period of 3 consecutive hours during the test run.
	e. Determine the 2-run block average HF percentage reduction for the emissions test.	i. The hourly average HF emissions rates at the inlet and outlet of the control device.	(1) Calculate the HF percentage reduction for each hour of the 3-hour peak HF emissions period using Equation 2 of § 63.9800(g)(2); and (2) Calculate the average HF percentage reduction for each test run as the average of the hourly HF percentage reductions for the 3-hour peak HF emissions period for that run; and (3) Calculate the 2-run block average HF percentage reduction for the emission test as the average of the average HF percentage reductions for the two test runs.

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
	f. Determine the 2-run block average HCl percentage reduction for the emission test.	i. The hourly average HCl emissions rates at the inlet and outlet of the control device.	(1) Calculate the HCl percentage reduction for each hour of the 3-hour peak HF emissions period using Equation 2 § 63.9800(g)(2); and (2) Calculate the average HCl percentage reduction for each test run as the average of the hourly HCl percentage reductions for the 3-hour peak HF emissions period for that run; and (3) Calculate the 2-run block average HCl percentage reduction for the emission test as the average of the average HCl percentage reductions for the two test runs.
18. Each new kiln that is used to process clay refractory products and is equipped with a DLA.	a. Establish the operating limit for the minimum pressure drop across the DLA.	Data from the pressure drop measurement device during the performance test.	(1) At least every 15 minutes, measure the pressure drop across the DLA; and (2) Provide at least one pressure drop measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average pressure drop across the DLA for each hour of the performance test; and (4) Calculate and record the minimum pressure drop as the average of the hourly average pressure drops across the DLA for the two or three test runs, whichever applies.
	b. Establish the operating limit for the limestone feeder setting.	Data from the limestone feeder during the performance test.	(1) Ensure that limestone in the feed hopper, silo, and DLA is free-flowing at all times during the performance test; and (2) Establish the limestone feeder setting 1 week prior to the performance test; and (3) Record and maintain the feeder setting for the 1-week period that precedes the performance test and during the performance test.
19. 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 the 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 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; and (2) Record the feeder setting for the three test runs; and (3) If the feed rate setting varies during the three test runs, calculate and record the average feed rate for the two or three test runs, whichever applies.
20. Each new kiln that is used to process clay refractory products and is equipped with a wet scrubber.	a. Establish the operating limit for the minimum scrubber pressure drop.	i. Data from the pressure drop measurement device during the performance test.	(1) At least every 15 minutes, measure the pressure drop across the scrubber; and (2) Provide at least one pressure drop measurement during at least three 15-minute periods per hour of testing; and

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

For . . .	You must . . .	Using . . .	According to the following requirements . . .
			(3) Calculate the hourly average pressure drop across the scrubber for each hour of the performance test; and (4) Calculate and record the minimum pressure drop as the average of the hourly average pressure drops across the scrubber for the two or three test runs, whichever applies.
	b. Establish the operating limit for the minimum scrubber liquid pH.	i. Data from the pH measurement device during the performance test.	(1) At least every 15 minutes, measure scrubber liquid pH; and (2) Provide at least one pH measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average pH values for each hour of the performance test; and (4) Calculate and record the minimum liquid pH as the average of the hourly average pH measurements for the two or three test runs, whichever applies.
	c. Establish the operating limit for the minimum 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; and (2) Provide at least one flow rate measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average liquid flow rate for each hour of the performance test; and (4) Calculate and record the minimum liquid flow rate as the average of the hourly average liquid flow rates for the two or three test runs, whichever applies.
	d. If chemicals are added to the scrubber liquid, establish the operating limit for the minimum 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; and (2) Provide at least one chemical feed rate measurement during at least three 15-minute periods per hour of testing; and (3) Calculate the hourly average chemical feed rate for each hour of the performance test; and (4) Calculate and record the minimum chemical feed rate as the average of the hourly average chemical feed rates for the two or three test runs, whichever applies.

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 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; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the performance test period; and iii. You report the results of the performance test in the Notification of Compliance Status, as specified by § 63.9812(e)(1) and (2).

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

For . . .	For the following emission limit . . .	You have demonstrated compliance if . . .
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	You have satisfied the applicable requirements specified in items 3 through 8 of this table.
3. Each affected continuous process unit that is subject to the THC emission concentration limit listed in item 2.a., 3.a., 4, or 5 of Table 1 to this subpart.	The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen.	The 3-hour block average THC emission concentration measured during the performance test using Methods 25A and 3A is equal to or less than 20 ppmvd, corrected to 18 percent oxygen.
4. Each affected continuous process unit that is subject to the THC percentage reduction limit listed in item 2.b. or 3.b. of Table 1 to this subpart.	The average THC percentage reduction must equal or exceed 95 percent.	The 3-hour block average THC percentage reduction measured during the performance test using Method 25A is equal to or greater than 95 percent.
5. Each affected batch process unit that is subject to the THC emission concentration limit listed in item 6.a., 7.a., 8, or 9 of Table 1 to this subpart.	The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen.	The 2-run block average THC emission concentration for the 3-hour peak emissions period measured during the performance test using Methods 25A and 3A is equal to or less than 20 ppmvd, corrected to 18 percent oxygen.
6. Each affected batch process unit that is subject to the THC percentage reduction limit listed in item 6.b. or 7.b. of Table 1 to this subpart.	The average THC percentage reduction must equal or exceed 95 percent.	The 2-run block average THC percentage reduction for the 3-hour peak emissions period measured during the performance test using Method 25A is equal to or exceeds 95 percent.
7. Each affected continuous or batch process unit that is equipped with a control device other than a thermal or catalytic oxidizer and is subject to the emission limit listed in item 3 or 7 of Table 1 to this subpart.	a. The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen; or	i. You have installed a THC CEMS at the outlet of the control device or in the stack of the affected source; and
	b. The average THC percentage reduction must equal or exceed 95 percent.	ii. You have satisfied the requirements of PS–8 of 40 CFR part 60, appendix B.
8. Each affected continuous or batch process unit that uses process changes to reduce organic HAP emissions and is subject to the emission limit listed in item 4 or 8 of Table 1 to this subpart.	The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen.	i. You have installed a THC CEMS at the outlet of the control device or in the stack of the affected source; and ii. You have satisfied the requirements of PS–8 of 40 CFR part 60, appendix B.
9. Each new continuous kiln that is used to process clay refractory products.	a. The average HF emissions must not exceed 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed; OR the average uncontrolled HF emissions must be reduced by at least 90 percent.	i. The 3-hour block average production-based HF emissions rate measured during the performance test using one of the methods specified in item 14.a.i. of Table 4 to this subpart is equal to or less than 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed; or ii. The 3-hour block average HF emissions reduction measured during the performance test is equal to or greater than 90 percent.
	b. The average HCl emissions must not exceed 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed; OR the average uncontrolled HCl emissions must be reduced by at least 30 percent.	i. The 3-hour block average production-based HCl emissions rate measured during the performance test using one of the methods specified in item 14.a.i. of Table 4 to this subpart is equal to or less than 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed; or ii. The 3-hour block average HCl emissions reduction measured during the performance test is equal to or greater than 30 percent.
10. Each new batch process kiln that is used to process clay refractory products.	a. The average uncontrolled HF emissions must be reduced by at least 90 percent.	The 2-run block average HF emission reduction measured during the performance test is equal to or greater than 90 percent.
	b. The average uncontrolled HCl emissions must be reduced by at least 30 percent.	The 2-run block average HCl emissions reduction measured during the performance test is equal to or greater than 30 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 practice standards listed in Table 3 to this subpart; and ii. You have included in your Initial Notification a description of the method selected for complying with each applicable work practice standard, as required by § 63.9(b); and iii. You submit a signed statement with the Notification of Compliance Status that you have implemented the applicable work practice standard listed in Table 3 to this subpart; and 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.
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 practice standards listed in item 1 of Table 3 to this subpart; and 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 new or existing 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 new or existing 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; and ii. Reducing the monitoring and process data associated with the operating limits specified in Table 2 to this subpart; and iii. Recording the results of any control device inspections; and iv. Reporting, in accordance with § 63.9814(e), any deviation from the applicable operating limits specified in Table 2 to this subpart.
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 7 of this table	Satisfying the applicable requirements specified in items 3 through 7 of this table.

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 . . .
3. Each affected process unit that is equipped with a thermal or catalytic oxidizer.	a. The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen; OR the average THC percentage reduction must equal or exceed 95 percent.	i. Collecting the applicable data measured by the control device temperature monitoring system, as specified in items 5, 6, 8, and 9 of Table 8 to this subpart; and ii. Reducing the applicable data measured by the control device temperature monitoring system, as specified in items 5, 6, 8, and 9 of Table 8 to this subpart; and iii. Maintaining the average control device operating temperature for the applicable averaging period specified in items 5, 6, 8, and 9 of Table 2 to this subpart at or above the minimum allowable operating temperature established during the most recent performance test.
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, corrected to 18 percent oxygen; OR the average THC performance reduction must equal or exceed 95 percent.	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 process unit that uses process changes to meet the applicable emission limit.	The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen.	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.
6. Each affected continuous process unit	The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen; OR the average THC percentage reduction must equal or exceed 95 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 3.c. of Table 4 to this subpart.
7. Each affected batch process unit	The average THC concentration must not exceed 20 ppmvd, corrected to 18 percent oxygen; OR the average THC percentage reduction must equal or exceed 95 percent.	Recording the organic HAP processing rate (pounds per batch); and process cycle time for each batch cycle; and hourly average operating temperature of the affected source, as specified in items 8.b. through 8.d. of Table 4 to this subpart.
8. Each kiln that is used to process clay refractory products.	As specified in items 9 through 11 of this table.	Satisfying the applicable requirements specified in items 9 through 11 of this table.
9. Each affected kiln that is equipped with a DLA.	a. The average HF emissions must not exceed 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed, OR the average uncontrolled HF emissions must be reduced by at least 90 percent; and b. The average HCl emissions must not exceed 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed, or the average uncontrolled HCl emissions must be reduced by at least 30 percent.	i. Maintaining the pressure drop across the DLA at or above the minimum levels established during the most recent performance test; and ii. Verifying that the limestone hopper contains an adequate amount of free-flowing limestone by performing a daily visual check of the limestone in the feed hopper; and iii. Recording the limestone feeder setting daily to verify that the feeder setting is at or above the level established during the most recent performance test; and iv. Using the same grade of limestone as was used during the most recent performance test and maintaining records of the source and grade of limestone.
10. Each affected kiln that is equipped with a DIFF or DLS/FF.	a. The average HF emissions must not exceed 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed; OR the average uncontrolled HF emissions must be reduced by at least 90 percent; and b. The average HCl emissions must not exceed 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed; OR the average uncontrolled HCl emissions must be reduced by at least 30 percent.	i. 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 system; and ii. Recording feeder setting daily to verify that the feeder setting is at or above the level established during the most recent performance test; 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 . . .
		iii. Initiating corrective action within 1 hour of a bag leak detection system alarm AND completing corrective actions in accordance with the OM&M plan, AND 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.
11. Each affected kiln that is equipped with a wet scrubber.	a. The average HF emissions must not exceed 0.019 kg/Mg (0.038 lb/ton) of uncalcined clay processed; OR the average uncontrolled HF emissions must be reduced by at least 90 percent; and b. The average HCl emissions must not exceed 0.091 kg/Mg (0.18 lb/ton) of uncalcined clay processed; OR the average uncontrolled HCl emissions must be reduced by at least 30 percent.	i. Maintaining the pressure drop across the scrubber, liquid pH, and liquid flow rate at or above the minimum levels established during the most recent performance test; and ii. If chemicals are added to the scrubber liquid, maintaining the average chemical feed rate at or above the minimum chemical feed rate 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.	i. Maintaining all applicable process and control device operating parameters within the limits established during the most recent performance test; and ii. 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 affected continuous kiln that is equipped with a control device.	a. The operating limits specified in items 2.a. through 2.c. of Table 2 to this subpart.	i. Operating the control device on the affected kiln during all times except during periods of approved scheduled maintenance, as specified in § 63.9792(e); and ii. Minimizing HAP emissions from the affected kiln during all periods of scheduled maintenance of the kiln control device when the kiln is operating and the control device is out of service; and iii. Minimizing the duration of all periods of scheduled maintenance of the kiln control device when the kiln is operating and the control device is out of service.
3. 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 4 through 9 of this table.	Satisfying the applicable requirements specified in items 4 through 9 of this table.

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 . . .
4. Each affected continuous process unit	Maintain process operating parameters within the limits established during the most recent performance test.	i. Recording the organic HAP processing rate (pounds per hour); and ii. Recording the operating temperature of the affected source at least hourly; and iii. Maintaining the 3-hour block average organic HAP processing rate at or below the maximum organic HAP processing rate established during the most recent performance test.
5. 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 minimum allowable operating temperature established during the most recent performance test.	i. Measuring and recording the thermal oxidizer combustion chamber temperature at least every 15 minutes; and ii. Calculating the hourly average thermal oxidizer combustion chamber temperature; and iii. Maintaining the 3-hour block average thermal oxidizer combustion chamber temperature at or above the minimum allowable operating temperature established during the most recent performance test; and iv. Reporting, in accordance with § 63.9814(e), any 3-hour block average operating temperature measurements below the minimum allowable thermal oxidizer combustion chamber operating temperature established during the most recent performance test.
6. Continuous process units that are equipped with a catalytic oxidizer.	a. Maintain the 3-hour block average temperature at the inlet of the catalyst bed at or above the minimum allowable catalyst bed inlet temperature established during the most recent performance test.	i. Measuring and recording the temperature at the inlet of the catalyst bed at least every 15 minutes; and ii. Calculating the hourly average temperature at the inlet of the catalyst bed; and iii. Maintaining the 3-hour block average temperature at the inlet of the catalyst bed at or above the minimum allowable catalyst bed inlet temperature established during the most recent performance test; and iv. Reporting, in accordance with § 63.9814(e), any 3-hour block average catalyst bed inlet temperature measurements below the minimum allowable catalyst bed inlet temperature established during the most recent performance; and v. Checking the activity level of the catalyst at least every 12 months and taking any necessary corrective action, such as replacing the catalyst, to ensure that the catalyst is performing as designed.
7. Each affected batch process unit	Maintain process operating parameters within the limits established during the most recent performance test.	i. Recording the organic HAP processing rate (pounds per batch); and ii. Recording the hourly average operating temperature of the affected source; and iii. Recording the process cycle time for each batch cycle; and iv. Maintaining the organic HAP processing rate at or below the maximum organic HAP processing rate established during the most recent 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 . . .
8. Batch process units that are equipped with a thermal oxidizer.	Maintain the hourly average temperature in the thermal oxidizer combustion chamber at or above the hourly average 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; and ii. Calculating the hourly average thermal oxidizer combustion chamber temperature; and iii. From the start of each batch cycle until 3 hours have passed since the process unit reached maximum temperature, maintaining the hourly average operating temperature in the thermal oxidizer combustion chamber at or above the minimum allowable operating temperature established for the corresponding period during the most recent performance test, as determined according to item 11 of Table 4 to this subpart; and iv. For each subsequent hour of the batch cycle, maintaining the hourly average operating temperature in the thermal oxidizer combustion chamber at or above the minimum allowable operating temperature established for the corresponding hour during the most recent performance test, as specified in item 13 of Table 4 to this subpart; and v. Reporting, in accordance with § 63.9814(e), any temperature measurements below the minimum allowable thermal oxidizer combustion chamber temperature measured during the most recent performance test.
9. Batch process units that are equipped with a catalytic oxidizer.	Maintain the hourly average temperature at the inlet of the catalyst bed at or above the corresponding hourly average temperature established for the corresponding 1-hour period of the cycle during the most recent performance test.	i. Measuring and recording temperatures at the inlet of the catalyst bed at least every 15 minutes; and ii. Calculating the hourly average temperature at the inlet of the catalyst bed; and iii. From the start of each batch cycle until 3 hours have passed since the process unit reached maximum temperature, maintaining the hourly average operating temperature at the inlet of the catalyst bed at or above the minimum allowable bed inlet temperature established for the corresponding period during the most recent performance test, as determined according to item 12 of Table 4 to this subpart; and iv. For each subsequent hour of the batch cycle, maintaining the hourly average operating temperature at the inlet of the catalyst bed at or above the minimum allowable bed inlet temperature established for the corresponding hour during the most recent performance test, as specified in item 13 of Table 4 to this subpart; and v. Reporting, in accordance with § 63.9814(e), any catalyst bed inlet temperature measurements below the minimum allowable bed inlet temperature measured during the most recent performance test; and vi. Checking the activity level of the catalyst at least every 12 months and taking any necessary corrective action, such as replacing the catalyst, to ensure that the catalyst is performing as designed.
10. Each new kiln that is used to process clay refractory products.	As specified in items 11 through 13 of this table.	Satisfying the applicable requirements specified in items 11 through 13 of this table.
11. Each new kiln that is equipped a DLA	a. Maintain the average pressure drop across the DLA for each 3-hour block period at or above the minimum pressure drop established during the most recent performance test.	i. Collecting the DLA pressure drop data, as specified in item 18.a. of Table 4 to this subpart; and ii. Reducing the DLA pressure drop data to 1-hour and 3-hour block averages; 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 . . .
		iii. Maintaining the 3-hour block average pressure drop across the DLA at or above the minimum pressure drop established during the most recent performance test.
	b. Maintain free-flowing limestone in the feed hopper, silo, and DLA.	Verifying that the limestone hopper has an adequate amount of free-flowing limestone by performing a daily visual check of the limestone hopper.
	c. Maintain the limestone feeder setting at or above the level established during the most recent performance test.	Recording the limestone feeder setting at least daily to verify that the feeder setting is being maintained at or above the level established during the most recent performance test.
	d. Use the same grade of limestone from the same source as was used during the most recent performance test.	Using the same grade of limestone as was used during the most recent performance test and maintaining records of the source and grade of limestone.
12. Each new 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; 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; and 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 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 most recent 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; and 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 most recent performance test.
13. Each new kiln that is used to process clay refractory products and is equipped with a wet scrubber.	a. Maintain the average pressure drop across the scrubber for each 3-hour block period at or above the minimum pressure drop established during the most recent performance test.	i. Collecting the scrubber pressure drop data, as specified in item 20.a. of Table 4 to this subpart; and ii. Reducing the scrubber pressure drop data to 1-hour and 3-hour block averages; and iii. Maintaining the 3-hour block average scrubber pressure drop at or above the minimum pressure drop established during the most recent performance test.
	b. Maintain the average scrubber liquid pH for each 3-hour block period at or above the minimum scrubber liquid pH established during the most recent performance test.	i. Collecting the scrubber liquid pH data, as specified in item 20.b. of Table 4 to this subpart; and ii. Reducing the scrubber liquid pH data to 1-hour and 3-hour block averages; and iii. Maintaining the 3-hour block average scrubber liquid pH at or above the minimum scrubber liquid pH established during the most recent 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 . . .
	c. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the minimum scrubber liquid flow rate established during the most recent performance test.	i. Collecting the scrubber liquid flow rate data, as specified in item 20.c. of Table 4 to this subpart; and ii. Reducing the scrubber liquid flow rate data to 1-hour and 3-hour block averages; and iii. Maintaining the 3-hour block average scrubber liquid flow rate at or above the minimum scrubber liquid flow rate established during the most recent performance test.
	d. If chemicals are added to the scrubber liquid, maintain the average scrubber chemical feed rate for each 3-hour block period at or above the minimum scrubber chemical feed rate established during the most recent performance test.	i. Collecting the scrubber chemical feed rate data, as specified in item 20.d. of Table 4 to this subpart; and ii. Reducing the scrubber chemical feed rate data to 1-hour and 3-hour block averages; and iii. Maintaining the 3-hour block average scrubber chemical feed rate at or above the minimum scrubber chemical feed rate established during the most recent 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.	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; and 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.	Control POM emissions from any affected shape preheater.	i. Controlling emissions from the volatilization of residual pitch by implementing one of the work practice standards listed in item 1 of Table 3 to this subpart; and ii. Recording the date and cleaning method each time you clean an affected basket or container.
3. Each new or existing pitch working tank	Control POM 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 new or existing chromium refractory products kiln.	Minimize fuel-based HAP emissions	i. Using natural gas, or equivalent, as the kiln fuel at all times except during periods of natural gas curtailment or supply interruption; and ii. If you intend to use an alternative fuel, submitting a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.9824; and iii. Submitting a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel, as specified in § 63.9814(g).
5. Each existing clay refractory products kiln	Minimize fuel-based HAP emissions	i. Using natural gas, or equivalent, as the kiln fuel at all times except during periods of natural gas curtailment or supply interruption; and

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

For . . .	For the following work practice standard . . .	You must demonstrate continuous compliance by . . .
		ii. If you intend to use an alternative fuel, submitting a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.9824; and iii. Submitting a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel, as specified in § 63.9814(g).

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(c) 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.
3. Report of alternative fuel use	The information in § 63.9814(g) and items 4 and 5 of Table 9 to this subpart.	If you are subject to the work practice standard specified in item 3 or 4 of Table 3 to this subpart, and you use an alternative fuel in the affected kiln, by letter within 10 working days after terminating the use of the alternative fuel.

As stated in § 63.9820, 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.

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

Citation	Subject	Brief description	Applies to subpart SSSSS
§ 63.6(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.
§ 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)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time.	Yes.
§ 63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test.	Yes.
§ 63.7(b)(2)	Notification of Rescheduling	Must notify Administrator 5 days before scheduled date and provide 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 alternative.	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; 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 systems.	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 is 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)	CMS Requirements		No, § 63.9808 specifies requirements.
§ 63.8(c)(5)	COMS Minimum Procedures		Not applicable.

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(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.
§ 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		Applies only to sources required to install and operate a 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)–(v)	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.

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

Citation	Subject	Brief description	Applies to subpart SSSSS
§ 63.10(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.
§ 63.14	Incorporation by Reference		Yes.
§ 63.15	Availability of Information		Yes.

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