ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA–HQ–OAR–2013–0290 and EPA–HQ–OAR–2013–0291; FRL–9933–13–OAR]

RIN 2060–AP69

NESHAP for Brick and Structural Clay Products Manufacturing; and NESHAP for Clay Ceramics Manufacturing

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is finalizing national emission standards for hazardous air pollutants (NESHAP) for Brick and Structural Clay Products (BSCP) Manufacturing and NESHAP for Clay Ceramics Manufacturing. All major sources in these categories must meet maximum achievable control technology (MACT) standards for mercury (Hg), non-mercury (non-Hg) metal hazardous air pollutants (HAP) (or particulate matter (PM) surrogate) and dioxins/furans (Clay Ceramics only); health-based standards for acid gas HAP; and work practice standards, where applicable. The final rule, which has been informed by input from industry (including small businesses), environmental groups, and other stakeholders, protects air quality and promotes public health by reducing emissions of HAP listed in section 112 of the Clean Air Act (CAA).

DATES: This action is effective on December 28, 2015. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register as of December 28, 2015.

ADDRESSES: The EPA has established dockets for this rulemaking under Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing. All documents in the dockets are listed in the *regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *regulations.gov* or in hard copy at the EPA Docket Center, EPA WJC West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744 and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: For questions about the final rule for BSCP Manufacturing and Clay Ceramics Manufacturing, contact Ms. Sharon Nizich, Minerals and Manufacturing Group, Sector Policies and Program Division (D243–04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541–2825; Fax number: (919) 541–5450; Email address: *nizich.sharon@epa.gov.*

SUPPLEMENTARY INFORMATION:

Preamble Acronyms and Abbreviations. This preamble includes several acronyms and terms used to describe industrial processes, data inventories and risk modeling. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACI	activated carbon injection
AEGL	Acute Exposure Guideline Level
AERMOD	air dispersion model used by the HEM–3 model
APCD	air pollution control device
ASOS	Automated Surface Observing Systems
ATSDR	Agency for Toxic Substances and Disease Registry
BIA	Brick Industry Association
BLD	bag leak detection
BSCP	Brick and Structural Clay Products
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
CASRN	Chemical Abstract Services Registry Number
CBI	Confidential Business Information
CDX	Central Data Exchange
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
Cl_2	chlorine
CO	carbon monoxide
CO_2	carbon dioxide
CPMS	continuous parameter monitoring system
CRA	Congressional Review Act
DHHS	Department of Health and Human Services
DIFF	dry lime injection fabric filter
DLA	dry limestone adsorber
DLS/FF	dry lime scrubber/fabric filter
DOD	Department of Defense
ECHO	Enforcement and Compliance History Online
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
ERT	Electronic Reporting Tool
°F	degrees Fahrenheit
FAA	Federal Aviation Administration
FF	fabric filter
FQPA	Food Quality Protection Act
FRFA	final regulatory flexibility analysis
FTIR	Fourier transform infrared
gr/dscf	grains per dry standard cubic foot
HAP	hazardous air pollutant
HBEL	health-based emission limit
HCl	hydrogen chloride
HEM–3	Human Exposure Model (Community and Sector version 1.3.1)
HF	hydrogen fluoride
Hg	mercury
HI	hazard index
HQ	hazard quotient
IARC	International Agency for Research on Cancer
ICR	information collection request
IRFA	initial regulatory flexibility analysis
IRIS	Integrated Risk Information System
lb/hr	pounds per hour
lb/ton	pounds per ton
LML	lowest measured level
LOAEL	lowest observed adverse effects level
LOEL	lowest observed effects level
MACT	maximum achievable control technology
mg/m^3	milligrams per cubic meter
MMBtu/yr	million British thermal units per year
MRL	Minimal Risk Level
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NAS	National Academy of Sciences
NATA	National Air Toxics Assessment
NEI	National Emissions Inventory
NESHAP	national emissions standards for hazardous air pollutants
ng/kg	nanograms per kilogram
NIOSH	National Institute for Occupational Safety and Health
No.	number
NO_2	nitrogen dioxide
NOAEL	no observed adverse effect level
Non-Hg	non-mercury
NO_X	nitrogen oxides
NTTAA	National Technology Transfer and Advancement Act
NWS	National Weather Service
O_2	oxygen
OECD	Organisation for Economic Co-operation and Development
OEHHA	Office of Environmental Health Hazard Assessment
OM&M	operation, maintenance and monitoring
OMB	Office of Management and Budget
%R	percent recovery
PM	particulate matter
$PM_{2.5}$	particulate matter with particles less than 2.5 micrometers in diameter
ppm	parts per million
PRA	Paperwork Reduction Act
REL	reference exposure level
RFA	Regulatory Flexibility Act
RfC	reference concentration
RfD	reference dose
RIA	Regulatory Impact Analysis
RTR	residual risk and technology review
SAB	Science Advisory Board
SBA	Small Business Administration
SBAR	Small Business Advocacy Review
SBE	Standard Brick Equivalent
SBREFA	Small Business Regulatory Enforcement Fairness Act

SO_2	sulfur dioxide
SSM	startup, shutdown and malfunction
TEQ	2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents
TOSHI	target-organ-specific hazard index
tph	tons per hour
tpy	tons per year
TTN	Technology Transfer Network
µg/dscm	micrograms per dry standard cubic meter
µg/m^3	micrograms per cubic meter
UMRA	Unfunded Mandates Reform Act
UPL	Upper Prediction Limit
VE	visible emissions
yr	year

Background Information Documents. On December 18, 2014, the EPA proposed NESHAP for BSCP Manufacturing and NESHAP for Clay Ceramics Manufacturing (79 FR 75622). In this action, we are finalizing the rules. Documents summarizing the public comments on the proposal and presenting the EPA responses to those comments are available in Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing.

Organization of This Document. The information in this preamble is organized as follows:

I. General Information

A. Executive Summary

1. Purpose of the Regulatory Action

Section 112(d) of the CAA requires the EPA to set emissions standards for HAP emitted by sources in each source category and subcategory listed under section 112(c). We issued the NESHAP for BSCP Manufacturing and the NESHAP for Clay Ceramics Manufacturing on May 16, 2003. The two NESHAP were vacated and remanded by the United States Court of Appeals for the District of Columbia Circuit on March 13, 2007. To address the vacatur and remand of the original NESHAP, we are issuing standards for BSCP manufacturing facilities and clay ceramics manufacturing facilities located at major sources.

2. Summary of the Major Provisions

a. BSCP Manufacturing NESHAP

The EPA is finalizing MACT emission limits for non-Hg HAP metals (or PM surrogate) and Hg, and a health-based emission limit (HBEL) for acid gases (hydrogen fluoride (HF), hydrogen chloride (HCl) and chlorine (Cl_2)) for BSCP tunnel kilns. In addition, the EPA is finalizing work practice standards for periodic kilns, dioxins/furans from tunnel kilns, and periods of startup and shutdown for tunnel kilns. To demonstrate compliance with the emission limits, the EPA is requiring initial and repeat 5-year performance testing for the regulated pollutants, parameter monitoring, and daily visible emissions (VE) checks. Owners/operators whose BSCP tunnel kilns are equipped with a fabric filter (FF) (*e.g.,* dry lime injection fabric filter (DIFF), dry lime scrubber/fabric filter (DLS/FF)) have the option of demonstrating compliance using a bag leak detection (BLD) system or daily VE checks.

b. Clay Ceramics Manufacturing NESHAP

The EPA is finalizing MACT emission limits for Hg, PM (surrogate for non-Hg HAP metals), and dioxins/furans and HBEL for acid gases (HF and HCl) for sanitaryware tunnel kilns and ceramic tile roller kilns. In addition, the EPA is finalizing MACT emission limits for dioxins/furans for ceramic tile spray dryers and floor tile press dryers, MACT emission limits for Hg and PM (surrogate for non-Hg HAP metals) for ceramic tile glaze lines and MACT emission limits for PM (surrogate for non-Hg HAP metals) for sanitaryware glaze spray booths. The EPA is also finalizing work practice standards for shuttle kilns and periods of startup and shutdown. To demonstrate compliance with the emission limits, the EPA is requiring initial and repeat 5-year performance testing for the regulated pollutants, parameter monitoring, and daily VE checks. Owners/operators whose affected sources are equipped with an FF (*e.g.,* DIFF, DLS/FF) have the option of demonstrating compliance using a BLD system or daily VE checks.

3. Costs and Benefits

Table 1 of this preamble summarizes the costs and benefits of this action for 40 CFR part 63, subpart JJJJJ (BSCP Manufacturing NESHAP), while Table 2 of this preamble summarizes the costs of this action for 40 CFR part 63, subpart KKKKK (Clay Ceramics Manufacturing NESHAP). See section VI of this preamble for further discussion of the costs and benefits for the BSCP Manufacturing NESHAP and the costs for the Clay Ceramics Manufacturing NESHAP. See section VII.B of this preamble for discussion of the recordkeeping and reporting costs.

TABLE 1—SUMMARY OF THE COSTS AND BENEFITS OF 40 CFR PART 63, SUBPART JJJJJ

(Millions of 2011 dollars)

Requirement	Capital cost	Annual cost	Net benefit (7 percent discount). [a]
Emission controls	$62.3	$23.7	$48 to 150.
Emissions testing	2.26	0.552	
Monitoring	—	0.352	

[a] Net benefit is the annual cost subtracted from the total monetized benefits (at a 7-percent discount rate). For more information, see section 7 of ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0291.

TABLE 2—SUMMARY OF THE COSTS OF 40 CFR PART 63, SUBPART KKKKK

(Millions of 2011 dollars)

Requirement	Capital cost	Annual cost
Emission controls	$0	$0
Emissions testing	0.267	0.0655
Monitoring	—	0.0269

B. Does this action apply to me?

The regulated categories and entities potentially affected by this action are shown in Table 3 of this preamble:

TABLE 3— NESHAP AND INDUSTRIAL SOURCE CATEGORIES AFFECTED BY THIS ACTION

Category	NAICS Code [a] [b]	Examples of potentially regulated entities
Industry	327120	Brick, structural clay, and extruded tile manufacturing facilities (BSCP Manufacturing NESHAP); and ceramic wall and floor tile manufacturing facilities (Clay Ceramics Manufacturing NESHAP).
	327110	Vitreous plumbing fixtures (sanitaryware) manufacturing facilities (Clay Ceramics Manufacturing NESHAP).
Federal government	....	Not affected.
State/local/tribal government	....	Not affected.

[a] North American Industry Classification System.

[b] Refractories manufacturing is not included in the source categories affected by this action.

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, company, business, organization, *etc.,* is regulated by this action, you should examine the applicability criteria in 40 CFR 63.8385 of subpart JJJJJ (BSCP Manufacturing NESHAP) or 40 CFR 63.8535 of subpart KKKKK (Clay Ceramics Manufacturing NESHAP). If you have any questions regarding the applicability of this action to a particular entity, contact either the delegated authority for the entity or your EPA regional representative as listed in 40 CFR 63.13 of subpart A (General Provisions).

C. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet through the EPA's Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this action at *http://www.epa.gov/ttn/atw/brick/brickpg.html.* Following publication in the **Federal Register**, the EPA will post the **Federal Register** version of the final rule and key technical documents at this same Web site.

D. Judicial Review

Under section 307(b)(1) of the CAA, judicial review of this final action is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit by December 28, 2015. Under section 307(b)(2) of the CAA, the requirements established by these final rules may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce the requirements.

Section 307(d)(7)(B) of the CAA further provides that ''[o]nly an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review.'' This section also provides a mechanism for us to convene a proceeding for reconsideration, ''[i]f the person raising an objection can demonstrate to the EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.'' Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, U.S. EPA, Room 3000, EPA WJC North Building, 1200 Pennsylvania Ave. NW., Washington, DC 20460, with a copy to both the person(s) listed in the preceding **FOR FURTHER INFORMATION CONTACT** section and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), U.S. EPA, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

II. Background Information

A. What is the statutory authority for the final rule?

Section 112(d) of the CAA requires the EPA to set emissions standards for HAP emitted by sources in each source category and subcategory listed under section 112(c). The MACT standards for existing sources must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the Administrator has emissions information) or the best performing five sources for source categories with less than 30 sources (CAA section 112(d)(3)(A) and (B)). This level of minimum stringency is called the MACT floor. For new sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source (CAA section 112(d)(3)). The EPA also must consider more stringent ''beyond-the-floor'' control options. When considering beyond-the-floor options, the EPA must not only consider the maximum degree of reduction in emissions of HAP, but must also take into account costs, energy and nonair environmental impacts when doing so.

B. What actions preceded this final rule?

Pursuant to CAA section 112(c)(5), the EPA was originally required to promulgate standards for the BSCP Manufacturing and Clay Ceramics Manufacturing source categories by November 2000. The agency initially promulgated standards for these categories in 2003. See 68 FR 26690 (May 16, 2003). Those standards were challenged and subsequently vacated by the United States Court of Appeals for the District of Columbia Circuit in 2007. *See Sierra Club* v. *EPA,* 479 F.3d 875, 876 (D.C. Cir. 2007). In 2008, Sierra Club filed suit in the United States Court of Appeals for the District of Columbia Circuit under CAA section 304(a)(2), alleging that the EPA had a continuing mandatory duty to promulgate standards for these categories under CAA section 112 based on the 2000 deadline under CAA section 112(c)(5). The EPA challenged that claim in a motion to dismiss, arguing that the mandatory duty to act by the 2000 deadline was satisfied by the 2003 rule and that the 2007 vacatur of the 2003 rule did not recreate the statutory duty to act by the 2000 deadline. Ultimately, the Court found that the vacatur of the 2003 rule recreated the mandatory duty to set standards by 2000 and held that Sierra Club's claims could continue. *See Sierra Club* v. *EPA,* 850 F.Supp.2d 300 (D.D.C. 2012). The EPA and Sierra Club then negotiated a consent decree to settle the litigation and establish proposal and promulgation deadlines for establishing standards for these categories.

Following the 2007 vacatur of the 2003 rule, the EPA began efforts to collect additional data to support new standards for the BSCP and clay ceramics industries. The EPA conducted an initial information collection effort in 2008 to update information on the inventory of affected units, hereafter referred to as ''the 2008 EPA survey.'' The EPA conducted a second information collection effort in 2010 to obtain additional emissions data and information on each facility's startup, shutdown, and malfunction (SSM) procedures, hereafter referred to as ''the 2010 EPA survey.'' The information collected as part of these surveys, and not claimed as CBI by respondents, is available in Docket ID Nos. EPA–HQ–OAR–2013–0290 and EPA–HQ–OAR–2013–0291. In addition, the dockets A–99–30 and OAR–2002–0054 are incorporated by reference for BSCP. The dockets A–2000–48, OAR–2002–0055, and EPA–HQ–OAR–2006–0424 are incorporated by reference for clay ceramics.

On December 18, 2014, the EPA proposed NESHAP for BSCP Manufacturing and NESHAP for Clay Ceramics Manufacturing. See 79 FR 75622 (December 18, 2014). In response to a request from industry, the EPA extended the public comment period for the proposed action from February 17, 2015, to March 19, 2015. See 79 FR 78768 (December 31, 2014). In this action, the EPA is finalizing the rule.

C. What are the health effects of pollutants emitted from the BSCP Manufacturing and Clay Ceramics Manufacturing source categories?

The final rule protects air quality and promotes the public health by reducing emissions of HAP emitted from BSCP and clay ceramics kilns. Emissions data collected during development of the final rule show that acid gases such as HF, HCl, and Cl_2 represent the predominant HAP emitted by BSCP and clay ceramics kilns, accounting for 99.3 percent of the total HAP emissions. These kilns also emit lesser amounts of other HAP compounds such as HAP metals and dioxins/furans, accounting for about 0.7 percent of total HAP emissions. The HAP metals emitted include antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, Hg, nickel and selenium. Exposure to these HAP, depending on exposure duration and levels of exposures, can be associated with a variety of adverse health effects. These adverse health effects could include chronic health disorders (*e.g.,* irritation of the lung, skin and mucus membranes, effects on the central nervous system and damage to the kidneys) and acute health disorders (*e.g.,* lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified two of the HAP as human carcinogens (arsenic and chromium VI) and four as probable human carcinogens (cadmium, lead, dioxins/furans and nickel).

III. Summary of the Final Rule

The following sections summarize the final requirements for the BSCP Manufacturing source category and Clay Ceramics Manufacturing source category. Section IV of this preamble summarizes the major changes since proposal.

A. What are the final rule requirements for BSCP Manufacturing?

1. What source category is affected by the final rule?

The final NESHAP for BSCP Manufacturing applies to BSCP manufacturing facilities that are located at or are part of a major source of HAP emissions. The BSCP Manufacturing source category includes those facilities that manufacture brick (face brick, structural brick, brick pavers and other brick); clay pipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional clay products.

2. What are the affected sources?

The affected sources, which are the portions of each source in the category for which we are setting standards, are (1) all tunnel kilns at a BSCP manufacturing facility and (2) each periodic kiln. For purposes of the final BSCP Manufacturing NESHAP, tunnel kilns are defined to include any type of continuous kiln used at BSCP manufacturing facilities, including roller kilns.

Tunnel kilns are fired by natural gas or other fuels, including sawdust. Sawdust firing typically involves the use of a sawdust dryer because sawdust typically is purchased wet and needs to be dried before it can be used as fuel. Consequently, some sawdust-fired tunnel kilns have two process streams, including (1) a process stream that exhausts directly to the atmosphere or to an air pollution control device (APCD), and (2) a process stream in which the kiln exhaust is ducted to a sawdust dryer where it is used to dry sawdust before being emitted to the atmosphere. Both process streams are subject to the requirements of the final BSCP Manufacturing NESHAP.

The following BSCP process units are not subject to the requirements of the final rule: (1) Kilns that are used exclusively for setting glazes on previously fired products, (2) raw material processing and handling, and (3) dryers. Sources regulated under the Clay Ceramics Manufacturing NESHAP or the Refractories Manufacturing NESHAP are not subject to the requirements of the BSCP Manufacturing NESHAP.

3. Does the final rule apply to me?

This final BSCP Manufacturing NESHAP applies to owners or operators of an affected source at a major source meeting the requirements discussed previously in this preamble. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, considering controls, 10 tons per year (tpy) or more of any HAP or 25 tpy or more of any combination of HAP.

4. What emission limitations and work practice standards must I meet?

Emission limitations. We are providing a choice of emission limits for total non-Hg HAP metals and Hg for new and existing tunnel kilns in two subcategories based on kiln size. In this final BSCP Manufacturing NESHAP, a large tunnel kiln is defined as a new or existing tunnel kiln with a design capacity of 10 tons per hour (tph) or greater, and a small tunnel kiln is defined as a new or existing tunnel kiln with a design capacity of less than 10 tph. The options for total non-Hg HAP metals include total non-Hg HAP metals limits in units of pounds per hour (lb/hr) and options for limiting PM as a surrogate for non-Hg HAP metals in units of pounds per ton (lb/ton) or grains per dry standard cubic foot (gr/dscf) at 17-percent oxygen (O_2). The options for Hg include emission limits in units of lb/ton, lb/hr or micrograms per dry standard cubic meter (μg/dscm) at 17-percent O_2. We are also issuing an emission limit for HCl-equivalent for all existing and new tunnel kilns at the facility to reduce the acid gases HF, HCl and Cl_2. The emission limits for acid gases, Hg, and non-Hg HAP metals are presented in Table 4 of this preamble.

TABLE 4—ACID GASES, TOTAL NON-MERCURY HAP METALS AND MERCURY EMISSION LIMITS FOR BRICK AND STRUCTURAL CLAY PRODUCTS TUNNEL KILNS

Subcategory	Acid gases	Total non-Hg HAP metals	Hg
Limits for existing sources			
Large tunnel kilns (≥ 10 tph)	—	0.036 lb/ton PM OR 0.0029 gr/dscf PM at 17-percent O_2 OR 0.0057 lb/hr non-Hg HAP metals for each existing tunnel kiln at facility.	4.1 E–05 lb/ton OR 5.5 E–04 lb/hr OR 7.7 μg/dscm at 17- percent O_2 for each existing large tunnel kiln at facility
Small tunnel kilns (< 10 tph)	—	0.37 lb/ton PM OR 0.0021 gr/dscf PM at 17-percent O_2 OR 0.11 lb/hr non-Hg HAP metals for each existing tunnel kiln at facility.	3.3 E–04 lb/ton OR 0.0019 lb/hr OR 91 μg/dscm at 17- percent O_2 for each existing small tunnel kiln at facility
All tunnel kilns	57 lb/hr HCl-equivalent for collection of all tunnel kilns at facility.	—	—
Limits for new sources			
Large tunnel kilns (≥ 10 tph)	—	0.018 lb/ton PM OR 0.0014 gr/dscf PM at 17-percent O_2 OR 0.0057 lb/hr non-Hg HAP metals for each new tunnel kiln at facility.	2.8 E–05 lb/ton OR 3.4 E–04 lb/hr OR 6.2 μg/dscm at 17- percent O_2 for each new large tunnel kiln at facility
Small tunnel kilns (< 10 tph)	—	0.030 lb/ton PM OR 0.0021 gr/dscf PM at 17-percent O_2 OR 0.11 lb/hr non-Hg HAP metals for each new tunnel kiln at facility.	3.3 E–04 lb/ton OR 0.0019 lb/hr OR 91 μg/dscm at 17- percent O_2 for each new small tunnel kiln at facility
All tunnel kilns	57 lb/hr HCl-equivalent for collection of all tunnel kilns at facility.	—	—

Work practice standards. We are issuing work practice standards for BSCP periodic kilns in lieu of HAP emission limits. The work practice standards require developing and using a designed firing time and temperature cycle for each periodic kiln; labeling each periodic kiln with the maximum load (in tons) of product that can be fired in the kiln during a single firing cycle; documenting the total tonnage placed in the kiln for each load to ensure that it is not greater than the maximum load; developing and implementing maintenance procedures for each kiln that specify the frequency of inspection and maintenance; and developing and maintaining records for each periodic kiln, including logs to document the proper operation and maintenance procedures of the periodic kilns.

We are also issuing work practice standards for BSCP tunnel kilns in lieu of dioxin/furan emission limits. The work practice standards require maintaining and inspecting the burners and associated combustion controls (as applicable); tuning the specific burner type to optimize combustion; keeping records of each burner tune-up; and submitting a report for each tune-up conducted. As discussed in section III.C.1.a of this preamble, we are also issuing work practice standards for periods of startup and shutdown.

5. What are the testing and initial compliance requirements?

We are requiring that owners or operators of all affected sources subject to emission limits conduct an initial performance test using specified EPA test methods to demonstrate initial compliance with all applicable emission limits. A performance test must be conducted before renewing the facility's 40 CFR part 70 operating permit or at least every 5 years following the initial performance test, as well as when an operating limit parameter value is being revised.

Under the final BSCP Manufacturing NESHAP, the owner or operator is required to measure emissions of HF, HCl, Cl_2, Hg and PM (or non-Hg HAP metals). We are requiring that the owner or operator measure HF, HCl and Cl_2 using one of the following methods:

- EPA Method 26A, ''Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method,'' 40 CFR part 60, appendix A–8;
- EPA Method 26, ''Determination of Hydrogen Chloride Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–8, when no acid particulate (*e.g.,* HF, HCl or Cl_2 dissolved in water droplets emitted by sources controlled by a wet scrubber) is present;
- EPA Method 320, ''Measurement of Vapor Phase Organic and Inorganic Emission by Extractive FTIR'' 40 CFR part 63, appendix A, provided the test follows the analyte spiking procedures of section 13 of Method 320, unless the owner or operator can demonstrate that the complete spiking procedure has been conducted at a similar source; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

Following the performance test, the owner or operator must calculate the HCl-equivalent for the kiln using Equation 2 in 40 CFR 63.8445(f)(2)(i). If there are multiple kilns at a facility, the owner or operator must sum the HCl-equivalent for each kiln using Equation 3 in 40 CFR 63.8445(f)(2)(ii) to get the total facility HCl-equivalent and compare this value to the HBEL for acid gases.

As noted above, with respect to non-Hg HAP metals, the owner or operator of a source can choose to meet either a non-Hg HAP metals limit or one of two alternative PM limits. If the owner or operator chooses to comply with one of the two PM emission limits rather than the non-Hg HAP metals limit, we are requiring that the owner or operator measure PM emissions using one of the following methods:

- EPA Method 5, ''Determination of Particulate Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–3;
- EPA Method 29, ''Determination of Metals Emissions From Stationary Sources,'' 40 CFR part 60, appendix A–8; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

If the owner or operator chooses to comply with the non-Hg HAP metals emission limit instead of one of the PM emission limits, the owner or operator must measure non-Hg HAP metals emissions using EPA Method 29 cited above or any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions. The owner or operator may also use Method 29 or any other approved alternative method to measure Hg emissions.

The following paragraphs discuss the initial compliance requirements. Prior to the initial performance test, the owner or operator is required to install the continuous parameter monitoring system (CPMS) equipment (as discussed in section III.A.6 of this preamble) to be used to demonstrate continuous compliance with the operating limits. During the initial test, the owner or operator must use the CPMS to establish site-specific operating parameter values that represent the operating limits.

For a DIFF or DLS/FF, we are requiring that the owner or operator ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the HF/HCl/Cl_2 performance test and record the feeder setting (on a per ton of fired product basis) for the three test runs. If the lime feed rate varies, the owner or operator is required to determine the average feed rate from the three test runs. The average of the three test runs establishes the minimum site-specific feed rate operating limit. If there are different average feed rate values during the PM/non-Hg HAP metals and HF/HCl/Cl_2 tests, the highest of the average values becomes the site-specific operating limit. If a BLD system is present, the owner or operator is required to submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a stand-alone FF (*i.e.,* no dry sorbent injection or DLS) and a BLD system, we are requiring that the owner or operator submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a dry limestone adsorber (DLA), we are requiring that the owner or operator continuously measure the pressure drop across the DLA during the HF/HCl/Cl_2 performance test and determine the 3-hour block average pressure drop. The average of the three test runs establishes the minimum site-specific pressure drop operating limit. Alternatively, the owner or operator may continuously monitor the bypass stack damper position at least once every 15 minutes during the performance test. The owner or operator also must maintain an adequate amount of limestone in the limestone hopper, storage bin (located at the top of the DLA) and DLA at all times. In addition, the owner or operator is required to establish the limestone feeder setting (on a per ton of fired product basis) 1 week prior to the performance test and maintain the feeder setting for the 1-week period that precedes the performance test and during the performance test. Finally, the owner or operator must document the source and grade of the limestone used during the performance test.

For a wet scrubber, we are requiring that the owner or operator continuously measure the scrubber liquid pH during the HF/HCl/Cl_2 performance test and the scrubber liquid flow rate during both the PM/non-Hg HAP metals and HF/HCl/Cl_2 performance tests. For each wet scrubber parameter, the owner or operator is required to determine and record the average values for the three test runs and the 3-hour block average value. The average of the three test runs establishes the minimum site-specific liquid pH and liquid flow rate operating limits. If different average wet scrubber liquid flow rate values are measured during the PM/non-Hg HAP metals and HF/HCl/Cl_2 tests, the highest of the average values become the site-specific operating limit.

For an activated carbon injection (ACI) system, we are requiring that the owner or operator measure the activated carbon flow rate during the Hg performance test and determine the 3-hour block average flow rate. The average of the three test runs establishes the minimum site-specific activated carbon flow rate operating limit.

For a source with no APCD installed, we are requiring that the owner or operator calculate the maximum potential HCl-equivalent using Equation 4 in 40 CFR 63.8445(g)(1)(i). The owner or operator must use the results from the performance test to determine the emissions at the maximum possible process rate. For example, if the design capacity of the kiln is 10 tph and the production rate during the performance test was 9 tph, then the test results represent 90 percent of the maximum potential emissions. If there are multiple kilns at a facility, the owner or operator must sum the maximum potential HCl-equivalent for each kiln to get the total facility maximum potential HCl-equivalent and compare this value to the HBEL for acid gases. If the total facility maximum potential HCl-equivalent is greater than the HBEL, we are requiring that the owner or operator determine the maximum process rate for which the total facility maximum potential HCl-equivalent remains at or below the HBEL. If there are multiple kilns, the owner or operator must determine one or more combinations of maximum process rates that result in a total facility maximum potential HCl-equivalent that remains at or below the HBEL. The maximum process rate(s) becomes the operating limit(s) for process rate.

6. What are the continuous compliance requirements?

The final BSCP Manufacturing NESHAP requires that the owner or operator demonstrate continuous compliance with each emission limitation that applies. The owner or operator must follow the requirements in the operation, maintenance and monitoring (OM&M) plan and document conformance with the OM&M plan. The owner or operator must also operate a CPMS to monitor the operating parameters established during the initial performance test as described in the following paragraphs. The CPMS must collect data at least every 15 minutes, including at least three of four equally spaced data values (or at least 75 percent if there are more than four data values per hour) per hour to have a valid hour of data. The owner or operator must operate the CPMS at all times when the process is operating. The owner or operator must also conduct proper maintenance of the CPMS (including inspections, calibrations and validation checks) and maintain an inventory of necessary parts for routine repairs of the CPMS. Using the recorded readings, the owner or operator must calculate and record the 3-hour block average values of each operating parameter. To calculate the average for each 3-hour averaging period, the owner or operator must have at least 75 percent of the recorded readings for that period.

For a DIFF or DLS/FF, we are requiring that the owner or operator demonstrate compliance with the acid gas (HF/HCl/Cl_2) HBEL by maintaining free-flowing lime in the feed hopper or silo and to the APCD at all times. If lime is not flowing freely, according to load cell output, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. The owner or operator must also maintain the feeder setting (on a per ton of fired product basis) at or above the level established during the HF/HCl/Cl_2 performance test and record the feeder setting once each shift.

The final rule provides the option to use either a BLD system or VE monitoring to demonstrate parametric compliance.

For the option of a BLD system, we are requiring that the owner or operator initiate corrective action within 1 hour of a BLD system alarm and complete corrective actions according to the OM&M plan. The owner or operator must also operate and maintain the FF such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period. In calculating this operating time fraction, the owner or operator must not count any alarm time if inspection of the FF demonstrates that no corrective action is required. If corrective action is required, the owner or operator must count each alarm as a minimum of 1 hour. If corrective action is initiated more than 1 hour after an alarm, the owner or operator must count as alarm time the actual amount of time taken to initiate corrective action.

For the option of monitoring VE, we are requiring that if VE are observed during any daily test conducted using Method 22 of 40 CFR part 60, appendix A–7, the owner or operator must promptly conduct an opacity test, according to the procedures of Method 9 of 40 CFR part 60, appendix A–4. If opacity greater than 10 percent if observed, the owner or operator must initiate and complete corrective actions according to the OM&M plan. If no VE are observed in 30 consecutive daily Method 22 tests or no opacity greater than 10 percent is observed during any of the Method 9 tests for any kiln stack, the owner or operator may decrease the frequency of Method 22 testing from daily to weekly for that kiln stack. If VE are observed during any weekly test and opacity greater than 10 percent is observed in the subsequent Method 9 test, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan, resume testing of that kiln stack following Method 22 of 40 CFR part 60, appendix A–7, on a daily basis, and maintain that schedule until no VE are observed in 30 consecutive daily tests or no opacity greater than 10 percent is observed during any of the Method 9 tests, at which time the owner or operator may again decrease the frequency of Method 22 testing to a weekly basis.

If greater than 10 percent opacity is observed during any test conducted using Method 9 of 40 CFR part 60, appendix A–4, the owner or operator must report these deviations by following the requirements in 40 CFR 63.8485.

In lieu of conducting VE tests as described above, the owner or operator may conduct a PM test at least once every year following the initial performance test, according to the procedures of Method 5 of 40 CFR part 60, appendix A–3, and the provisions of 40 CFR 63.8445(e) and (f)(1).

For a stand-alone FF, we are requiring that the owner or operator use a BLD system or monitor VE as described above to demonstrate parametric compliance.

For a DLA, we are requiring that the owner or operator demonstrate compliance with the acid gas (HF/HCl/Cl_2) HBEL by collecting and recording data documenting the DLA pressure drop and reducing the data to 3-hour block averages. The owner or operator must maintain the average pressure drop across the DLA for each 3-hour block period at or above the average pressure drop established during the HF/HCl/Cl_2 performance test. Alternatively, the owner or operator may continuously monitor the bypass stack damper position at least once every 15 minutes during normal kiln operation. Any period in which the bypass damper is opened allowing the kiln exhaust gas to bypass the DLA triggers corrective actions according to the OM&M plan. The owner or operator also must verify that the limestone hopper, storage bin (located at the top of the DLA) and DLA contain an adequate amount of limestone by performing a daily visual check of the limestone hopper and the storage bin. A daily visual check could include one of the following: (1) Conducting a physical check of the hopper; (2) creating a visual access point, such as a window, on the side of the hopper; (3) installing a camera in the hopper that provides continuous feed to a video monitor in the control room; or (4) confirming that load level indicators in the hopper are not indicating the need for additional limestone. If the hopper or storage bin does not contain adequate limestone, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. The owner or operator also must record the limestone feeder setting daily (on a per ton of fired product basis) to verify that the feeder setting is being maintained at or above the level established during the HF/HCl/Cl_2 performance test. The owner or operator also must use the same grade of limestone from the same source as was used during the HF/HCl/Cl_2 performance test and maintain records of the source and type of limestone. Finally, the owner or operator must monitor VE, as described in the previous paragraph.

For a wet scrubber, we are requiring that the owner or operator continuously maintain the 3-hour block averages for scrubber liquid pH and scrubber liquid flow rate at or above the minimum values established during the applicable performance test. Maintaining the 3-hour block average for scrubber liquid pH at or above the minimum value established during the HF/HCl/Cl_2 performance test demonstrates compliance with the acid gas (HF/HCl/Cl_2) HBEL. Maintaining the 3-hour block average for scrubber liquid flow rate at or above the lowest minimum value established during the PM/non-Hg HAP metals and HF/HCl/Cl_2 performance tests demonstrates compliance with all applicable emission limits by showing that the scrubber is in proper working order.

For an ACI system, we are requiring that the owner or operator demonstrate compliance with the Hg emission limit by continuously monitoring the activated carbon flow rate and maintaining it at or above the operating limit established during the Hg performance test.

For sources with no APCD, we are requiring that the owner or operator monitor VE as described above to demonstrate compliance with the PM/non-Hg HAP metals emission limit. In addition, if the last calculated total facility maximum potential HCl-equivalent was not at or below the HBEL for acid gases, then we are requiring that the owner or operator collect and record data documenting the process rate of the kiln and reduce the data to 3-hour block averages. The owner or operator must maintain the kiln process rate(s) at or below the kiln process rate operating limit(s) that enables the total facility maximum potential HCl-equivalent to remain at or below the HBEL.

7. What are the notification, recordkeeping and reporting requirements?

All new and existing sources are required to comply with certain requirements of the General Provisions (40 CFR part 63, subpart A), which are identified in Table 10 of subpart JJJJJ. The General Provisions include specific requirements for notifications, recordkeeping and reporting.

Each owner or operator is required to submit a notification of compliance status report, as required by 40 CFR 63.9(h) of the General Provisions. The final BSCP Manufacturing NESHAP requires the owner or operator to include in the notification of compliance status report certifications of compliance with rule requirements. Semiannual compliance reports, as required by 40 CFR 63.10(e)(3) of subpart A, are also required for each semiannual reporting period.

The final BSCP Manufacturing NESHAP requires records to demonstrate compliance with each emission limit and work practice standard. These recordkeeping requirements are specified directly in the General Provisions to 40 CFR part 63 and are identified in Table 8 of subpart JJJJJ.

Specifically, we are requiring that the owner or operator keep the following records:

- All reports and notifications submitted to comply with the final BSCP Manufacturing NESHAP.
- Records of performance tests.
- Records relating to APCD maintenance and documentation of approved routine control device maintenance.
- Continuous monitoring data as required in the final BSCP Manufacturing NESHAP.
- Records of BLD system alarms and corrective actions taken.
- Records of each instance in which the owner or operator did not meet each emission limit (*i.e.,* deviations from operating limits).
- Records of production rates.
- Records of approved alternative monitoring or testing procedures.
- Records of maintenance and inspections performed on the APCD.
- Current copies of the OM&M plan and records documenting conformance.
- Logs of the information required to document compliance with the periodic kiln work practice standard.
- Records of burner tune-ups used to comply with the dioxin/furan work practice standard for tunnel kilns.
- Logs of the information required to document compliance with the startup and shutdown work practice standards.
- Records of each malfunction and the corrective action taken.
- Records of parameters and procedures followed for work practice standards.

We are also requiring that the owner or operator submit the following reports and notifications:

- Notifications required by the General Provisions.
- Initial Notification no later than 120 calendar days after the affected source becomes subject to this subpart.
- Notification of Intent to conduct performance tests and/or other compliance demonstration at least 60 calendar days before the performance test and/or other compliance demonstration is scheduled.
- Notification of Compliance Status 60 calendar days following completion of a compliance demonstration that includes a performance test.
- Notification of Compliance Status 30 calendar days following completion of a compliance demonstration that does not include a performance test (*i.e.,* compliance demonstrations for the work practice standards).
- Compliance reports semi-annually, including a report of the most recent burner tune-up conducted to comply with the dioxin/furan work practice standard and a report of each malfunction resulting in an exceedance and the corrective action taken.
- Results of each performance test within 60 calendar days of completing the test, submitted to the EPA by direct computer-to-computer electronic transfer via EPA-provided software for data collected using supported test methods (see section III.E of this preamble for more information).

B. What are the final rule requirements for Clay Ceramics Manufacturing?

1. What source category is affected by the final rule?

This final rule for Clay Ceramics Manufacturing applies to clay ceramics manufacturing facilities that are located at or are part of a major source of HAP emissions. The Clay Ceramics Manufacturing source category includes those facilities that manufacture pressed floor tile, pressed wall tile and other pressed tile; or sanitaryware (*e.g.,* toilets and sinks).

2. What are the affected sources?

The affected sources, which are the portions of each source in the category for which we are setting standards, are (1) each ceramic tile roller kiln; (2) each floor tile press dryer; (3) each ceramic tile spray dryer; (4) each ceramic tile glaze line using glaze spraying; (5) each sanitaryware tunnel kiln; (6) each sanitaryware shuttle kiln; and (7) each sanitaryware glaze spray booth.

The following clay ceramics process units are not subject to the requirements of the final rule: (1) Tunnel, roller or shuttle kilns that are used exclusively for refiring; (2) tunnel, roller or shuttle kilns that are used exclusively for setting glazes on previously fired products; (3) glaze spray operations that are used exclusively with those kilns listed in items 1 and 2 above; (4) process units listed in items 1 through 3 above that are permitted to, but do not, process first-fire ware, until such time as they begin to process first-fire ware; (5) refire shuttle kilns that fire no more than four batches per year of first-fire ware; (6) glaze spray operations that on average use wet glazes containing less than 0.1 (weight) percent metal HAP (dry weight basis) per spray booth over an entire calendar year; (7) raw material processing and handling; (8) wall tile press dryers; and (9) sanitaryware ware dryers. Sources regulated under the BSCP Manufacturing NESHAP or the Refractories Manufacturing NESHAP are not subject to the requirements of the Clay Ceramics Manufacturing NESHAP.

3. Does the final rule apply to me?

This final Clay Ceramics Manufacturing NESHAP applies to owners or operators of an affected source at a major source meeting the requirements discussed previously in this preamble. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, considering controls, 10 tpy or more of any HAP or 25 tpy or more of any combination of HAP.

4. What emission limitations and work practice standards must I meet?

Emission limitations. We are issuing emission limits for PM as a surrogate for total non-Hg HAP metals (in units of lb/ton) for all new and existing ceramic tile roller kilns, sanitaryware tunnel kilns and ceramic tile and sanitaryware glazing operations. We are issuing emission limits for Hg (lb/ton) for all new and existing ceramic tile roller kilns, ceramic tile glaze lines and sanitaryware tunnel kilns. We are issuing emission limits for dioxin/furan (nanograms of 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents (TEQ) per kilogram (ng/kg)) for all new and existing ceramic tile roller kilns, sanitaryware tunnel kilns, floor tile press dryers and ceramic tile spray dryers. We are also issuing an emission limit for HCl-equivalent for all existing and new roller and tunnel kilns at each facility to reduce the acid gases HF and HCl. The emission limits are presented in Table 5 of this preamble.

TABLE 5—EMISSION LIMITS FOR CLAY CERAMICS SOURCES

Subcategory	Acid gases (lb/hr HCl-equivalent) [a]	Hg (lb/ton)	PM [b] (lb/ton)	Dioxins/furans (ng/kg) [c]
Limits for existing sources				
Floor tile roller kilns	140	1.3 E–04	0.13	2.8
Floor tile press dryers				0.024
Floor tile spray dryers				19
Wall tile roller kilns	140	2.1 E–04	0.37	0.22
Wall tile spray dryers				0.058
Tile glaze lines		1.6 E–04	1.9	
First-fire sanitaryware tunnel kilns	140	2.6 E–04	0.34	3.3
Sanitaryware manual glaze application			35	
Sanitaryware spray machine glaze application			13	
Sanitaryware robot glaze application			8.9	
Limits for new sources				
Floor tile roller kilns	140	3.9 E–05	0.037	1.3
Floor tile press dryers				0.024
Floor tile spray dryers				0.071
Wall tile roller kilns	140	2.1 E–04	0.37	0.22
Wall tile spray dryers				0.058
Tile glaze lines		1.6 E–04	0.61	
First-fire sanitaryware tunnel kilns	140	1.3 E–04	0.095	0.99
Sanitaryware manual glaze application			3.9	
Sanitaryware spray machine glaze application			3.2	
Sanitaryware robot glaze application			2.3	

[a] Limit applies to collection of all kilns at facility.
[b] PM is a surrogate for non-Hg HAP metals.
[c] ng/kg = nanograms per kilogram.

Work practice standards. We are issuing work practice standards in lieu of emission limits for acid gases (HF and HCl), Hg and non-Hg HAP metals for sanitaryware shuttle kilns. The work practice standards require using natural gas (or equivalent) as kiln fuel except during periods of natural gas curtailment or supply interruption; developing and using a designed firing time and temperature cycle for each shuttle kiln; labeling each shuttle kiln with the maximum load (in tons) of throughput (greenware) that can be fired in the kiln during a single firing cycle; documenting the total tonnage of greenware placed in the kiln for each load to ensure that it is not greater than the maximum load; developing and implementing maintenance procedures for each kiln that specify the frequency of inspection and maintenance; and developing and maintaining records for each shuttle kiln, including logs to document the proper operation and maintenance procedures of the shuttle kilns. As discussed in section III.C.1.b of this preamble, we are also issuing work practice standards for periods of startup and shutdown.

5. What are the testing and initial compliance requirements?

We are requiring that owners or operators of all affected sources subject to emission limits conduct an initial performance test using specified EPA test methods to demonstrate initial compliance with all applicable emission limits. A performance test must be conducted before renewing the facility's 40 CFR part 70 operating permit or at least every 5 years following the initial performance test, as well as when an operating limit parameter value is being revised.

Under the final Clay Ceramics Manufacturing NESHAP, the owner or operator is required to measure emissions of HF, HCl, Hg, PM (as a surrogate for non-Hg HAP metals) and dioxins/furans. The owner or operator must measure HF and HCl from ceramic tile roller kilns and sanitaryware first-fire tunnel kilns using one of the following methods:

- EPA Method 26A, ''Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method,'' 40 CFR part 60, appendix A–8;
- EPA Method 26, ''Determination of Hydrogen Chloride Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–8, when no acid particulate (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a wet scrubber) is present;
- EPA Method 320, ''Measurement of Vapor Phase Organic and Inorganic Emission by Extractive FTIR'' 40 CFR part 63, appendix A, provided the test follows the analyte spiking procedures of section 13 of Method 320, unless the owner or operator can demonstrate that the complete spiking procedure has been conducted at a similar source; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

Following the performance test, the owner or operator must calculate the HCl-equivalent for the kiln using Equation 4 in 40 CFR 63.8595(f)(4)(i). If there are multiple kilns at a facility, the owner or operator must sum the HCl-equivalent for each kiln using Equation 5 in 40 CFR 63.8595(f)(4)(ii) to get the total facility HCl-equivalent and compare this value to the HBEL.

We are requiring that the owner or operator measure PM emissions from ceramic tile roller kilns and sanitaryware first-fire tunnel kilns using one of the following methods:

- EPA Method 5, ''Determination of Particulate Emissions from Stationary Sources,'' 40 CFR part 60, appendix A–3;
- EPA Method 29, ''Determination of Metals Emissions From Stationary Sources,'' 40 CFR part 60, appendix A–8; or
- Any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

Method 29 or any other approved alternative method may also be used to measure Hg emissions from ceramic tile roller kilns, ceramic tile glaze lines and sanitaryware first-fire tunnel kilns.

We are requiring that the owner or operator measure PM emissions from ceramic tile and sanitaryware glaze spray booths using EPA Method 5 or any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

We are also requiring that the owner or operator measure dioxin/furan emissions from ceramic tile roller kilns and spray dryers, floor tile press dryers and sanitaryware first-fire tunnel kilns using EPA Method 23, ''Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans From Stationary Sources,'' 40 CFR part 60, appendix A–7 or any other alternative method that has been approved by the Administrator under 40 CFR 63.7(f) of the General Provisions.

The following paragraphs discuss the initial compliance requirements. Prior to the initial performance test, the owner or operator is required to install the CPMS equipment (as discussed in section III.B.6 of this preamble) to be used to demonstrate continuous compliance with the operating limits. During the initial test, the owner or operator must use the CPMS to establish site-specific operating parameter values that represent the operating limits.

For a DIFF or DLS/FF, we are requiring that the owner or operator ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the HF/HCl performance test and record the feeder setting (on a per ton of fired product basis) for the three test runs. If the lime feed rate varies, the owner or operator is required to determine the average feed rate from the three test runs. The average of the three test runs establishes the minimum site-specific feed rate operating limit. If there are different average feed rate values during the PM and HF/HCl tests, the highest of the average values becomes the site-specific operating limit. If a BLD system is present, the owner or operator is required to submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a stand-alone FF (*i.e.,* no dry sorbent injection or DLS) and a BLD system, we are requiring that the owner or operator submit analyses and supporting documentation demonstrating conformance with EPA guidance and specifications for BLD systems.

For a wet scrubber, we are requiring that the owner or operator continuously measure the scrubber liquid pH during the HF/HCl performance test and the scrubber liquid flow rate during both the PM and HF/HCl performance tests. For each wet scrubber parameter, the owner or operator is required to determine and record the average values for the three test runs and the 3-hour block average value. The average of the three test runs establishes the minimum site-specific liquid pH and liquid flow rate operating limits. If different average wet scrubber liquid flow rate values are measured during the PM and HF/HCl tests, the highest of the average values become the site-specific operating limits.

For an ACI system, we are requiring that the owner or operator measure the activated carbon flow rate during the Hg and dioxin/furan performance tests and determine the 3-hour block average flow rate. The average of the three test runs establishes the minimum site-specific activated carbon flow rate operating limit. If different average activated carbon flow rate values are measured during the Hg and dioxin/furan tests, the highest of the average values becomes the site-specific operating limit.

If the owner or operator intends to comply with the dioxin/furan emission limit without an ACI system, we are requiring that the owner or operator measure the stack temperature of the tunnel or roller kiln during the dioxin/furan performance test. The highest 4-hour average stack temperature of the three test runs establishes the maximum site-specific operating limit. The owner or operator must also measure the operating temperatures of the ceramic tile spray dryer and floor tile press dryer during the dioxin/furan performance test and determine the 3-hour block average temperature. The average of the three test runs establishes the site-specific operating limit.

For sources with no APCD installed, we are requiring that the owner or operator calculate the maximum potential HCl-equivalent using Equation 6 in 40 CFR 63.8595(g)(1)(i). The owner or operator must use the results from the performance test to determine the emissions at the maximum possible process rate. For example, if the design capacity of the tunnel or roller kiln is 10 tph and the production rate during the performance test was 9 tph, then the test results represent 90 percent of the maximum potential emissions. If there are multiple kilns at a facility, the owner or operator must sum the maximum potential HCl-equivalent for each kiln to get the total facility maximum potential HCl-equivalent and compare this value to the HBEL for acid gases. If the total facility maximum potential HCl-equivalent is greater than the HBEL, we are requiring that the owner or operator determine the maximum process rate for which the total facility maximum potential HCl-equivalent remains at or below the HBEL. If there are multiple kilns, the owner or operator must determine one or more combinations of maximum process rates that result in a total facility maximum potential HCl-equivalent that remains at or below the HBEL. The maximum process rate(s) becomes the operating limit(s) for process rate. We are also requiring that the owner or operator measure the stack temperature of the tunnel or roller kiln during the dioxin/furan performance test. The highest 4-hour average stack temperature of the three test runs establishes the maximum site-specific operating limit. The owner or operator must also measure the operating temperatures of the ceramic tile spray dryer and floor tile press dryer during the dioxin/furan performance test and determine the 3-hour block average temperature. The average of the three test runs establishes the site-specific operating limit.

6. What are the continuous compliance requirements?

The final Clay Ceramics Manufacturing NESHAP requires that the owner or operator demonstrate continuous compliance with each emission limitation that applies. The owner or operator must follow the requirements in the OM&M plan and document conformance with the OM&M plan. The owner or operator must also operate a CPMS to monitor the operating parameters established during the initial performance test as described in the following paragraphs. The CPMS must collect data at least every 15 minutes, including at least three of four equally spaced data values (or at least 75 percent if there are more than four data values per hour) per hour to have a valid hour of data. The owner or operator must operate the CPMS at all times when the process is operating. The owner or operator must also conduct proper maintenance of the CPMS, including inspections, calibrations and validation checks, and maintain an inventory of necessary parts for routine repairs of the CPMS. Using the recorded readings, the owner or operator must calculate and record the 3-hour block average values of each operating parameter. To calculate the average for each 3-hour averaging period, the owner or operator must have at least 75 percent of the recorded readings for that period.

For a DIFF or DLS/FF, we are requiring that the owner or operator demonstrate compliance with the acid gas (HF/HCl) HBEL by maintaining free-flowing lime in the feed hopper or silo and to the APCD at all times. If lime is found not to be free flowing via the output of a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. The owner or operator must also maintain the feeder setting (on a per ton of throughput basis) at or above the level established during the performance test and record the feeder setting once each shift.

For a DIFF or DLS/FF, the final rule provides the option to use either a BLD system or VE monitoring to demonstrate parametric compliance.

For the option of a BLD system, we are requiring that the owner or operator initiate corrective action within 1 hour of a BLD system alarm and complete corrective actions according to the OM&M plan. The owner or operator must also operate and maintain the FF such that the alarm is not engaged 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 FF demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm must be counted as a minimum of 1 hour and if corrective action is initiated more than 1 hour after an alarm, the alarm time must be counted as the actual amount of time taken to initiate corrective action.

For the option of monitoring VE, we are requiring that the owner or operator perform daily, 15-minute VE observations in accordance with the procedures of EPA Method 22, ''Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares,'' 40 CFR part 60, appendix A–7. During the VE observations, the source must be operating under normal conditions. If VE are observed, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan. If no VE are observed in 30 consecutive daily EPA Method 22 tests, the owner or operator may decrease the frequency of EPA Method 22 testing from daily to weekly for that source. If VE are observed during any weekly test, the owner or operator must promptly initiate and complete corrective actions according to the OM&M plan and the owner or operator must resume EPA Method 22 testing of that source on a daily basis until no VE are observed in 30 consecutive daily tests, at which time the owner or operator may again decrease the frequency of EPA Method 22 testing to a weekly basis.

For a stand-alone FF, we are requiring that the owner or operator use a BLD system or monitor VE as described above to demonstrate parametric compliance.

For a wet scrubber on a tunnel or roller kiln, we are requiring that the owner or operator continuously maintain the 3-hour block averages for scrubber liquid pH and scrubber liquid flow rate at or above the minimum values established during the applicable performance test. Maintaining the 3-hour block average for scrubber liquid pH at or above the minimum values established during the HF/HCl performance test demonstrates compliance with the acid gas (HF/HCl) HBEL. Maintaining the 3-hour block average for scrubber liquid flow rate at or above the lowest minimum value established during the PM and HF/HCl performance tests demonstrates compliance with all applicable emission limits by showing that the scrubber is in proper working order.

For an ACI system, we are requiring that the owner or operator demonstrate compliance with the Hg and dioxin/furan emission limits by continuously monitoring the activated carbon flow rate and maintaining it at or above the lowest minimum value established during the Hg and dioxin/furan performance tests.

If the owner or operator intends to comply with the dioxin/furan emission limit without an ACI system, we are requiring that the owner or operator demonstrate compliance by continuously monitoring the stack temperature of the tunnel or roller kiln and the operating temperature of the ceramic tile spray dryer and floor tile press dryer and maintaining it at or below the highest 4-hour average temperature during the dioxin/furan performance test for the tunnel or roller kiln, at or above the average temperature during the dioxin/furan performance test for the ceramic tile spray dryer, and at or below the average temperature during the dioxin/furan performance test for the floor tile press dryer.

For a wet scrubber on a spray glazing operation, we are requiring that the owner or operator continuously maintain the 3-hour block averages for scrubber pressure drop and scrubber liquid flow rate at or above the minimum values established during the applicable performance test. Maintaining the 3-hour block average for scrubber pressure drop at or above the minimum value established during the PM performance test demonstrates compliance with the PM emission limit. Maintaining the 3-hour block average for scrubber liquid flow rate at or above the minimum value established during the PM performance test demonstrates compliance with the PM emission limit by showing that the scrubber is in proper working order.

For a water curtain on a spray glazing operation, we are requiring that the owner or operator demonstrate compliance with the PM emission limit by conducting a daily inspection to verify the presence of water flow to the wet control system, conducting weekly visual inspections of the system ductwork and control equipment for leaks and conducting annual inspections of the interior of the control equipment (if applicable) to determine the structural integrity and condition of the control equipment.

For baffles on a spray glazing operation, we are requiring that the owner or operator demonstrate compliance with the PM emission limit by conducting an annual visual inspection of the baffles to confirm the baffles are in place.

For a source with no APCD, we are requiring that, to demonstrate compliance with the PM emission limit, the owner or operator monitor VE as described above. We are also requiring that, to demonstrate compliance with the dioxin/furan emission limit, the owner or operator continuously monitor the stack temperature of the tunnel or roller kiln and operating temperature of the ceramic tile spray dryer and floor tile press dryer and maintain it at or below the highest 4-hour average stack temperature during the dioxin/furan performance test for the tunnel or roller kiln, at or above the average operating temperature during the dioxin/furan performance test for the ceramic tile spray dryer, and at or below the average operating temperature during the dioxin/furan performance test for the floor tile press dryer. In addition, if the last calculated total facility maximum potential HCl-equivalent was not at or below the HBEL for acid gases, then we are requiring that the owner or operator collect and record data documenting the process rate of the tunnel or roller kiln and reduce the data to 3-hour block averages. The owner or operator must maintain the kiln process rate(s) at or below the kiln process rate operating limit(s) that enables the total facility maximum potential HCl-equivalent to remain at or below the HBEL.

7. What are the notification, recordkeeping and reporting requirements?

All new and existing sources are required to comply with certain requirements of the General Provisions (40 CFR part 63, subpart A), which are identified in Table 11 of subpart KKKKK. The General Provisions include specific requirements for notifications, recordkeeping and reporting.

Each owner or operator is required to submit a notification of compliance status report, as required by 40 CFR 63.9(h) of the General Provisions. This final Clay Ceramics Manufacturing NESHAP requires the owner or operator to include in the notification of compliance status report certifications of compliance with rule requirements. Semiannual compliance reports, as required by 40 CFR 63.10(e)(3) of subpart A, are also required for each semiannual reporting period.

This final Clay Ceramics Manufacturing NESHAP requires records to demonstrate compliance with each emission limit and work practice standard. These recordkeeping requirements are specified directly in the General Provisions to 40 CFR part 63 and are identified in Table 9 of subpart KKKKK.

Specifically, we are requiring that the owner or operator must keep the following records:

- All reports and notifications submitted to comply with this final Clay Ceramics Manufacturing NESHAP.
- Records of performance tests.
- Records relating to APCD maintenance and documentation of approved routine control device maintenance.
- Continuous monitoring data as required in this final Clay Ceramics Manufacturing NESHAP.
- Records of BLD system alarms and corrective actions taken.
- Each instance in which the owner or operator did not meet each emission limit (*i.e.,* deviations from operating limits).
- Records of production rates.
- Records of approved alternative monitoring or testing procedures.
- Records of maintenance and inspections performed on the APCD.
- Current copies of the OM&M plan and records documenting conformance.
- Logs of the information required to document compliance with the shuttle kiln work practice standard.
- Logs of the information required to document compliance with the startup and shutdown work practice standards.
- Records of each malfunction and the corrective action taken.
- Records of parameters and procedures followed for work practice standards.

We are also requiring that the owner or operator submit the following reports and notifications:

- Notifications required by the General Provisions.
- Initial Notification no later than 120 calendar days after the affected source becomes subject to this subpart.
- Notification of Intent to conduct performance tests and/or other compliance demonstration at least 60 calendar days before the performance test and/or other compliance demonstration is scheduled.
- Notification of Compliance Status 60 calendar days following completion of a compliance demonstration that includes a performance test.
- Notification of Compliance Status 30 calendar days following completion of a compliance demonstration that does not include a performance test (*i.e.,* compliance demonstration for the work practice standard).
- Compliance reports semi-annually, including a report of each malfunction resulting in an exceedance and the corrective action taken.
- Report of alternative fuel use within 10 working days after terminating use of the alternative fuel.
- Results of each performance test within 60 calendar days of completing the test, submitted to the EPA by direct computer-to-computer electronic transfer via EPA-provided software for data collected using supported test methods (see section III.E of this preamble for more information).

C. What are the requirements during periods of startup, shutdown, and malfunction?

In its 2008 decision in *Sierra Club* v. *EPA,* 551 F.3d 1019 (D.C. Cir. 2008), the United States Court of Appeals for the District of Columbia Circuit vacated portions of two provisions in the EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), holding that under section 302(k) of the CAA, emissions standards or limitations must be continuous in nature and that the SSM exemption violates the CAA's requirement that some section 112 standards apply continuously.

1. Periods of Startup or Shutdown

Consistent with *Sierra Club* v. *EPA,* the EPA has established standards in this rule that apply at all times. In establishing the standards in this rule, the EPA has taken into account startup and shutdown periods and, for the reasons explained in the preamble to the proposed rule and in sections IV.A.4 and IV.B.2 of this preamble, has established alternate standards for those periods.

a. BSCP Manufacturing

The EPA is issuing the work practice standards described in this paragraph for periods of startup and shutdown for BSCP tunnel kilns with APCD. As a first step, the owner or operator is required to determine the APCD minimum inlet temperature and the startup kiln car push rate of the product. For startup, the owner or operator is required to vent the exhaust from the kiln through the APCD at all times when the exhaust temperature is at or above the minimum inlet temperature. In addition, the owner or operator may not exceed the startup kiln car push rate until the kiln exhaust is vented to the APCD. For shutdown, the owner or operator is required to vent the exhaust from the kiln through the APCD until the kiln exhaust temperature falls below the APCD minimum inlet temperature. In addition, the kiln car push rate is to be steadily decreased to zero as the kiln cools. No additional loaded kiln cars may be introduced into the kiln once the kiln exhaust temperature falls below the APCD minimum inlet temperature. When the kiln exhaust is being vented through the APCD, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.A.6 of this preamble.

The EPA is issuing similar work practice standards for periods of startup and shutdown for BSCP tunnel kilns without an APCD as well. As a first step, the owner or operator is required to determine the product-specific kiln temperature profile and the startup kiln car push rate of the product. For startup, the startup kiln car push rate may not be exceeded until the kiln reaches the product-specific kiln temperature profile. For shutdown, the kiln car push rate is to be steadily decreased to zero as the kiln cools. No additional loaded kiln cars may be introduced into the kiln once the kiln falls below the product-specific kiln temperature profile. When the kiln production rate is greater than the startup kiln car push rate, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.A.6 of this preamble.

b. Clay Ceramics Manufacturing

The EPA is issuing the work practice standards described in this paragraph for periods of startup and shutdown for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers and sanitaryware tunnel kilns with APCD. As a first step, the owner or operator is required to determine the APCD minimum inlet temperature and the startup production rate of the product. For startup, the owner or operator is required to vent the exhaust from the kiln or dryer through the APCD at all times when the exhaust temperature is at or above the minimum inlet temperature. In addition, the owner or operator may not exceed the startup production rate of the product until the kiln or dryer exhaust is being vented through the APCD. For shutdown, the owner or operator is required to vent the exhaust from the kiln or dryer through the APCD until the exhaust temperature falls below the APCD minimum inlet temperature. In addition, the production rate is to be steadily decreased to zero as the kiln or dryer cools. No additional throughput may be introduced to the kiln, press dryer and spray dryer once the exhaust temperature falls below the APCD minimum inlet temperature. When the exhaust is being vented through the APCD, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.B.6 of this preamble.

The EPA is also issuing work practice standards for periods of startup and shutdown for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers and sanitaryware tunnel kilns without an APCD. As a first step, the owner or operator is required to determine the product-specific kiln or dryer temperature profile and the startup production rate of the product. For startup, the startup production rate may not be exceeded until the kiln or dryer exhaust temperature reaches the product-specific temperature profile. For shutdown, the production rate is to be steadily decreased to zero as the kiln or dryer cools. No additional throughput may be introduced to the kiln, press dryer and spray dryer once the kiln, press dryer or spray dryer falls below the product-specific temperature profile. When the kiln or dryer production rate is greater than the startup production rate, the owner or operator is required to comply with the applicable continuous compliance requirements described in section III.B.6 of this preamble.

2. Periods of Malfunction

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. Malfunctions, in contrast, are neither predictable nor routine. Instead they are by definition sudden, infrequent and not reasonably preventable failures of emissions control, process or monitoring equipment (40 CFR 63.2) (Definition of malfunction). The EPA interprets CAA section 112 as not requiring emissions that occur during periods of malfunction to be factored into development of CAA section 112 standards. Under section 112, emissions standards for new sources must be no less stringent than the level ''achieved'' by the best controlled similar source and for existing sources generally must be no less stringent than the average emission limitation ''achieved'' by the best performing 12 percent of sources in the category. There is nothing in CAA section 112 that directs the agency to consider malfunctions in determining the level ''achieved'' by the best performing sources when setting emission standards. As the DC Circuit has recognized, the phrase ''average emissions limitation achieved by the best performing 12 percent of'' sources ''says nothing about how the performance of the best units is to be calculated.'' *Nat'l Ass'n of Clean Water Agencies* v. *EPA,* 734 F.3d 1115, 1141 (D.C. Cir. 2013). While the EPA accounts for variability in setting emissions standards, nothing in CAA section 112 requires the agency to consider malfunctions as part of that analysis. A malfunction should not be treated in the same manner as the type of variation in performance that occurs during routine operations of a source. A malfunction is a failure of the source to perform in a ''normal or usual manner'' and no statutory language compels the EPA to consider such events in setting section CAA 112 standards.

Further, accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree, and duration of various malfunctions that might occur. As such, the performance of units that are malfunctioning is not ''reasonably'' foreseeable. *See, e.g., Sierra Club* v. *EPA,* 167 F.3d 658, 662 (D.C. Cir. 1999) (''The EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem. We generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct the perfect study.'") *See also, Weyerhaeuser* v. *Costle,* 590 F.2d 1011, 1058 (D.C. Cir. 1978) ("In the nature of things, no general limit, individual permit, or even any upset provision can anticipate all upset situations. After a certain point, the transgression of regulatory limits caused by 'uncontrollable acts of third parties,' such as strikes, sabotage, operator intoxication or insanity, and a variety of other eventualities, must be a matter for the administrative exercise of case-by-case enforcement discretion, not for specification in advance by regulation."). In addition, emissions during a malfunction event can be significantly higher than emissions at any other time of source operation. For example, if an APCD with 99-percent removal goes off-line as a result of a malfunction (as might happen if, for example, the bags in a baghouse catch fire) and the emission unit is a steady state type unit that would take days to shut down, the source would go from 99-percent control to zero control until the APCD was repaired. The source's emissions during the malfunction would be 100 times higher than during normal operations. As a result, the emissions over a 4-day malfunction period would exceed the annual emissions of the source during normal operations. As this example illustrates, accounting for malfunctions could lead to standards that are not reflective of (and significantly less stringent than) levels that are achieved by a well-performing non-malfunctioning source. It is reasonable to interpret CAA section 112 to avoid such a result. The EPA's approach to malfunctions is consistent with CAA section 112 and is a reasonable interpretation of the statute.

In the event that a source fails to comply with the applicable CAA section 112(d) standards as a result of a malfunction event, the EPA would determine an appropriate response based on, among other things, the good faith efforts of the source to minimize emissions during malfunction periods, including preventative and corrective actions, as well as root cause analyses to ascertain and rectify excess emissions. The EPA would also consider whether the source's failure to comply with the CAA section 112(d) standard was, in fact, sudden, infrequent, not reasonably preventable and was not instead caused in part by poor maintenance or careless operation. 40 CFR 63.2 (definition of malfunction).

If the EPA determines in a particular case that an enforcement action against a source for violation of an emission standard is warranted, the source can raise any and all defenses in that enforcement action and the federal district court will determine what, if any, relief is appropriate. The same is true for citizen enforcement actions. Similarly, the presiding officer in an administrative proceeding can consider any defense raised and determine whether administrative penalties are appropriate.

In summary, the EPA interpretation of the CAA and, in particular, section 112 is reasonable and encourages practices that will avoid malfunctions. Administrative and judicial procedures for addressing exceedances of the standards fully recognize that violations may occur despite good faith efforts to comply and can accommodate those situations.

D. What are the effective and compliance dates of the standards?

The NESHAP for BSCP Manufacturing and Clay Ceramics Manufacturing are effective on December 28, 2015.

If the initial startup of the affected source is after December 18, 2014, but before December 28, 2015, then the compliance date is no later than December 28, 2015. If the initial startup of the affected source is after December 28, 2015, then the compliance date is immediately upon initial startup of the affected source. The compliance date for existing affected sources is no later than December 26, 2018.

The initial performance test must be conducted within 180 calendar days after the compliance date specified in 40 CFR 63.8395 for affected sources of BSCP manufacturing and 40 CFR 63.8545 for affected sources of clay ceramics manufacturing, according to the provisions in 40 CFR 60.7(a)(2). The first of the 5-year repeat tests must be conducted no later than 5 years following the initial performance test, and thereafter within 5 years from the date of the previous performance test. The date to submit performance test data through the Electronic Reporting Tool (ERT) is within 60 calendar days after the date of completing each performance test.

E. What are the requirements for submission of performance test data to the EPA?

The EPA is requiring owners or operators of BSCP and clay ceramics facilities to submit electronic copies of certain required performance test reports through the EPA's Central Data Exchange (CDX) using the Compliance and Emissions Data Reporting Interface (CEDRI). As stated in the proposed preamble, the EPA believes that the electronic submittal of the reports addressed in this rulemaking will increase the usefulness of the data contained in those reports, is in keeping with current trends in data availability, will further assist in the protection of public health and the environment and will ultimately result in less burden on the regulated community. Electronic reporting can also eliminate paper-based, manual processes, thereby saving time and resources, simplifying data entry, eliminating redundancies, minimizing data reporting errors and providing data quickly and accurately to the affected facilities, air agencies, the EPA and the public.

As mentioned in the preamble of the proposal, the EPA Web site that stores the submitted electronic data, WebFIRE, will be easily accessible to everyone and will provide a user-friendly interface that any stakeholder could access. By making the records, data and reports addressed in this rulemaking readily available, the EPA, the regulated community and the public will benefit when the EPA conducts its CAA-required technology and risk-based reviews. As a result of having reports readily accessible, our ability to carry out comprehensive reviews will be increased and achieved within a shorter period of time.

We anticipate fewer or less substantial information collection requests (ICRs) in conjunction with prospective CAA-required technology and risk-based reviews may be needed. We expect this to result in a decrease in time spent by industry to respond to data collection requests. We also expect the ICRs to contain less extensive stack testing provisions, as we will already have stack test data electronically. Reduced testing requirements would be a cost savings to industry. The EPA should also be able to conduct these required reviews more quickly. While the regulated community may benefit from a reduced burden of ICRs, the general public benefits from the agency's ability to provide these required reviews more quickly, resulting in increased public health and environmental protection.

Air agencies could benefit from more streamlined and automated review of the electronically submitted data. Having reports and associated data in electronic format will facilitate review through the use of software "search" options, as well as the downloading and analyzing of data in spreadsheet format. The ability to access and review air emission report information electronically will assist air agencies to more quickly and accurately determine compliance with the applicable regulations, potentially allowing a faster response to violations which could minimize harmful air emissions. This benefits both air agencies and the general public.

For a more thorough discussion of electronic reporting required by this rule, see the discussion in the preamble of the proposal. In summary, in addition to supporting regulation development, control strategy development and other air pollution control activities, having an electronic database populated with performance test data will save industry, air agencies, and the EPA significant time, money, and effort while improving the quality of emission inventories, air quality regulations, and enhancing the public's access to this important information.

F. What materials are being incorporated by reference under 1 CFR part 51?

In this final rule, the EPA is including regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, the EPA is incorporating by reference the following documents described in the amendments to 40 CFR 63.14:

- ANSI/ASME PTC 19.10–1981, Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus], (Issued August 31, 1981), IBR approved for Table 4 to subpart JJJJJ and Table 4 to subpart KKKKK. To correct an earlier, inadvertent error that exists in the CFR, we are also adding back in the IBR approval for Table 4 to subpart JJJJJJ.
- ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, (Approved October 1, 2010), IBR approved for Tables 4 and 5 to subpart JJJJJ and Tables 4 and 6 to subpart KKKKK.
- ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), (Approved April 1, 2008), IBR approved for Tables 4 and 5 to subpart JJJJJ and Tables 4 and 6 to subpart KKKKK.
- ASTM D6735–01 (Reapproved 2009), Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method, IBR approved for Tables 4 and 5 to subpart JJJJJ and Tables 4 and 6 to subpart KKKKK.
- EPA–454/R–98–015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, IBR approved for 40 CFR 63.8450(e)(1), (9), and (10) and 40 CFR 63.8600(e)(1), (9), and (10).

The EPA has made, and will continue to make, these documents generally available electronically through *www.regulations.gov* and/or in hard copy at the appropriate EPA office (see the **ADDRESSES** section of this preamble for more information).

IV. Summary of Significant Changes Following Proposal and Rationale

The following sections summarize the significant changes made to the proposed BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP, including the rationale for those changes, to respond to public comments and to correct technical inconsistencies or editorial errors in the proposal. A detailed discussion of these and other public comments, as well as other changes not discussed in this section, can be found in the response-to-comments documents, available in Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing. All changes to the final rules, including the significant changes discussed in this section and all other changes not discussed in this section, can also be found in the redline comparison of the proposed and final regulatory text, available in Docket ID No. EPA–HQ–OAR–2013–0291 for BSCP Manufacturing and Docket ID No. EPA–HQ–OAR–2013–0290 for Clay Ceramics Manufacturing.

A. What are the significant changes since proposal for the BSCP Manufacturing NESHAP?

1. Changes to the Data Set

Following proposal, the EPA learned that two of the facilities in the inventory at proposal were closed and the kilns were demolished. In addition, the EPA learned that two of the synthetic area sources in the inventory at proposal were actually true area sources. These facilities were removed from the master inventory, and the test data from kilns at two of these facilities were also removed from the data set. The EPA learned that a new tunnel kiln had been constructed at a new facility, and that new facility was added to the inventory. The EPA also received additional HF, HCl, and PM test data for three kilns, which was added into the data set.

In addition, the EPA examined the PM test data more closely and found that a number of the EPA Method 5 test runs had probe or filter temperatures outside of the range of acceptable values. EPA Method 5 specifies that the temperature should be maintained at 248 ± 25 degrees Fahrenheit (°F) (*i.e.,* between 223 and 273 °F). Test runs with temperatures outside that range were removed from the data set. (See the memorandum ''Test Data Used in BSCP Manufacturing Final Rule'' in Docket ID No. EPA–HQ–OAR–2013–0291 for more information on this analysis.)

Several public commenters stated that the concentration limits for PM and Hg should not be corrected to 7-percent O_2 because BSCP kilns operate with a higher O_2 content; one commenter suggested that the EPA use data corrected to 17- percent O_2 instead. The EPA evaluated this comment and agrees that 17-percent O_2 is more representative of BSCP kiln operations. Specifically, the EPA evaluated the O_2 content of the run-by-run datasets of PM and Hg for BSCP tunnel kilns and found that for the PM data set, the oxygen content ranged from 9.5 to 20.5 percent, with an average of 16.8 and a mode of 17 when evaluating the run-by-run O_2 values rounded to whole numbers. For the Hg data set, the oxygen content ranged from 13.1 to 19.5 percent, with an average of 17.2 and a mode of 17 when evaluating the run-by-run O_2 values rounded to whole numbers. The EPA agrees that correcting concentration data to 17-percent O_2 rather than 7-percent, as proposed, provides more representative values of kilns' operating conditions and would not artificially inflate the values. Therefore, the EPA recalculated the oxygen-corrected PM and Hg test runs to be corrected to 17-percent instead of 7-percent O_2.

2. Changes to the MACT Floor Pool and Calculations

At proposal, the MACT floors for PM as a surrogate for total non-Hg HAP metals were based on kilns with FF-based APCD, as the EPA considered those to be the best performing sources in the industry. However, as noted in section IV.A.1 of this preamble, the EPA after proposal examined the PM test data in an effort to insure that the data were valid. We found a number of the EPA Method 5 test runs had probe or filter temperatures outside of the range of acceptable values. These out-of-range temperatures invalidated the test runs, and in some cases, invalidated entire PM tests, reducing the set of valid, available test data. Some of the PM test data removed from the data set were for kilns controlled with a DIFF. As a result, the EPA no longer has data on all the kilns with a FF-based APCD in the industry, which undercuts one of the bases for EPA's proposal to use the best performing FF-based kilns to set a MACT floor based on 12 percent of the kilns in the entire category.

In addition, at proposal the EPA requested more data to further substantiate that kilns with FF-based APCD actually represented the best performing sources in terms of PM emissions. For example, there were some data in the record at the time of the proposal suggesting that in some cases, uncontrolled kilns actually had emissions below the PM emissions of some kilns with FF-based APCD, which is contrary to what we would expect. The EPA requested information to explain these anomalies. However, information was not received during the comment period sufficient to explain why some kilns without FF-based APCD emitted at levels as low as or lower than some kilns with FF-based APCD.

For this reason, and because some of the emissions data on DIFF-controlled kilns had to be removed from the data pool as discussed above, the record does not support the conclusion that we have PM emissions data on all the best performing kilns in the industry. Given that, we are instead basing the PM MACT floor on 12 percent of the kilns for which we have emissions data. Therefore, the final MACT floor pools for PM as a surrogate for total non-Hg HAP metals are not based on the top 12 percent of the kilns in the industry (*i.e.,* the 27 best performing sources). Instead, the final MACT floor limits are based on the top 12 percent of the sources for which we have emissions data available in each of the kiln size subcategories, consistent with the approach described for the proposed alternate non-Hg HAP metals standards in section IV.Q.1 of the preamble to the proposed rule (79 FR 75649).

In addition, in response to public comments received on the proposed rule, and consistent with the proposed alternate approach in section IV.Q.1 of the preamble to the proposed rule, the EPA has decided to exercise its discretion to subcategorize for emissions of PM based on kiln size in the final rule. Section 112(d)(1) of the CAA allows the EPA to promulgate emission standards for either categories or subcategories of sources. Section IV.C of the preamble to the proposed rule (79 FR 75633) described the EPA's assessment of tunnel kiln size subcategories. When the EPA recalculated the MACT floor pools for PM as a surrogate for total non-Hg HAP metals as described in the previous paragraph, the EPA evaluated subcategorizing by kiln size and determined it is appropriate to exercise its discretion to subcategorize in this case. This subcategorization provides additional flexibility for small tunnel kilns, many of which are operated by small businesses. Therefore, the final MACT floor limits for PM as a surrogate for total non-Hg HAP metals are based on the best performing 12 percent of the sources in each of the kiln size subcategories with valid test data (*i.e.,* 12 percent of the data available).

The EPA also proposed two alternative equivalent limits, calculated based on the same best performing sources ranked by lb/ton, then using those units' concentration or lb/hr data to calculate the floor. During the public comment period, the EPA received comments that each alternative limit should be calculated according to a separate ranking based on the specific unit of measure. Upon further analysis of the data sets for each unit of measure, the EPA has found that there are some differences in the top ranked sources between each unit of measure data set and thus finds the alternative limits expressed on their own unit of measure data set ranking to be the most indicative of that data set's MACT floor. Therefore, the EPA re-ranked the data for each unit of measurement in each kiln size subcategory separately. The final alternative equivalent limits are based on the top 12 percent of the data available in each subcategory according to these revised rankings. In other words, the concentration floor is based on the ranking of the concentration data, and the lb/hr floor is based on the ranking of the lb/hr data. Each floor is based on the best performing units for that unit of measurement. In addition, the final lb/hr non-Hg HAP metals alternative limit is based on a ranking of the non-Hg HAP metals data rather than the use of conversion factors applied to the PM lb/ton floor limit, as was done at proposal.

3. Variability Calculation Based on Hg Raw Material Data

At proposal, the EPA developed Hg MACT floors based on the best performing 12 percent of sources (*i.e.,* the lowest emitting sources of Hg emissions from test data). However, commenters identified that the Hg comes from the raw materials used and the Hg content can vary by location, even within the same quarry. The EPA did not account for this inherent variability at proposal. The Brick Industry Association (BIA) coordinated with several BSCP facilities to test the Hg content of the raw materials used and provided the data to the EPA. The EPA mapped the facilities and quarry locations provided by BIA to identify two distinct quarry locations, an Oklahoma deposit and an Ohio deposit, for use in the development of a Hg raw material variability factor. The data from these two deposit locations were incorporated into the upper prediction limit (UPL) equation. Please see ''Mercury Content of Oklahoma and Ohio Shale Deposits Supplying the Brick Industry'' and ''Final Maximum Achievable Control Technology (MACT) Floor Analysis for Brick and Structural Clay Products'' in Docket ID No. EPA–HQ–OAR–2013–0291 for more information about the data and variability factor.

4. Startup and Shutdown Procedures

The EPA proposed work practice standards during periods of startup and shutdown for tunnel kilns with and without APCD. These standards set a minimum temperature above which the exhaust must be vented through an APCD (if applicable) and below which no product could be introduced to the kiln (400 °F for startup and 300 °F for shutdown). Industry commenters indicated that the exhaust of some kilns never reaches the specific temperatures proposed by the EPA, and that some product must be introduced to the kiln during startup to heat the kiln enough for full production. The EPA evaluated these comments and agrees that the proposed standards do not actually represent the work practices representative of the best performing kilns. The intent of the proposed standards was to represent work practices of the best performing kilns to minimize emissions by limiting the amount of brick being fired before the kiln reaches full production and limiting the amount of time the exhaust is not being routed to the APCD, if applicable. As noted at proposal, the standards were based on information received through the 2010 EPA survey. The EPA received additional information following proposal on the procedures used during periods of startup and shutdown for BSCP tunnel kilns that are more representative of the best performing kilns.

Therefore, the EPA is finalizing work practice standards for periods of startup and shutdown that are based upon the same principles as the proposed standards but are representative of how kilns actually perform during startup. Instead of defining the minimum inlet APCD temperature as 400 °F, the EPA is requiring the owner or operator to determine the minimum inlet temperature for each APCD. If a kiln does not have an APCD, the owner or operator is required to determine the product-specific kiln temperature profile that must be achieved before the kiln can reach full production. In addition, instead of specifying that no product can be introduced to the kiln during startup, the EPA is requiring the owner or operator to determine the production rate needed to start up the kiln. The final startup standards specify that this startup production rate cannot be exceeded until the kiln exhaust reaches the APCD minimum inlet temperature or the product-specific kiln temperature profile. The final shutdown standards specify that no additional product can be introduced once the kiln exhaust falls below the APCD minimum inlet temperature or the product-specific kiln temperature profile.

B. What are the significant changes since proposal for the Clay Ceramics Manufacturing NESHAP?

1. Changes to the Data Set

After proposal, a public commenter identified a transcription error in the production rate for the PM and Hg stack tests for one floor tile roller kiln. The production rate was corrected, and the PM and Hg lb/ton values were recalculated. In addition, the EPA examined the PM test data more closely and found that a number of the EPA Method 5 test runs had probe or filter temperatures outside of the range of acceptable values. EPA Method 5 specifies that the temperature should be maintained at 248 ± 25 °F (*i.e.,* between 223 and 273 °F). Test runs with temperatures outside that range were removed from the data set. (See the memorandum ''Test Data Used in Clay Ceramics Manufacturing Final Rule'' in Docket ID No. EPA–HQ–OAR–2013–0290 for more information on this analysis.)

During the public comment period, the sanitaryware manufacturing company that provided all of the data used for the sanitaryware tunnel kiln MACT floors clarified that the production rates they provided in their CAA section 114 survey response are in terms of ''greenware fired'' into the kiln rather than ''fired product'' coming out of the kiln (as requested in the section 114 survey). Therefore, to be consistent with the data, the final emission limits for PM as a surrogate for non-Hg HAP metals and Hg from sanitaryware tunnel kilns are in terms of lb/ton of greenware fired rather than lb/ton of product fired (as proposed).

Finally, in response to comments requesting a change in the format of the emission limits for dioxins/furans, the EPA recalculated the emissions for each test run in units of ng/kg of throughput (specifically, ''fired product'' for ceramic tile roller kilns, ''greenware fired'' for sanitaryware tunnel kilns, and ''throughput processed'' for ceramic tile press dryers and spray dryers). The MACT floors were then recalculated using those data, and the final emission limits for dioxins/furans for clay ceramics sources are in units of ng/kg rather than concentration as proposed.

2. Startup and Shutdown Procedures

The EPA proposed work practice standards during periods of startup and shutdown for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers and sanitaryware tunnel kilns with and without APCD. These standards set a minimum temperature above which the exhaust must be vented through an APCD (if applicable) and below which no product could be introduced to the kiln or dryer (400 °F for startup and 300 °F for shutdown). One industry commenter indicated that the exhaust of some dryers never reach the specific temperatures proposed by the EPA. The EPA evaluated the comment and agrees that the proposed standards are not actually representative of the best performing dryers.

Therefore, the EPA is finalizing work practice standards for periods of startup and shutdown that are based upon the same principles as the proposed standards but more accurately reflect the best performing sources. Instead of defining the minimum inlet APCD temperature as 400 °F, the EPA is requiring the owner or operator to determine the minimum inlet temperature for each APCD. If a kiln or dryer does not have an APCD, the owner or operator is required to determine the product-specific kiln or dryer temperature profile that must be achieved before the kiln or dryer can reach full production. In addition, instead of specifying that no product can be introduced to the kiln or dryer, the EPA is requiring the owner or operator to determine the production rate needed to start up the kiln or dryer. The final startup standards specify that this startup production rate cannot be exceeded until the kiln or dryer exhaust reaches the APCD minimum inlet temperature or the product-specific kiln or dryer temperature profile. The final shutdown standards specify that no additional throughput can be introduced once the kiln or dryer exhaust falls below the APCD minimum inlet temperature or the product-specific kiln or dryer temperature profile.

C. What are the changes to monitoring requirements since proposal?

A number of changes have been made to the monitoring requirements for the BSCP and Clay Ceramics Manufacturing NESHAP in response to comments on the proposed rule. These changes are summarized in Table 6 of this preamble. Further details about the basis for these changes are provided in the response-to-comments documents for the BSCP Manufacturing NESHAP and the Clay Ceramics Manufacturing NESHAP, available in Docket Nos. EPA–HQ–OAR–2013–0290 (Clay Ceramics Manufacturing) and EPA–HQ–OAR–2013–0291 (BSCP Manufacturing).

TABLE 6—SUMMARY OF CHANGES TO MONITORING REQUIREMENTS SINCE PROPOSAL

Sources	Monitoring requirements	
	Proposal	Promulgation
BSCP or clay ceramics kilns equipped with a wet scrubber.	To demonstrate compliance with acid gas standard: • Monitor scrubber liquid pH • Monitor scrubber chemical feed rate (if applicable). • Maintain at or above average pH/feed rate during acid gas test.	To demonstrate compliance with acid gas standard: • Monitor scrubber liquid pH • Maintain at or above highest average ph during acid gas test

TABLE 6—SUMMARY OF CHANGES TO MONITORING REQUIREMENTS SINCE PROPOSAL—Continued

Sources	Monitoring requirements	
	Proposal	Promulgation
	To demonstrate compliance with non-Hg HAP metals standard: • Monitor scrubber pressure drop. • Maintain at or above average pressure drop during PM/non-Hg HAP metals test.. To demonstrate compliance with non-Hg HAP metals and acid gas standards: • Monitor scrubber liquid flow rate. • Maintain at or above average flow rate during PM/non-Hg HAP metals and acid gas tests..	To demonstrate compliance with non-Hg HAP metals and acid gas standards: • Monitor scrubber liquid flow rate. • Maintain at or above highest average flow rate during PM/non-Hg HAP metals and acid gas tests.
BSCP kilns with no add-on control	To demonstrate compliance with non-Hg HAP metals standard: • Perform daily, 15-minute VE observations. • If VE are observed, initiate and complete corrective actions..	To demonstrate compliance with non-Hg HAP metals standard: • Perform daily, 15-minute VE observations • If VE are observed, promptly conduct an opacity test • If opacity greater than 10% are observed, initiate and complete corrective actions
Clay ceramics kilns with no add-on control, or intending to comply with dioxin/furan standard without an ACI system.	To demonstrate compliance with dioxins/furans standard: • Monitor kiln operating temperature. • Maintain at or above average operating temperature during dioxin/furan test..	To demonstrate compliance with dioxins/furans standard: • Monitor kiln stack temperature • Maintain at or below highest stack temperature during dioxin/furan test

V. Summary of Significant Comments and Responses

The EPA received a total of 52 public comment letters on the proposed BSCP Manufacturing NESHAP. (See Docket ID No. EPA–HQ–OAR–2013–0291 for the complete public comments.) The EPA received a total of seven public comment letters on the proposed Clay Ceramics Manufacturing NESHAP. (See Docket ID No. EPA–HQ–OAR–2013–0290 for the complete public comments.) The following sections summarize the major public comments received on the proposal and present the EPA's responses to those comments.

A. Health-Based Standards

Comment: Two commenters disagreed with setting standards under CAA section 112(d)(4) for emissions of HCl, HF, and Cl_2 from new and existing BSCP and clay ceramics sources. One commenter questioned whether the EPA has the authority to set CAA section 112(d)(4) standards for these acid gases. The commenter asserted that it would be arbitrary and capricious for the EPA to set risk-based standards for these pollutants when the EPA previously decided not to set CAA section 112(d)(4) standards for HCl, HF, and Cl_2 in air toxics rulemakings for industrial boilers and power plants. For power plants, the EPA stated that the agency ''does not have sufficient information to establish CAA section 112(d)(4) health-based emission standards and we did not receive such data during the comment period.''[1] The commenter noted that the EPA reached a similar conclusion with respect to industrial boilers, declining to set risk-based standards because of a lack of information on emissions.[2] The commenter asserted that the health and scientific data regarding emissions of acid gases from BSCP and clay ceramics plants similarly fail to provide justification for setting HBEL for these pollutants. The commenter asserted the EPA must instead set MACT standards.

Similarly, the second commenter expressed concern over using CAA section 112(d)(4) and health-based risk assessment for setting the HCl, HF and Cl_2 standards for BSCP Manufacturing and Clay Ceramics Manufacturing. The commenter noted that this would be the first time the EPA used the health-based risk assessment approach under CAA section 112(d)(4) to set emission standards for HF and Cl_2; although the EPA has used this approach in the past to establish health-based standards for other source categories, it was restricted to ''HCl emissions for discrete units within the facility'' (79 FR 75639).

The commenter supported focusing on pollutants that pose the greatest risks but expressed concern that the EPA has not adequately established that the approaches used are appropriate. The commenter asserted that the EPA's approach represented a far-reaching and significant change in the manner in which MACT standards are established under CAA section 112(d) and that it was inappropriate for the EPA to propose such changes in a rulemaking for individual source categories instead of discussing the approach with all affected parties. The commenter noted that Congress established section 112 of the CAA to rely on a technology-based approach to avoid the gridlock of the unsuccessful risk-based methods used before the adoption of the 1990 CAA Amendments. Accordingly, while the CAA includes language under section 112(d)(4) allowing the use of risk in the establishment of MACT, it should be used only under limited and very specific circumstances, and the commenter stated that the EPA's proposal did not adequately make the case for the use of CAA section 112(d)(4).

Conversely, two other commenters stated that the EPA has clear legal authority to set HBEL and ample justification to do so for the BSCP source category. The commenters stated that under the terms of this provision, the EPA may set an emission standard at a level higher than would be required by CAA section 112(d)(4), provided that: (1) The pollutant(s) being regulated is a threshold pollutant and (2) the standard provides an ample margin of safety. The

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[1] ''Responses to Public Comments on National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units.'' Docket Item No. EPA–HQ–OAR–2009–0234–20126.

[2] National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 75 FR 32006, 32031 (June 4, 2010).

commenters stated that both of these criteria are met in this case.

The commenters asserted that the proposed standard is consistent with Congress's expectations regarding the implementation of CAA section 112(d)(4). According to the Senate report accompanying the legislation, ''For some pollutants a MACT emission limitation may be far more stringent than is necessary to protect public health and the environment'' and in such situations, ''[t]o avoid expenditures by regulated entities which secure no public health or environmental benefit, the Administrator is given discretionary authority to consider the evidence for a health threshold higher than MACT at the time the standard is under review.'' [3] The commenters stated that for this rulemaking, MACT would result in emission standards that are far more stringent than are needed to protect health and the environment and asserted that Congress enacted CAA section 112(d)(4) to allow emission standards to be tailored to protect public health without imposing unreasonable and unnecessary standards on affected sources.

Response: The EPA disagrees with the commenters that we do not have the authority to establish CAA section 112(d)(4) standards in this rulemaking. The EPA also disagrees that the decision to establish CAA section 112(d)(4) standards is inconsistent with our decisions on other rulemakings. The commenters' more detailed arguments and the EPA's responses are provided in the remainder of this section.

1. Health Thresholds

Comment: One commenter stated that a pollutant is not a threshold pollutant under CAA section 112(d)(4) unless the EPA establishes that it cannot cause cancer at any level of exposure. The commenter asserted that HCl, HF, and Cl_2 do not have already-established safe health thresholds and the EPA's proposed standards would not provide ''an ample margin of safety.''

Conversely, two commenters agreed with the EPA that the available health data indicate that HCl, HF, and Cl_2 are all threshold pollutants. The commenters stated that the data show that each of these pollutants has a discernible exposure threshold below which adverse human health effects are not expected to occur; in addition, none of the available data suggest that these pollutants reasonably should be expected to act as a carcinogen or mutagen, or exhibit a mode of action that would result in non-threshold effects.

Response: The EPA disagrees with the first commenter regarding HCl, HF and Cl_2 not having thresholds accepted by the scientific community, and we acknowledge the support of the other two commenters. The EPA's conclusion that HCl, HF and Cl_2 are threshold pollutants is based on the best available toxicity database considered in hazard identification and dose response assessments. There is agreement on using a similar threshold approach for these chemicals across agencies, *i.e.,* the EPA's Integrated Risk Information System (IRIS) Program, Agency for Toxic Substances and Disease Registry (ATSDR) and the California Environmental Protection Agency (CalEPA). The toxicity assessments, which include noncancer and/or cancer toxicity assessments, provided by these authoritative bodies are widely vetted through the scientific community and undergo rigorous peer review processes before they are published. In addition, the Science Advisory Board (SAB) has endorsed the use of the reference values derived by these sources to support the EPA's risk assessments in the residual risk and technology review (RTR) program.

Specifically, none of the compounds discussed here has been classified as a carcinogen or as ''suggestive of the potential to be carcinogenic,'' individually or in combination, by existing authoritative bodies, including EPA, CalEPA, International Agency for Research on Cancer (IARC), Organisation for Economic Co-operation and Development (OECD), and the European Community. In light of the absence of evidence of carcinogenic risk for any of these pollutants, and the evidence of an existing threshold below which HCl, HF and Cl_2 are not expected to cause adverse effects, the EPA considers it appropriate to set health threshold standards under CAA section 112(d)(4) for these pollutants. The existing health effects evidence on HCl, HF and Cl_2 that provide support for this determination is described below.

Potential health effects of HCl:

- There are limited studies on the carcinogenic potential of HCl in humans. The occupational data are limited to a couple of studies (Steenland *et al.,* 1988, Beaumont *et al.,* 1986)[4,5] where the subjects were exposed to a mixture of acid gases (mainly sulfuric acid)and other chemicals (including metals) that may have contained HCl. These studies failed to separate potential exposure of HCl from exposure to other substances shown to have carcinogenic activity and are therefore not appropriate to evaluate the carcinogenic potential of HCl. Another occupational study failed to show evidence of association between exposure to HCl and lung cancer among chemical manufacturing plant employees showing that there is no evidence that HCl is a human carcinogen.[6]
- Consistent with the human data, chronic inhalation studies in animals have reported no carcinogenic responses after chronic exposure to HCl (Albert et al., 1982; Sellakumar *et al.,* 1985).[7,8]
- Hydrogen chloride has not been demonstrated to be genotoxic. The genotoxicity database consists of two studies showing false positive results potentially associated with low pH in the test system (Morita et al., 1992; Cifone *et al.,* 1987).[9,10]
- Chronic exposure to HCl at concentrations below the current IRIS reference concentration (RfC) are not expected to cause adverse effects.

Potential health effects of HF:

- There are a limited number of studies investigating the carcinogenic potential of HF. These studies are unreliable on the issue of possible carcinogenicity of HF and/or fluorides, in general, because of many confounding factors (*e.g.,* exposure to multiple unknown chemicals and smoking habits not accounted for) and because no breakdown was done by type of fluoride exposure.[11]

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[3] S. Rep. No. 101–228, 101st Cong. 1st sess. at 171.

[4] Steenland, K., T. Schnorr, J. Beaumont, W. Halperin, T. Bloom. 1988. Incidence of laryngeal cancer and exposure to acid mists. Br. J. of Ind. Med. 45: 766–776.

[5] Beaumont, J.J., J. Leveton, K. Knox, T. Bloom, T. McQuiston, M Young, R. Goldsmith, N.K. Steenland, D. Brown, W.E. Halperin. 1987. Lung cancer mortality in workers exposed to sulfuric acid mist and other acid mists. JNCI. 79: 911–921.

[6] Bond G.G., Flores G.H., Stafford B.A., Olsen G.W. Lung cancer and hydrogen chloride exposure: results from a nested case-control study of chemical workers. 1991. J Occup Med; 33(9), 958–61.

[7] Albert, R.E., A.R. Sellakumar, S. Laskin, M. Kuschner, N. Nelson and C.A. Snyder. 1982. Gaseous formaldehyde and hydrogen chloride induction of nasal cancer in rats. J. Natl. Cancer Inst. 68(4): 597–603.

[8] Sellakumar, A.R., C.A. Snyder, J.J. Solomon and R.E. Albert. 1985. Carcinogenicity for formaldehyde and hydrogen chloride in rats. Toxicol. Appl. Pharmacol. 81: 401–406.

[9] Morita, T., T. Nagaki., I. Fukuda, K. Okumura. 1992. Clastogenicity of low pH to various cultured mammalian cells. Mutat. Res. 268: 297–305.

[10] Cifone, M.A., B. Myhr, A. Eiche, G. Bolcsfoldi. 1987. Effect of pH shifts on the mutant frequency at the thymidine kinase locus in mouse lymphoma L5178Y TK=/- cells. Mutat. Res. 189: 39–46.

[11] U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. Toxicological Profile for Fluorides, Hydrogen Fluoride and Fluorine. 2003. Available at *http://www.atsdr.cdc.gov/toxprofiles/tp11.pdf.*

- Chronic exposure at or below the current CalEPA reference exposure level (REL) is not expected to cause adverse effects.

Potential health effects of Cl_2:

- The existing studies of workers in the chemical industry have not found any evidence that Cl_2 is carcinogenic.
- Chronic bioassays in rodents and long-term studies in non-human primates have shown no evidence for carcinogenicity in respiratory tract as target tissue or other tissues.
- Chronic exposure to Cl_2 at concentrations below the current ATSDR minimal risk level (MRL) are not expected to cause adverse effects.

We disagree with the comment that the EPA's proposed HBEL does not provide an ample margin of safety, for the following reasons.

First, the limit is based on the facility in the source category with the highest potential exposure to nearby residents. The HBEL at this single facility reflects a ratio of exposure concentration over the reference value of up to 1 (at an exposure concentration below the RfC is considered to be health protective). As such, exposures will not exceed the established health threshold at this facility. In addition, the exposure estimate used to set the limit is very health protective in that it assumes constant exposure for 70 years. Actual exposures from emissions from this facility are expected to be lower (*i.e.,* because persons will spend time away from home). This conservative exposure scenario is consistent with the ''ample margin of safety'' requirement in CAA section 112(d)(4).

Second, the ratios at the other facilities (not the highest facility noted above) from this source category are lower and in most cases significantly lower, with approximately 90 percent of these facilities having a ratio of 0.5 or less, which provides a further increased margin of safety beyond the ample margin of safety established at the facility with the highest potential exposure.

Comment: One commenter stated that, according to the EPA, an RfC is merely ''an estimate (with uncertainty spanning perhaps an order of magnitude)'' of an exposure that is ''likely to be'' without health risks.[12] By definition, this ''estimate'' is not by itself a ''safe threshold'' of exposure that ''presents no risk'' of adverse health effects. The commenter stated the EPA cannot lawfully use a pollutant's RfC as a default ''safe threshold'' under CAA section 112(d)(4) because an RfC does not pose ''no'' health risks, as the commenter asserted the CAA requires.

The commenter stated that the EPA is authorized to set risk-based standards only where it has direct evidence of the level at which there are no adverse effects observed and that proceeding with HBEL without a no observed adverse effect level (NOAEL) is unlawful. Another commenter stated the use of health-based standards should only be considered for HAP that have been thoroughly evaluated by the EPA and are contained in the IRIS database with a high level of confidence in the RfC. With respect to HCl, the IRIS confidence levels are ''Low'' for the inhalation RfC. In ''Carcinogenicity Assessment for Lifetime Exposure,'' IRIS states, ''This substance/agent has not undergone a complete evaluation and determination under the EPA's IRIS program for evidence of human carcinogenic potential.'' [13] In the proposal, the EPA acknowledged that ''[t]he EPA has not classified HCl for carcinogenicity'' and ''[l]ittle research has been conducted on its carcinogenicity'' (79 FR 75639).

The commenter also stated that IARC concluded that ''[t]here is inadequate evidence for the carcinogenicity in humans of hydrochloric acid,'' that ''[t]here is inadequate evidence for the carcinogenicity in experimental animals of hydrochloric acid,'' and that HCl ''is not classifiable as to its carcinogenicity to humans.'' [14] The commenter stated that the EPA did not identify any evidence that HCl is not carcinogenic and noted that the only study the EPA referenced is ''one occupational study'' that ''found no evidence of carcinogenicity'' (79 FR 75639). Because the EPA did not provide a citation for the study or otherwise identify it or discuss it, the public are unable to adequately comment on it.

Response: The EPA's risk assessments are supported by the best available toxicity assessments from authoritative bodies including the EPA's IRIS Program, ATSDR and CalEPA. The SAB has endorsed the use of the reference values derived by these sources to support EPA's risk assessments in the RTR program. These authoritative bodies derive health protective reference values at or below which no adverse effects are expected to occur. As mentioned previously in this section, the toxicity assessments, which include noncancer and/or cancer toxicity assessments, provided by these authoritative bodies are widely vetted through the scientific community and undergo rigorous peer review processes before they are published.

The commenter stated that there is not a NOAEL and that based on that, the EPA cannot set a HBEL for HCl. The EPA toxicity assessments consider the entire toxicity database for specific chemicals and are conducted following well-established EPA guidance on how to assess potential hazard of a chemical and conduct dose response assessments. These assessments include the derivation of an RfC, which is likely to be without appreciable risk of adverse health effects to the human population (including susceptible subgroups and all life stages) over a lifetime. According to EPA guidelines, RfCs can be derived from a NOAEL, lowest observed adverse effect level (LOAEL) or benchmark dose, with uncertainty factors applied to reflect the limitations of the data used. In particular for HCl, the point of departure for the RfC (15 milligrams per cubic meter (mg/m^3)) was selected from chronic inhalation studies in rodents and was adjusted to reflect a lifetime of exposure (2.7 mg/m^3) and extrapolated to a human equivalent concentration (6.1 mg/m^3) based on differences in the effects of a gas in the respiratory system between rats and humans. Uncertainty factors (total of 300, yielding an RfC of 0.02 mg/m^3) were applied to account for interspecies differences, intraspecies extrapolation and extrapolation from a LOAEL to NOAEL. It is important to note that in the IRIS assessment for HCl it is stated that a reasonable estimate of the NOAEL in humans is in the range of 0.3–3 mg/m^3. This estimate resulted from an expert review workshop and is based on examination of the HCl literature, a comparison with sulfuric acid toxicity, and the judgment of those in attendance at the review workshop. In addition, this value is generally consistent with identified NOAELs in subchronic animal studies (OECD, 2002). Based on this information, we are confident that the IRIS HCl RfC represents a conservative health protective benchmark below which adverse health effects are not expected to occur.

As part of the risk analysis conducted to support this rule, the EPA thoroughly evaluated all the available and relevant scientific evidence on HCl (discussed previously in this section) and concluded that there is no evidence that HCl is a carcinogen and that this information is sufficient for this regulatory determination. The 2002

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[12] U.S. EPA, Glossary, *http://www.epa.gov/risk_assessment/glossary.htm* (last updated Apr. 28, 2014).

[13] U.S. EPA, Integrated Risk Information System—Hydrogen chloride. *http://www.epa.gov/iris/subst/0396.htm#coninhal.*

[14] IARC, Hydrochloric Acid (Monograph), available at *http://monographs.iarc.fr/ENG/Monographs/vol54/mono54-8.pdf.*

OECD assessment of HCl drew similar conclusions:

> For genetic toxicity, a negative result has been shown in the Ames test. A positive result in a chromosome aberration test using Hamster ovary cells is considered to be an artifact due to the low pH. For carcinogenicity, no pre-neoplastic or neoplastic nasal lesions were observed in a 128-week inhalation study with SD male rats at 10 ppm hydrogen chloride gas. No evidence of treatment related carcinogenicity was observed in other animal studies performed by inhalation, oral or dermal administration. In humans, no association between hydrogen chloride exposure and tumor incidence was observed.[15]

Additionally, the EPA conducted a screening level literature review in 2003 and did not identify any critical studies that would change the conclusions in the 1995 HCl IRIS assessment. Based on the information available, the EPA concludes that this information is sufficient to support setting an HBEL under CAA section 112(d)(4) for HCl.

Comment: One commenter stated that the EPA proposed to base the HCl emission standards on the HCl RfC and argued it is unlawful to do so where the EPA has ''low confidence'' in the RfC. The commenter stated that it is arbitrary to claim there is an established, safe health threshold based on a reference value in which the EPA has low confidence. According to the commenter, having low confidence in the RfC is the same as admitting that the EPA has ''low confidence'' in the proposed emission standards. The fact that the EPA was unable to determine a no-effect level in a robust and reliable scientific study demonstrates concern that chronic exposure to even very low levels of HCl can compromise health, especially in sensitive subpopulations. Therefore, the EPA cannot state that HCl presents no risk of adverse health effects.

The commenter stated that the EPA used a non-cancer health threshold for HCl based on a chronic inhalation study on rats.[16] The EPA has determined the RfC to be 0.02 mg/m^3 (0.0134 part per million (ppm)), based on rat studies by Albert, *et al.,* demonstrating hyperplasia of the nasal mucosa (the protective cell lining of the nasal tract and cavities), larynx, and trachea.[17] The commenter asserted that because these rat studies failed to identify a NOAEL, the EPA based the RfC on a LOAEL (*i.e.,* the lowest dose in the study that induced a measurable adverse health effect in treated animals). The commenter asserted that CAA section 112(d)(4) does not permit risk-based standards where a NOAEL has not been determined; at a minimum, Congress required that a threshold be based on the '' 'no observable [adverse] effects level' (NOAEL) below which human exposure is presumably 'safe.' '' [18] The EPA has similarly recognized that ''the legislative history of CAA section 112(d)(4) indicates that a health-based emission limit under CAA section 112(d)(4) should be set at the level at which no observable effects occur'' (79 FR 75642). The commenter stated that, if there is no established non-zero threshold level at which it has been shown that the pollutant has no deleterious health effects, then the EPA cannot be certain that exposure to the pollutant at a given level presents no harm. The commenter stated that without a NOAEL, no established threshold can exist, and the EPA does not have the authority under CAA section 112(d)(4) to set an HBEL for HCl.

Response: The EPA's chemical-specific toxicity assessments are derived using the EPA's risk assessment guidelines and approaches that are well established and vetted through the scientific community, and follow rigorous peer review processes.[19] The RTR program gives preference to EPA values (*i.e.,* RfCs for noncancer assessments) for use in risk assessments and uses other values, as appropriate, when those values are derived with methods and peer review processes consistent with those followed by the EPA. The approach for selecting appropriate toxicity values for use in the RTR Program has been endorsed by the SAB.[20]

The EPA's RfCs are assigned confidence levels of high, medium and low based on the completeness of the supporting database. High confidence RfCs are considered less likely to change substantially with the collection of additional information, while low confidence RfCs are recognized as being based on less complete data and so may be subject to change if additional data is developed.[21] It is important to note that a ''low confidence'' label does not indicate that the EPA believes that the RfC is unreliable. For a given chemical, if there are not adequate or appropriate data with which to derive an RfC, one is not calculated. All RfCs, even those with low confidence, are appropriate for regulatory use.

We disagree with the comment that without a NOAEL, no established threshold can exist. The EPA toxicity assessments for specific chemicals are conducted using well-established EPA guidance on how to assess potential hazard of chemicals and how to conduct dose response assessments to arrive at a chemical concentration below which we do not expect adverse effects to occur (*i.e.,* threshold). These assessments include the derivation of a RfC which is likely to be without appreciable risk of adverse health effects to the human population (including susceptible subgroups and all life stages [*e.g.,* children]) over a lifetime. According to EPA guidelines, RfCs can be derived from a NOAEL, LOAEL or benchmark dose, with uncertainty factors applied to account for relevant extrapolations, including extrapolation from LOAEL to NOAEL, and to reflect additional limitations of the data used.[22] [23]

Comment: One commenter stated that the studies the EPA relied upon only investigated respiratory effects and did not consider other ways HCl could cause harm. The commenter noted the EPA has acknowledged that the RfC is an ''inhalation RfC'' and represents the health risk and toxicity associated with the inhalation pathway of exposure only (75 FR 32031). The commenter stated that the EPA identified no studies that indicate whether exposure to HCl—at 0.02 mg/m^3 or any other concentration—harms other bodily systems.

Response: The EPA disagrees with the comment that the agency investigated only respiratory effects and that it did not consider other ways in which HCl can cause harm. In the principal studies

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[15] United Nations Environment Programme 2002, Organisation for Economic Co-operation and Development (OECD), Screening Information Dataset (SIDS) Initial Assessment Report for SIAM 15, Hydrogen Chloride: CAS N°:7647–01–0. October 25, 2002. *http://www.inchem.org/documents/sids/sids/7647010.pdf.*

[16] EPA, Integrated Risk Information System: Hydrogen Chloride.

[17] Albert, R.E., *et al.,* Gaseous formaldehyde and hydrogen chloride induction of nasal cancer in rats, 68(4) J. Natl. Cancer Inst. 597 (1982).

[18] S. Rep. No. 101–228, at 171, 176.

[19] Integrated Risk Information System (IRIS). IRIS Guidance documents available at *http://www.epa.gov/iris/backgrd.html.*

[20] Science Advisory Board. Memorandum to Lisa Jackson, Administrator, U.S. EPA. Review of EPA's draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing.'' May 7, 2010. Available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

[21] U.S. EPA Air: Fate, Exposure, and Risk Analysis Web site. Air Toxics Assessment Reference Library, Volume 1. 2004. Available at *http://www2.epa.gov/sites/production/files/2013-08/documents/volume_1_reflibrary.pdf.*

[22] U.S. EPA. 1994. Methods for Derivation of Inhalation Reference Concentrations and Application of Inhalation Dosimetry. EPA/600/8–90/066F, Oct 1994. Docket Item No. EPA–HQ–OAR–2013–0291–0160.

[23] U.S. EPA. 2002. A Review of the Reference Dose and Reference Concentration Processes. EPA/630/P–02/002F, Dec 2002.

upon which the RfC is based, a complete necropsy was performed on all animals. Histologic sections were prepared from the nasal cavity, lung, trachea, larynx, liver, kidneys, testes, and other organs where gross pathological signs were present. Due to the reactive nature of HCl, however, portal of entry effects are anticipated to occur first and at lower exposure concentrations. The IRIS assessment [24] for HCl included a comprehensive review of all the available toxicity data for HCl. No effects are expected to occur at exposures of HCl at or below the level of the RfC.

Comment: One commenter stated that the RfC is an inadequate basis for establishing a threshold because it ''did not reflect any potential cumulative or synergistic effects of an individual's exposure to multiple HAP or to a combination of HAP and criteria pollutants'' and noted that the EPA recognized the potential for cumulative and synergistic effects was important in its consideration of risk-based standards in two recent rulemakings (see 75 FR 32031 and 76 FR 25050).

The commenter stated that there is no ''established'' threshold at the RfC for HCl, because the CalEPA has determined a lower and more health-protective value than the RfC. The EPA's chronic inhalation RfC is 0.02 mg/m^3, while California's chronic inhalation REL is 0.009 mg/m^3.[25] The commenter stated that CalEPA's REL is based on the same science as the IRIS RfC but was developed more recently than the EPA's RfC, which was last revised in 1995.[26] The REL is ''the concentration level at or below which no health effects are anticipated in the general human population,'' and the EPA's process for developing RELs ''is similar to that used by EPA to develop IRIS values and incorporates significant external scientific peer review.'' [27] The commenter asserted that the EPA and CalEPA disagree about the concentration of HCl exposure at which no health effects are expected and that the disagreement stems from how to account for uncertainty and variability in interpreting the study results.

The fact that two agencies have determined significantly different ''safe'' levels, the commenter contended, demonstrates as a matter of law that there is no ''established'' health threshold for HCl and precludes the EPA from lawfully setting CAA section 112(d)(4) standards for HCl. The commenter stated that the statute requires that a health threshold ''has been established'' and argued the legislative history indicates Congress intended for CAA section 112(d)(4) limits to be used only where there was a ''well-established'' level that presents ''no risk'' of adverse effects and about which there was no ''dispute.'' [28] The commenter asserted that Congress did not grant the Administrator the authority to establish the threshold itself and that the EPA does not have authority to set CAA section 112(d)(4) standards in situations where there is disagreement among expert agencies as to what the correct health threshold should be.

The commenter asserted that by failing to address the CalEPA REL, the EPA contravened its obligation under administrative law to address significant evidence that detracts from the agency's conclusion. The commenter stated that for the EPA to rely solely on the IRIS RfC, the EPA would need to explain why the CalEPA REL is incorrect and why the IRIS RfC reflects the best available science and risk assessment practices, particularly when the IRIS RfC and CalEPA REL thresholds are based on the same science and when the EPA relied upon CalEPA RELs at several other points in its proposal (*e.g.,* the EPA used the CalEPA REL for acute inhalation exposure to HCl as the basis for its CAA section 112(d)(4) standards). If the EPA considers CalEPA's acute REL for HCl to reflect a reliable value, then the commenter stated it is arbitrary to disregard CalEPA's chronic REL for HCl. The commenter further noted the EPA relied upon the CalEPA chronic REL for HF in order to determine a threshold for HF and argued that using the CalEPA REL for HF but not for HCl is arbitrary.

Response: At an initial point, with respect to the comment that different agencies have identified different thresholds and so ''as a matter of law'' there is no ''established'' health threshold for HCl, the EPA disagrees that the phrase ''has been established'' in CAA section 112(d)(4) means that there is universal agreement on the health threshold level and that differences between CalEPA and the EPA demonstrate that no health threshold ''has been established.'' The statute does not clearly identify who must establish the health threshold or how such threshold should be established. In the absence of such specificity in the statute, the EPA reads CAA section 112(d)(4) to authorize the EPA to set health-based limits where, in the EPA's expert judgment, there is a health threshold for the pollutant below which no adverse health effects are expected to occur.

Further, we disagree with the comment that there is no established threshold at the RfC because CalEPA developed a reference value at a lower concentration than the RfC. The approaches used by both agencies are similar and assume a threshold below which adverse health effects would not be expected; however, there are some differences between agencies in methods for deriving the estimate for a threshold that may affect the final resulting values. Both agencies use the best available science to support their risk assessments. The EPA has an approach for selecting appropriate health benchmark values and, in general, this approach places greater weight on the EPA derived health benchmarks than those from other agencies. The approach favoring EPA benchmarks (when they exist) has been endorsed by the SAB and ensures use of values most consistent with well-established and scientifically-based EPA science policy.[29]

Specifically for HCl, we selected the IRIS RfC for HCl as the most appropriate chronic noncancer health threshold to use for this rule. In the case of HF, there is not an EPA RfC available and the only chronic reference value from an authoritative source and appropriate for use in this rule is the California REL.

Comment: Several commenters disagreed with the EPA's decision to set a HBEL for HF. These commenters contended the EPA does not have the authority to set HF standards under CAA section 112(d)(4) because the scientific data supporting the EPA's findings regarding the carcinogenic potential of HF are insufficient and unreliable. Three commenters asserted that the EPA should not adopt HBEL for

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[24] IRIS Summary for Hydrogen Chloride. *http://www.epa.gov/iris/subst/0396.htm* (Accessed on July 24, 2015)

[25] California Office of Environmental Health Hazard Assessment (OEHHA), OEHHA Acute, 8-Hour and Chronic Reference Exposure Levels (REL)s, *http://www.oehha.ca.gov/air/Allrels.html* (last accessed Mar. 12, 2015).

[26] California OEHHA, Chronic RELs and Toxicity Summaries Using the Previous Version of the Hot Spots Risk Assessment Guidelines at 311 (1999), available at *http://oehha.ca.gov/air/hot_spots/2008/AppendixD3_final.pdf.*

[27] EPA, Risk Assessment to Determine a Health-Based Emission Limitation for Acid Gases for the Brick and Structural Clay Products Manufacturing Source Category, May 19, 2014, Docket Item No. EPA–HQ–OAR–2013–0291–0132.

[28] S. Rep. No. 101–228, at 171.

[29] Science Advisory Board. Memorandum to Lisa Jackson, Administrator, U.S. EPA. Review of EPA's draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing.'' May 7, 2010. Available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

HF due to uncertainty about the vulnerabilities of children, infants, and fetuses to HF exposures at the REL concentration used by the EPA to set the HF emissions standards. Two commenters noted that the proposal states, ''There is limited/equivocal evidence of the carcinogenic potential of HF'' (79 FR 75641) and ''[t]he EPA has not classified HF for carcinogenicity'' (79 FR 75640) and questioned how the agency could be confident that HF is eligible to be a threshold pollutant if its status as a non-carcinogen is uncertain.

One commenter noted that the EPA failed to identify an established, well-defined health-based threshold, below which HF does not cause cancer, that is based on reliable science and has a high level of certainty. The EPA has stated that ''carcinogenicity via inhalation of fluoride is not considered to be likely by most investigators reporting in the existing literature'' (79 FR 75641) and that the EPA ''has not classified HF for carcinogenicity'' (79 FR 75640). The commenter stated that it is possible that HF causes cancer because increased rates of cancer have been observed in workers exposed to a mixture of chemicals that included fluoride [30] and noted that the EPA acknowledged data suggesting that those with occupational exposure to HF have greater than normal occurrences of cancer.[31] The commenter stated that, because of the data showing possible carcinogenic effect, as well as the data showing mutagenic effect in animals, the EPA does not have enough evidence to classify HF as a threshold pollutant with any level of confidence. The commenter stated that the EPA failed to explain how it weighed the conflicting evidence of HF's carcinogenicity and considered EPA's conclusion to be arbitrary and capricious. Three commenters noted that the EPA does not consider HF in its IRIS database but noted that HF breaks down into fluorine, which is included in IRIS.[32] One commenter stated that IRIS indicates no data are available to determine an RfC for chronic inhalation exposure to fluorine.[33] This commenter further noted that IARC ''has determined that the carcinogenicity of fluoride to humans is not classifiable.'' [34] Another commenter stated that health-based standards should be considered only for HAP that are contained in IRIS with a high level of confidence in the RfC.

One commenter noted that although the National Air Toxics Assessment (NATA) database does not contain HF,[35] the database does provide evidence that HF has a mutagenic effect in animals. This conclusion was supported by other scientific reviews [36] and by the National Academy of Sciences (NAS), which states that ''the overall evidence from human animal studies is mixed'' on the question of whether fluoride is carcinogenic when inhaled.[37]

Four commenters questioned the EPA's reliance on a CalEPA risk assessment, noting that the CalEPA REL is based on a study of adults exposed to HF in the workplace [38] and therefore, did not include any children. Two commenters stated that a 10X ''intraspecies'' factor was applied to account for variability among humans, but noted that CalEPA expressed concern about ''the potentially greater susceptibility of children to the effects of inhaled fluorides, considering the rapid bone growth in early years.'' [39] One commenter recommended the EPA use an additional default factor of at least 10X to account for uncertainty regarding health risks to children, infants, and fetuses. The commenter stated that a 10X factor would be consistent with the NAS recommendation[40] and with the 10X factor enacted by Congress in the Food Quality Protection Act (FQPA).[41] Another commenter stated that recent science not considered at the time CalEPA adopted the REL provides further support for prior research showing that HF has neurodevelopmental effects on children and that children living in high-fluoride areas have been observed to have lower IQ scores than those living in low-fluoride areas.[42] The commenter asserted that the adverse effects of fluoride on children are likely to be more severe, and long-lasting, compared with effects on adults.

One commenter stated that the CalEPA REL is based on a study that only examined the increased bone density (skeletal fluorosis) endpoint and noted that CalEPA stated that ''[t]he primary uncertainty in the study was the lack of a comprehensive health effects examination.'' [43] The commenter stated that the EPA does not know whether neurodevelopmental harm, or other health effects, are more sensitive than skeletal harm; therefore, the EPA cannot lawfully set a ''safe'' threshold at a concentration that poses ''no risk'' of health effects with ''an ample margin of safety'' based on a study that lacks ''a comprehensive health effects examination.''

Another commenter asserted that the EPA has insufficient data showing exposure to HF at the REL value ''presents no risk'' of harm to other bodily systems. The commenter noted that HF is a possible reproductive toxin,[44] that occupational studies of women exposed to fluoride identified increased rates of menstrual irregularities,[45] and that animal studies have found that fluoride impairs reproduction and increases the rates of fetal bone and teeth malformation.[46] In addition, chronic inhalation of hydrofluoric acid can cause irritation and congestion of the nose and throat

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[30] Gallerani, M., *et al.,* Systemic and topical effects of intradermal hydrofluoric acid, 16 Am. J. Emer. Med. 521, 522 (1998).

[31] EPA, Technology Transfer Network Air Toxics Web site: Hydrogen Fluoride, *http://www.epa.gov/ttn/atw/hlthef/hydrogen.html* (last updated Oct. 18, 2013).

[32] EPA, Integrated Risk Information System: Fluorine (Soluble Fluoride) (CASRN 7782–41–4), *http://www.epa.gov/iris/subst/0053.htm* (last updated Oct. 31, 2014).

[33] Id.

[34] ATSDR, Toxicological Profile for Fluorides, Hydrogen Fluoride, and Fluorine at 8.

[35] EPA, National Scale Air Toxics Assessment Overview: The 33 Pollutants, *http://www.epa.gov/ttn/atw/nata/34poll.html* (last updated Jan. 6, 2015).

[36] See, *e.g.,* National Research Council of the National Academies, Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants vol.3 at 91–92, available at *http://www.ncbi.nlm.nih.gov/books/n/nap12741/pdf.*

[37] National Research Council of the National Academies, Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants vol.3 at 91–92, available at *http://www.ncbi.nlm.nih.gov/books/n/nap12741/pdf.*

[38] Derryberry O.M., *et al.,* Fluoride exposure and worker health-The health status of workers in a fertilizer manufacturing plant in relation to fluoride exposure, 6 Arch. Environ. Health. 503 (1963).

[39] OEHHA Chronic RELs and Toxicity Summaries, at 280.

[40] National Research Council of the National Academies, Science and Decisions: Advancing Risk Assessment, at 190–93 (2009).

[41] 21 U.S.C. 346a(b)(2)(C) (requiring that, in establishing, modifying, leaving in effect, or revoking a tolerance or exemption for a pesticide chemical residue, ''for purposes of clause (ii)(I) an additional tenfold margin of safety for the pesticide chemical residue and other sources of exposure shall be applied'' to protect infants and children).

[42] See Choi, A.L., *et al.,* Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis, 120 Envtl. Health Perspect. 1362 (Oct. 2012), *http://ehp.niehs.nih.gov/1104912/* (reviewing and discussing findings from over 20 studies); Choi, A.L., *et al.,* Association of Lifetime Exposure to Fluoride and Cognitive Functions in Chinese Children: A Pilot Study, 47 Neurotox. & Teratology 96 (Jan.–Feb. 2015).

[43] OEHHA, Chronic RELs and Toxicity Summaries, at 280.

[44] Massachusetts Toxics Use Reduction Institute, Massachusetts Chemical Fact Sheet: Hydrofluoric Acid, at 1, available at *http://www.turi.org/content/download/3663/44840/file/Fact_Sheet_Hydrofluoric_Acid.pdf.*

[45] EPA, Health Issue Assessment: Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds, EPA/600/8–89/002F (1988).

[46] ATSDR, Toxicological Profile for Fluorides, Hydrogen Fluoride and Fluorine; EPA, Health Issue Assessment: Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds.

and bronchitis,[47] and animal studies found increased rates of kidney and liver damage from hydrofluoric acid inhalation.[48] Further, HF readily penetrates the skin, causing deep tissue layer destruction,[49] and ingestion of HF may result in vomiting and abdominal pain, with painful necrotic lesions, hemorrhagic gastritis, and pancreatitis reported after significant exposure.[50]

The commenter stated the CalEPA REL was developed by CalEPA using an outdated version of CalEPA's Hot Spots Risk Assessment Guidelines (1999) that has been ''superseded'' by the more recent guidelines released in February 2015.[51] The commenter noted the 1999 version required updating in part because it did not include sufficient consideration of ''infants and children in assessing risks from air toxics.''

Response: The EPA has not reviewed HF in the IRIS program. However, we concur with the two recent authoritative assessments by ATSDR (2003)[52] and the European Union (2002)[53] that the available evidence does not support classifying HF as ''Carcinogenic to Humans,'' ''Likely to Be Carcinogenic to Humans'' or as having ''Suggestive Evidence of Carcinogenic Potential'' (U.S. EPA Guidelines for Carcinogen Risk Assessment (2005)).

All of the studies cited by the commenter are from exposure to fluoride and not from inhalation exposures to HF. Neurodevelopmental effects may be relevant to high fluoride exposures, but the existing evidence shows these effects may occur at fluoride exposure levels beyond those that would cause respiratory effects if HF were the sole source of exposure. In the study of Lund (1997),[54] plasma fluoride concentrations were shown to increase in the nanogram per milliliter (ng/ml) range from exposures to HF in the mg/m^3 level (*e.g.,* elevations of approximately 20 nanograms fluoride per milliliter in plasma resulted from 1-hour exposure to 2 mg/m^3 HF, with notable respiratory and eye irritation effects). Reproductive and developmental effects in rats have been noted from experiments[55] with plasma F levels in the 150 ng/ml range maintained for over 4 months. The primary issue in causing neurodevelopmental effects (which have yet to be quantified) is likely associated with aggregate and cumulative exposure from multiple sources of fluorides (*e.g.,* water, food, toothpaste) which are greater contributors to total fluoride body burden and uncontrollable variables in establishing this rule, which deals with exposures to HF only.

The EPA also disagrees with the comment that a children's default safety factor of 10 should be added to the CalEPA REL for HF. In response to the 10X factor enacted by Congress in the FQPA (1996)[56] to the EPA non-cancer reference value derivation, the agency evaluated its methods for considering children's risk in the development of reference values. As part of its response, the EPA (*i.e.,* the Science Policy Council and Risk Assessment Forum) established the RfD/RfC Technical Panel to develop a strategy for implementing the FQPA and examine the issues relative to protecting children's health and application of the 10X safety factor. One of the outcomes of the Technical Panel's efforts was an in depth review of a number of issues related to the RfD/RfC process (U.S. EPA 2002). The most critical aspect in the derivation of a reference value pertaining to the FQPA has to do with variation between individual humans and is accounted for by a default uncertainty factor when no chemical-specific data are available. The EPA reviewed the default UF for inter-human variability and found the EPA's default value of 10 adequate for all susceptible populations and lifestages, including children and infants. The EPA also recommends the use of chemical-specific data in preference to default uncertainty factors when available (U.S. EPA, 1994, 2011) and is developing Agency guidance to facilitate consistency in the development and use of data-derived extrapolation factors for RfCs and reference doses (RfDs) (U.S. EPA, 2011).[57] [58] In agreement with the recommendations of the RfC review, CalEPA chronic REL for HF was derived using an inter-individual uncertainty factor of 10, which is considered adequate by the EPA for accounting for all susceptible populations and lifestages, including children and infants.

Regarding the comment that CalEPA's Hot Spots Risk Assessment Guidelines

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[47] CalEPA, Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels.

[48] EPA, Health Issue Assessment: Summary Review of Health Effects Associated with Hydrogen Fluoride and Related Compounds.

[49] Burgher, Francois, *et al.,* Experimental 70% hydrofluoric acid burns: histological observations in an established human skin explants ex vivo model, 30.2 Cutaneous & Ocular Toxicology 100 (2011).

[50] CDC, National Institute for Occupational Safety and Health (NIOSH): Hydrogen Fluoride/Hydrofluoric Acid, *http://www.cdc.gov/niosh/ershdb/emergencyresponsecard_29750030.html.*

[51] OEHHA Chronic RELs and Toxicity Summaries at 1; CalEPA, OEHHA, Air Toxics Hot Spots Program: Guidance Manual for Preparation of Health Risk Assessments (Feb. 2015), available at *http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.*

[52] Agency for Toxic Substances and Disease Registry (2003)—''Although elevated cancer rates have been reported in some occupational groups exposed to hydrogen fluoride and fluoride dusts, these studies were not controlled for the multiple substance exposures to which industrial workers are generally exposed. Because of these multiple exposures and the problem inherent in all occupational studies in identifying appropriate reference populations, only limited evidence from such studies is specifically relevant to the investigation of possible carcinogenic effects of long-term dermal exposure to hydrofluoric acid and inhalation exposure to hydrogen fluoride and/or fluoride dusts in human beings. As noted previously, IARC has determined that the carcinogenicity of fluoride to humans is not classifiable.''

[53] European Union Risk Assessment Report (2001)—''Carcinogenicity studies, in which HF has been tested, are not available. Studies with NaF may provide insight in the carcinogenicity of HF, especially for systemic tumours. With the latter substance 4 animal studies have been performed, 2 in which NaF was supplied in the drinking water to rats and mice, and two in which NaF was administered via the diet, again to rats and mice . . . .In the rat drinking water study, equivocal indications for osteosarcomas in males were obtained, but the rat diet study was negative, despite clear indications of fluoride intoxication. The mouse drinking water study was also negative. The mouse diet study was confounded by the presence of a retrovirus which may have (co)-induced the growth of benign osteomas thus thwarting the interpretation of the study. In the diet studies (Maurer et al. 1990; Maurer et al. 1993) bone fluoride levels were higher than in the drinking water studies (NTP 1990), while in the diet studies no indications for osteosarcomas were obtained. Furthermore, the osteomas were considered to be reminiscent of hyperplasias rather than true bone neoplasms. It was concluded that the available data is sufficient to suggest that fluoride is not a carcinogenic substance in animals (Janssen and Knaap 1994) . . . Based on epidemiological data IARC (1982) concluded that the evidence for carcinogenicity of orally taken fluoride in humans is inadequate. Recent studies (cited in CEPA 1993; Janssen and Knaap 1994) did not supply evidence of a relationship between fluoride in drinking water and cancer mortality, either. US–EPA, reviewing the epidemiological data for fluoride, stated that no conclusion can be drawn as to the carcinogenicity of fluoride after inhalatory exposure, because in all studies available, humans were exposed to other substances as well (Thiessen 1988).''

[54] Lund K, Ekstrand J, Boe J, Søstrand P, and Kongerud J. (1997) Exposure to hydrogen fluoride: an experimental study in humans of concentrations of fluoride in plasma, symptoms, and lung function. Occup Environ Med. 54(1):32–37.

[55] Oencue, M, Kocak, A, Karaoz, E; Darici, H; Savilk, E; and Gultekin, F (2007) Effect of long-term fluoride exposure on lipid peroxidation and histology of testes in first- and second-generation rats. Biological Trace Element Research 118:260–268.

[56] U.S. Environmental Protection Agency, Pesticide: Regulating Pesticides. The Food Quality Protection Act (FQPA). 1996. Available at *http://www.epa.gov/pesticides/regulating/laws/fqpa/backgrnd.htm.*

[57] U.S. EPA (1994). *Methods for derivation of inhalation reference concentrations and application of inhalation dosimetry.* (EPA/600/8–90/066F). Research Triangle Park, NC. Docket Item No. EPA–HQ–OAR–2013–0291–0160.

[58] U.S. EPA (2011). Office of the Science Advisor, Risk Assessment Forum. *Recommended Use of Body Weight*$^{3/4}$ *as the Default Method in Derivation of the Oral Reference Dose.* February 2011. EPA/100/R11/0001.

(1999) have been ''superseded'' by the more recent guidelines released in February 2015, the EPA reviewed the February 2015 Guidelines information provided by the commenter and concluded that this information does not include methods for conducting hazard identification and dose response assessments, which are the analyses that preclude the derivation of a reference value. Therefore, the information provided by the commenter does not apply to the CalEPA REL derivation methods.

The commenter's assertion that the NATA database does not contain HF is incorrect; NATA 2005 (cited above by the commenter) does include noncancer risk estimates for HF. The HF cancer risks are not included in NATA because a quantitative cancer analysis for HF does not exist.

Comment: Several commenters disagreed with the EPA's decision to set a HBEL for Cl_2 and stated the EPA does not have the authority to set Cl_2 standards under CAA section 112(d)(4) because the EPA does not have reliable scientific data demonstrating a ''safe'' threshold for Cl_2 and has not demonstrated Cl_2 presents no cancer risk. Two commenters noted that in the proposal, the EPA stated that, ''the agency presumptively considers Cl_2 to be a threshold pollutant.'' The commenters asserted that a presumption is not adequate for EPA to justify setting a health-based standard for Cl_2 under CAA section 112(d)(4).

One commenter stated that it is possible that Cl_2 is carcinogenic and noted that Cl_2 has not undergone a complete evaluation and determination of human carcinogenic potential under the IRIS program.[59] The IARC and the Department of Health and Human Services (DHHS) have not classified Cl_2 gas for human carcinogenicity. The commenter stated that the absence of data showing carcinogenicity is not the same as data demonstrating that a substance is not carcinogenic.

According to the commenter, Congress authorized CAA section 112(d)(4) standards only where a threshold ''has been established.'' In other words, there must be an already-established threshold for which there is direct evidence that the pollutant presents ''no'' harm at the threshold level of exposure, and the law requires ''well-established'' factual evidence.[60] The commenter asserted that the EPA is not authorized to set risk-based standards based on a ''presumption'' of the existence of a safe level of exposure and that by doing so, the EPA would violate the law and fail to ensure adequate protection from the health risks of hazardous pollution.

The commenter stated that the EPA cannot set a health threshold for Cl_2 based on a chronic inhalation study on monkeys because that study did not determine a NOAEL. The commenter asserted that CAA section 112(d)(4) does not permit risk-based standards where a NOAEL has not been determined. The commenter stated that, at a minimum, Congress required that a threshold be based on the '' 'no observable [adverse] effects level' (NOAEL) below which human exposure is presumably 'safe.' ''[61] If there is no established non-zero ''threshold'' level at which it has been shown that the pollutant has no deleterious health effects, then the commenter asserted that the EPA cannot be certain that exposure to the pollutant at a given level presents ''no'' harm.

Two commenters stated that IRIS contains ''no data'' on an RfC for chronic inhalation exposure.[62] The ATSDR MRL on which the proposed Cl_2 threshold is based is a ''screening value[] only'' and ''[is] not [an] indicator[] of health effects.''[63] According to the ATSDR, ''Exposures to substances at doses above MRLs will not necessarily cause adverse health effects and should be further evaluated,'' ''MRLs are intended to serve only as a screening tool to help you decide if you should more closely evaluate exposures to a substance found at a site,'' and ''uncertainties are associated with [the] techniques'' used to derive MRLs.[64]

One commenter stated that the MRL does not account for the potentially greater susceptibility of children, infants, and fetuses to Cl_2 exposures[65] and noted that CalEPA has recognized that Cl_2 is a toxic air contaminant ''that may disproportionately impact infants and children'' because it can exacerbate asthma.[66] Therefore, the commenter asserted the MRL does not reflect an ''established'' safe health threshold at which exposure presents ''no'' adverse effects and that it is unlawful for the EPA to set CAA section 112(d)(4) standards for Cl_2.

Response: The EPA disagrees with the comment. As part of the risk analysis conducted to support this rule, the EPA thoroughly evaluated all the available and relevant scientific evidence on Cl_2 (as discussed in detail previously in this section) and concluded that there is no evidence that Cl_2 is a carcinogen and that this information is sufficient to support this regulatory decision. The MRL for Cl_2 was developed using the benchmark dose analysis method, which has been widely adopted across the risk assessment community and by the EPA's Risk Assessment Forum[67] as a more reliable estimate of a threshold for an effect than a NOAEL or LOAEL. As a result, the REL for Cl_2 does define a threshold.

Regarding the assertion that the MRL does not take into consideration the potential for greater potential effects in children, in the development of the Toxicological Profile for Chlorine,[68] ATSDR performed an exhaustive review of all of the relevant health effects data available at the time. Until new information becomes available, the Cl_2 MRL is the most credible, scientifically grounded toxicity assessment for Cl_2 and the most appropriate reference value to use in this regulatory action.

In the light of the absence of evidence of carcinogenic risk from Cl_2 exposure and the evidence of an existing threshold below which Cl_2 is not expected to cause adverse effects, the EPA considers it appropriate to set health threshold standards under CAA section 112(d)(4) for Cl_2.

Comment: One commenter referenced an NAS review of chemical health evaluations in the United States that concluded improvements in both chemical testing and risk assessment are needed to assure current risk evaluations protect people from toxic chemicals.[69] The NAS recommended the EPA use ''A consistent, unified

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[59] EPA, Integrated Risk Information System: Chlorine, *http://www.epa.gov/iris/subst/0405.htm* (last updated Oct. 31, 2014).

[60] S. Rep. No. 101–228, at 171.

[61] S. Rep. No. 101–228, at 171, 176.

[62] EPA, Integrated Risk Information System: Chlorine.

[63] ATSDR, Public Health Assessment Guidance Manual (2005 Update): Appendix F, *http://www.atsdr.cdc.gov/hac/PHAManual/appf.html* (last updated Nov. 30, 2005).

[64] ATSDR, Toxicological Profile for Chlorine, at 14.

[65] ATSDR, Toxicological Profile for Chlorine at 20–21 (observing that a value similar to the MRL could be calculated using the lowest observed adverse effect level (LOAEL) approach if an uncertainty factor of only 3 for human variability is used and no child-safety uncertainty factor is used).

[66] CalEPA, Prioritization of Toxic Air Contaminants Under the Children's Environmental Health Protection Act, at 27–28.

[67] U.S. EPA (2012) Benchmark Dose Technical Guidance. Risk Assessment Forum, Washington, DC 20460. EPA/100/R–12/001, June 2012. Available online at *http://www2.epa.gov/sites/production/files/2015-01/documents/benchmark_dose_guidance.pdf.*

[68] Agency for Toxic Substances and Disease Registry (ATSDR). 2010. Toxicological profile for Chlorine. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

[69] See National Research Council of the National Academies, Toxicity Testing in the Twenty-First Century: A Vision and a Strategy (2007); National Research Council of the National Academies, Phthalates and Cumulative Risk Assessment: The Tasks Ahead (2008); NAS, Science and Decisions.

approach for dose-response modeling that includes formal, systematic assessment of background disease processes and exposures, possible vulnerable populations, and modes of action that may affect a chemical's dose-response relationship in humans; that approach redefines the RfD or RfC as a risk-specific dose that provides information on the percentage of the population that can be expected to be above or below a defined acceptable risk with a specific degree of confidence.'' The NAS also observed that ''[n]oncancer effects do not necessarily have a threshold, or low-dose nonlinearity'' and found that ''[b]ecause the RfD and RfC do not quantify risk for different magnitudes of exposure but rather provide a bright line between possible harm and safety, their use in risk-risk and risk-benefit comparisons and in risk-management decision-making is limited.''[70]

The commenter stated that there may be no safe threshold in the human population for many chemicals and that newer studies show many chemicals increase the risk of various noncancer health effects—such as reproductive harm and neurological effects—at low doses, without any scientifically identifiable threshold.[71] The commenter noted that even if a threshold is established for an individual, when risk is assessed across a diverse population, it is unlikely the same threshold applies to all individuals because some people are more vulnerable than others.

The commenter stated that, to address the fact that very low levels of non-carcinogen exposures can pose health risks, NAS recommended that cancer and chronic non-cancer risk assessment use the same approach.[72] The commenter noted that the use of RfCs for dose-response risk assessment of chronic non-cancer health effects may significantly underestimate risk: ''For these health effects, risk assessments focus on defining the reference dose (RfD) or reference concentration (RfC), which is defined as a dose 'likely to be without an appreciable risk of deleterious effects' over a lifetime of exposure. In actual fact, these levels may pose appreciable risks.''[73]

The commenter asserted that the EPA ignored the best available, current science showing that pollutants have health effects at low doses in its evaluation of health thresholds for HCl, HF, and Cl_2 and ignored NAS's recommendation that the EPA use similar approaches for chronic non-cancer as for cancer risk assessment, which presumes deleterious health effects for any amount of exposure. According to the commenter, the EPA lacked sufficient data to demonstrate that these pollutants do not cause harm at low levels of exposure over time and cannot be certain that there exists an established, safe health threshold at the proposed thresholds. The commenter also stated that, because it must be assumed that these pollutants cause harm at low doses, it is impossible for the EPA to meet the CAA's requirement for an ''ample margin of safety.'' The commenter concluded the EPA's use of CAA section 112(d)(4) standards for HCl, HF, and Cl_2 is indefensible because the EPA determined the thresholds based on studies that did not identify a level at which no health effects were observed (*i.e.,* a NOAEL) and the EPA itself has low confidence in the proposed thresholds.

Response: The NAS has recognized that many of the recommended changes for the IRIS Program will need to be incorporated over a number of years and further recommended that assessments continue to be developed as the recommendations are implemented (*i.e.,* the regulatory process should not be halted until all recommendations can be enacted). Improvements will thus be made over time and the best science available will be used in the interim. Further, the EPA has a legal obligation to proceed with regulatory action based on the best, currently available tools.

The EPA's conclusion that HCl, HF and Cl_2 are threshold pollutants is based on the best available toxicity database considered in hazard identification and dose response assessments. There is agreement on using a similar threshold approach for these chemicals across agencies, *e.g.,* the EPA's IRIS Program, ATSDR and CalEPA. The toxicity assessments (which may include noncancer and/or cancer toxicity assessments) provided by these authoritative bodies are widely vetted through the scientific community and undergo rigorous peer review processes before they are published. In addition, the SAB has endorsed the use of the reference values derived by these sources to support EPA's risk assessments in the RTR program.

Specifically, none of the compounds discussed here has been classified as carcinogenic or suggestive of the potential to be carcinogenic, individually or in combination by existing authoritative bodies including the EPA, CalEPA, IARC, OECD, and the European Community. In light of the absence of evidence of carcinogenic risk for any of these pollutants, and the evidence of an existing threshold below which HCl, HF and Cl_2 are not expected to cause adverse effects, the EPA considers it appropriate to set health threshold standards under CAA 112(d)(4) for these pollutants.

2. Co-Benefits

Comment: One commenter stated that the EPA's proposal not to set MACT standards for acid gases did not fully consider the co-benefits of controlling criteria pollutants. The commenter noted that the legislative history makes clear that employing a CAA section 112(d)(4) standard rather than a conventional MACT standard ''shall not result in adverse environmental effect which would otherwise be reduced or eliminated.''[74] The EPA asserted that where there is an established health threshold, the agency may weigh additional factors in making a judgment as to whether to set CAA section 112(d)(4) standards or MACT standards, including ''[c]o-benefits that would be achieved via the MACT standard, such as reductions in emissions of other HAP and/or criteria pollutants'' (79 FR 75622). The commenter asserted that it is impossible to make this assessment without evaluating the full collateral benefits of a MACT standard.

The commenter noted that the EPA has recognized that MACT standards for HCl in other source categories resulted in reductions in emissions of PM, hydrogen cyanide, and other criteria and HAP pollutants and has relied upon the co-benefits of these reductions as a basis for not setting risk-based standards for those other source categories.[75]

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[70] Janssen, S., *et al.,* Strengthening Toxic Chemical Risk Assessments to Protect Human Health (2012), available at *http://www.nrdc.org/health/files/strengthening-toxic-chemical-riskassessments-report.pdf* (citing NAS, Science and Decisions).

[71] Janssen *et al.,* Strengthening Toxic Chemical Risk Assessments to Protect Human Health.

[72] NAS, Science and Decisions, at 8–9, 265–66.

[73] Janssen, S., *et al.,* Strengthening Toxic Chemical Risk Assessments to Protect Human Health at 10.

[74] S. Rep. No. 101–228, at 171.

[75] See, *e.g.,* National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants, 75 FR 54970, 54984 (Sept. 9, 2010) (''Setting technology-based MACT standards for HCl . . . would likely also result in additional reductions in emissions of mercury, along with condensable PM, ammonia, and semi-volatile compounds.''); *id.* at 54,985 (''Setting an HCl standard under 112(d)(2) and (3) allows the Agency to also address'' HCN, ammonia, and other pollutants.); National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry, 74 FR 21136, 21160 (May 6, 2009) (''[S]etting a MACT standard for HCl is anticipated to result in a significant amount of control for other pollutants emitted by cement kilns, most notably SO_2 and other acid gases, along with condensable PM, ammonia, and semi-volatile compounds.''); 75 FR 32030

Continued

However, for BSCP and clay ceramics plants, the EPA only considered the co-benefits of reductions in sulfur dioxide (SO_2). The commenter argued the EPA should have considered the significant reductions in PM, hydrogen cyanide, and other pollutants that would likely result from MACT standards for HCl, HF, and Cl_2, as these are the same reductions that the EPA considered in its past rulemakings. The commenter stated that these reductions will provide enormous health and environmental benefits that would not occur if CAA section 112(d)(4) standards are finalized instead.

Response: Although not explicitly stated in the preamble to the proposed rule, the EPA agrees with the commenter that MACT standards for acid gases for BSCP manufacturing facilities are associated with additional reductions of PM emissions (approximately 460 tpy in the third year following promulgation of the standards) and non-Hg HAP metals emissions. No additional PM or non-Hg HAP metals emission reductions would be expected from sanitaryware tunnel kilns because it is anticipated that all sanitaryware tunnel kilns could meet the MACT floor emission limits for HF and HCl without additional APCD. The EPA has no information suggesting that HCN is emitted from BSCP or clay ceramics manufacturing facilities, so no reduction in HCN would be expected from MACT standards for HF, HCl, and Cl_2.

For the past rulemakings in which the EPA considered co-benefits as part of a CAA section 114(d)(4) evaluation, the EPA did not quantify the PM emissions reductions associated with MACT standards (see 79 FR 75641, footnote 27), so a direct comparison of the co-benefits of the BSCP Manufacturing NESHAP and the Clay Ceramics Manufacturing NESHAP with the co-benefits of these other rules for PM is not possible. The only pollutant with quantified emissions reductions in the co-benefits analyses for these other rulemakings was SO_2, so that was the pollutant highlighted in the co-benefits analysis for BSCP and clay ceramics at proposal. The additional nationwide reductions of SO_2 that would be attributable to MACT standards for acid gases in the BSCP Manufacturing NESHAP are estimated to be only 4,700 tpy in the third year following promulgation of the standards. No additional nationwide reductions of SO_2 would be attributable to MACT standards for acid gases in the Clay Ceramics Manufacturing NESHAP because it is anticipated that all sanitaryware tunnel kilns could meet the MACT floor emission limits without additional APCD. As noted at proposal, these reductions are substantially lower than the co-benefits from MACT standards for other industries for which the EPA has decided not to set a HBEL, and it would not be expected to provide a significant public health benefit.

3. Ecosystem Impacts

Comment: One commenter expressed concern about the ecological impacts of the proposed HBEL for acid gases. The commenter stated that federal, state and local agencies have struggled for years to reduce emissions of SO_2 and other acid gases to prevent the devastating effects of acid rain on large ecosystems and noted the proposed standards would likely result in the acidification of the ecosystems in close proximity to BSCP and clay ceramics manufacturing sources. The commenter asserted the ecological impact analysis of the emissions standards for this proposal is inadequate.

Response: The EPA disagrees with the commenter that the ecological analysis is inadequate. The environmental screening analysis evaluated potential damage and reduced productivity of plants due to chronic direct exposure to HCl and HF emitted by clay ceramics manufacturing facilities and BSCP manufacturing facilities into the air. The chronic 90-day benchmarks used in the environmental risk screen for the acid gases are shown in Table 7 of this preamble and discussed in the following section.

TABLE 7—ACID GAS BENCHMARKS INCLUDED IN THE ENVIRONMENTAL RISK SCREEN

Acid gas	Chronic 90-day benchmark in µg/m^3 [a]
Hydrochloric acid—LOEL	[b]50
Hydrofluoric acid—Plant Community LOEL	0.5
Hydrofluoric acid—Plant Community LOEL	0.4

[a] Micrograms per cubic meter.

[b] Note that the human health RfC is 20 µg/m^3, which is lower than the ecological benchmark.

For HCl, the EPA identified chronic benchmark concentrations as described in a 2009 EPA document on RTR risk assessment methodologies.[76] The chronic benchmark for HCl was based on a lowest observed effects level (LOEL) from a short-term exposure (20 minutes) that related HCl concentration to ''changes'' in the leaves of 7 out of 8 plant species as reported by Lerman *et al.*[77] It was the lowest exposure concentration at which effects of any type were seen (visible injury to some proportion of leaves). Haber's law was used to extrapolate the 1.5 mg/m^3 LOEL concentration (20-minute exposure) to a 0.5 mg/m^3 concentration expected to produce the same effect after 1 hour. The 1-hour estimated LOEL was extrapolated to a chronic benchmark by dividing by a factor of ten to yield 0.050 mg/m^3, or 50 µg/m^3.

For HF, the EPA used two chronic benchmark concentrations for plants in the environmental screening analysis. The value of 0.5 µg HF/m^3 is based on the Washington State criterion for gaseous HF and represents a LOEL. The value of 0.4 µg HF/m^3 is based on the Environment Canada criteria and also represents a LOEL.

To protect vegetation from adverse effects resulting from HF exposure, the Canadian Council of Ministers of the Environment[78] recommends that HF concentrations not exceed 0.4 µg/m^3 over a 30- to 90-day period; HF concentrations can be higher for shorter exposures). Environment Canada[79] defined the effect represented by the level of 0.4 µg HF/m^3 as:

> The level above which there are demonstrated effects on human health and/

(''[S]etting conventional MACT standards for HCl as well as PM . . . would result in significant reductions in emissions of other pollutants, most notably SO_2, non-condensable PM, and other non-HAP acid gases (*e.g.,* hydrogen bromide) and would likely also result in additional reductions in emissions of mercury and other HAP metals (*e.g.,* selenium).''); 76 FR 25051 (''[S]etting conventional MACT standards for HCl as well as PM . . . would result in significant reductions in emissions of other pollutants, most notably SO_2, PM, and other non-HAP acid gases (*e.g.,* hydrogen bromide) and would likely also result in additional reductions in emissions of Hg and other HAP metals (*e.g.,* Se).'').

[76] U.S. EPA, 2009. Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing. EPA–452/R–09–006. Docket Item No. EPA–HQ–OAR–2013–0291–0044.

[77] Lerman, S., O.C. Taylor, and E.F. Darley, 1976. Phytotoxicity of Hydrogen Chloride Gas with a Short-Term Exposure. Atmospheric Environment, Vol. 10, pp. 873–878.

[78] CCME. 1999b. Canadian National Ambient Air Quality Objectives: Process and Status. In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg. Publication No. 1299, ISBN 1–896997–34–1. Available at *http://ceqg-rcqe.ccme.ca/download/en/133/.*

[79] EC. (Environment Canada). 1996. National Ambient Air Quality Objectives for Hydrogen Fluoride (HF). Science Assessment Document. A Report by the CEPA/FPAC Working Group on Air Quality Objectives and Guidelines. July. ISBN 0–662–25641–7, Catalogue En42–17/6–1997. Available online at: *http://www.bape.gouv.qc.ca/sections/mandats/ap50_rio_tinto_alcan/documents/DQ3.1.1.pdf.*

or the environment. It is scientifically based and defines the boundary between the lowest observed adverse effect level (LOAEL) and the no observed adverse effect level (NOAEL). It is considered to be the level of exposure just below that most likely to result in a defined and identifiable but minimal effect. The reference levels have no safety factors applied to them, as they are related directly to the LOAEL, and are the most conservative estimates of the effect level.

High concentrations of HF in the air have also been linked to fluorosis in livestock. However, the HF concentrations at which fluorosis in livestock occur are higher than those at which plant damage begins. Therefore, the benchmarks for plants are protective of both plants and livestock.

For Clay Ceramics Manufacturing facilities, the environmental risk screen indicated that the area-weighted average modeled concentration of HCl around each facility (*i.e.,* the area-weighted average concentration of all offsite data points in the modeling domain) did not exceed the ecological benchmark. In addition, the ecological benchmark was not exceeded at any offsite receptor location for any facility. For HF, the environmental risk screen indicated that the area-weighted average modeled concentration of HF around each Clay Ceramics Manufacturing facility did not exceed the ecological benchmark. There were multiple facilities with modeled concentrations of HF at offsite receptor locations that exceeded the ecological benchmark, but the area over which the value was exceeded was no greater than 1 percent of the offsite modeling domain for each facility, indicating that there would not be any significant or widespread environmental effects.

For BSCP Manufacturing facilities, the environmental risk screen indicated that the area-weighted average modeled concentrations of HCl and HF around each facility (*i.e.,* the area-weighted average concentration of all offsite data points in the modeling domain) did not exceed the ecological benchmarks. In addition, the area over which the HCl or HF benchmarks were exceeded was less than 1 percent of the offsite modeling domain for each facility in the category, indicating that there would not be any significant or widespread environmental effects.

The EPA did not conduct an assessment of the potential for emissions of HCl to cause acidification in close proximity to the sources in this category. Acid deposition, more commonly known as acid rain, primarily occurs when emissions of SO_2 and nitrogen oxides (NO_X) react in the atmosphere (with water, oxygen, and oxidants) to form various acidic compounds.[80] Although some studies indicate that HCl emissions could contribute to acidification around emission sources in certain environments,[81] its overall effect relative to NO_X and SO_2 emissions would be small. In addition, the commenter did not provide any data to support their assertion that the proposed standards would result in the acidification of the ecosystems in close proximity to BSCP and structural clay products manufacturing facilities.

4. Cumulative Effects

Comment: One commenter expressed concern that the EPA did not fully consider the cumulative effects of exposure to HAP when proposing the health-based standard under CAA section 112(d)(4). The commenter asserted that the agency assumed there are no cumulative health and environmental impacts of concern and argued the EPA cannot ensure that its proposed standards include an ample margin of safety without properly accounting for the additive and/or synergistic effects of multiple pollutants and the cumulative effects of nearby emissions.

Another commenter stated that the EPA made no adjustments to the HBEL it selected to account for the potential for harm from exposures other than to the amounts of HCl, HF, and Cl_2 it proposed to allow. Specifically, the EPA must consider emissions of HCl, HF, and Cl_2 and other pollutants with biologically similar endpoints (*i.e.,* that cause respiratory harm) from sources in the source category as well as from any co-located sources and other stationary or mobile sources located such that their emissions affect people who are also exposed to the emissions subject to the NESHAP. The commenter asserted that the EPA cannot lawfully set limits ‘‘with an ample margin of safety’’ when it ignores other sources of exposure and cumulative health effects. The commenter asserted that, to protect exposed populations, the regulated sources must reduce their emissions to a level that ensures the total concentration of pollutants will remain below the pollutants' respective health thresholds. The commenter asserted that the EPA's decision to ignore the impact of other emissions and background concentrations in the implementation of the HBEL is therefore arbitrary, capricious, an abuse of discretion, and otherwise not in accordance with law.

If the ambient concentration of a particular pollutant is already at or near the health threshold, the commenter asserted that an additional source of that pollutant or another pollutant with a biologically similar endpoint can push the exposure over the threshold, even if the additional source emits the pollutant at low concentrations. The total risk that is unacceptable for the most-exposed person in each source category must be reduced to consider the cumulative effect of these additional exposures and to create a total risk from all regulated source categories. The commenter stated that EPA's assessment of cumulative risks posed by HCl, HF, and Cl_2 emissions ignored emissions from co-located sources (for BSCP kilns), nearby sources and all other potential sources that could contribute to background levels. The commenter noted that the EPA has emissions information about co-located and nearby sources in its own databases but failed to evaluate whether cumulative exposures would exceed the health thresholds and to consider combined exposures. The commenter reviewed reports from the EPA's Enforcement and Compliance History Online (ECHO) Web site for a number of BSCP and clay ceramics facilities and provided notes on other major source facilities in close proximity. The commenter stated that the EPA's justifications regarding cumulative nearby emissions are legally inadequate and factually inaccurate. The commenter stated that general assertions that other operations are not ‘‘commonly’’ co-located with BSCP and clay ceramics facilities, that such facilities are ‘‘typically’’ located on large tracts of land, and that facilities are set back from property lines in rural areas are insufficient to set the emissions standard at a level that protects all people living near such facilities.

The commenter stated that information in the EPA's own databases demonstrates that BSCP and clay ceramics facilities are not predominantly located in rural, sparsely populated areas, as the EPA assumes. Many of the BSCP facilities are located in urban areas, including Boral Bricks in Terre Haute, Indiana; Hanson Brick in Columbia, South Carolina; General Shale Brick in Denver, Colorado; and Cherokee Brick & Tile in Macon, Georgia.[82] Similarly, in the clay

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[80] National Acid Precipitation Assessment Program Report to Congress, 2005. Also see—*http://www.epa.gov/acidrain/reducing/index.html.*

[81] Hydrochloric Acid: An Overlooked Driver of Environmental Change. Environmental Science and Technology 2011, 45, 1187–1894.

[82] U.S. Census Bureau, 2010 Census Urban and Rural Classification and Urban Area Criteria: Lists of 2010 Census Urban Areas, *http://www2.census.gov/geo/docs/reference/ua/ua_list_all.xls.*

ceramics source category, only two of the sources are located in areas considered ''rural'' by the United States Census Bureau: American Marazzi Tile in Sunnyvale, Texas, and the Kohler Wisconsin Plant outside of Sheboygan, Wisconsin.[83]

The commenter stated that the EPA's assessment of cumulative risks does not meet generally accepted good practices in risk assessment. The SAB recommended in May 2010 that the EPA incorporate ''aggregate and cumulative risks, including background concentrations and contributions from other sources in the area'' into its risk analysis.[84] The commenter stated that the EPA must assess the total and cumulative risk burden, rather than only looking at each type of risk in a discrete, separate way, and the EPA should be integrating its assessments and performing a ''comprehensive risk assessment'' as the NAS has emphasized. After first assessing the total cancer, chronic non-cancer, and acute risks, for both inhalation and multipathway exposure, the EPA also must assess the total risks.[85] The EPA must aggregate health risk for each pollutant, and each type of health risk, to create a cumulative risk determination for an individual with maximum exposure. Without a combined health risk metric, the EPA cannot make an ample margin of safety determination that is based on the full picture of health risk for these source categories.

Finally, the commenter stated that this proposal is contrary to the EPA's recent conclusion in its regulation of power plant electric generating units that ''the potential cumulative public health and environmental effects of acid gas emissions'' did not allow for CAA section 112(d)(4) standards.[86] In that rulemaking, the EPA did not receive facility-specific emissions information for all the acid gases from units in the source category, co-located sources, and all nearby sources. The EPA concluded that ''cumulative impacts of acid gases on public health were not assuaged by the comments received.'' The commenter stated that the EPA did not consider that information in this rulemaking either, and just as in the power plant rulemaking, HBEL are not lawful.

Response: The EPA disagrees with the commenter that the EPA did not consider the potential impacts of nearby BSCP and clay ceramics facilities or other nearby facilities in the determination of the HBEL for each source category. The limit reflects the impacts of all facilities in the source category. While the risk assessment did not perform a detailed modeling analysis of other nearby facilities, based on a proximity analysis of sources emitting acid gases, the EPA concludes that the emissions from these facilities would not have significantly impacted the analysis for several reasons. First, the limit reflects a hazard index (HI) less than or equal to one at the highest impacted receptor at each facility. For source categories like BSCP and clay ceramics where emission release heights are low, the highest impacted receptor is always very near (*e.g.,* shares a common fenceline) the facility, and ambient concentrations fall quickly with distance from the source. Because of this, other facilities would have to be very near a BSCP or clay ceramics facility and have relatively high emissions to have any significant impact on the receptor with the highest estimated concentration from the BSCP or clay ceramics emissions. As in risk assessments performed under the Risk and Technology Review program, the EPA did not model the nearby sources in the National Emissions Inventory (NEI) because that inventory has not received the same level of review and quality assurance that the BSCP emissions have for the purposes of this rulemaking.

Although the EPA did not model the other nearby facilities, the EPA did compare the location of all sources emitting acid gases with the locations of the BSCP and clay ceramics facilities. The EPA found that only four facilities emitted acid gases within 1 kilometer of any BSCP facility. Beyond 1 kilometer, we would expect very little coincidental impacts from multiple low level sources emitting the same pollutants. The largest of these facilities emitted less than 12 tpy of HCl-equivalent emissions, or less than 5 percent of the emissions limit. The estimated HI for this BSCP facility was 0.6, so an increase of 5 percent in emissions would result in an increase in HI of at most 5 percent and, thus, not increase the HI above a value of 1. There are no other sources emitting acid gases within 1 kilometer of any clay ceramics facility.

Also, for the BSCP plant with the highest estimated HI, there are no other acid gas emissions indicated in the NEI within 5 kilometers of the facility. For the clay ceramics plant with the highest estimated HI, there are no other acid gas emissions indicated in the NEI within 10 kilometers of the facility. Thus, we would not expect emissions of acid gases from other sources to contribute significantly at the receptors where the maximum HI occurs due to BSCP or clay ceramic emissions, and the HI at these receptors would not exceed 1.

5. Risk Assessment

Comment: One commenter stated that the Human Exposure Model (HEM–3) meteorological data used for dispersion calculations was insufficient because it included data for only 1 year (2011) from only 824 meteorological stations. The commenter asserted that this provides a very limited snapshot of air quality data and, therefore, is insufficient to determine with confidence that exposures at the proposed emissions standards pose ''no risk'' of adverse health effects. The commenter stated that it is unlawful and arbitrary to set CAA section 112(d)(4) standards without more extensive air quality information.

Response: The EPA disagrees with the commenter that the meteorological data were insufficient to perform the risk assessment. Although 5 years of meteorological data are preferred for assessing chronic exposures and risks, we use a single year (2011) of meteorological data in our risk assessments because of model run times for the Human Exposure Model (HEM–3) air dispersion model (AERMOD). Because we frequently run AERMOD for an entire source category with many individual emissions points and for many receptors, using 5 years of meteorological data would increase already significant model run times by a factor of five compared to a single year. In a sensitivity analysis of the impact of using a single year of meteorological data compared to 5 years,[87] we found that modeled concentrations differed by less than 10 percent on average and, thus, the use of

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[83] U.S. Census Bureau, 2010 Census Urban and Rural Classification and Urban Area Criteria, *https://www.census.gov/geo/reference/ua/urban-rural-2010.html* (revised Feb. 9, 2015) (searching plant location by city listed in address).

[84] Memorandum from Science Advisory Board, U.S. EPA, to Lisa Jackson, Adm'r, U.S. EPA re: Review of EPA's Draft, EPA–SAB–10–007 at 6 (May 7, 2010).

[85] CalEPA, OEHHA, Cumulative Impacts at 19–21, 25 (describing total ''pollution burden'' as sum of exposures, public health effects, and environmental effects); EPA, Concepts, Methods and Data Sources for Cumulative Health Risk Assessment of Multiple Chemicals, Exposures and Effects, at 4–42 to 4–46 (Aug. 2007).

[86] Responses to Public Comments on EPA's National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units, vol. 1. Docket Item No. EPA–HQ–OAR–2009–0234–20126.

[87] U.S. EPA, 2009. Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing. EPA–452/R–09–006. Docket Item No. EPA–HQ–OAR–2013–0291–0044.

1 year of meteorological data is not likely to appreciably affect the results of the risk assessment.

The meteorological data we used were obtained from the Automated Surface Observing Systems (ASOS) program, which is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). The ASOS serves as the nation's primary surface weather observing network and is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. With the largest and most modern complement of weather sensors, ASOS has significantly expanded the amount of available meteorological information. The ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year. The ASOS is installed at more than 900 airports across the country, and our meteorological library for the year 2011 includes all of these that are without a significant number of missing hours (824 stations).

Comment: Two commenters stated that the EPA's modeling understates chronic health risk by assuming that chronic exposure to HAP from BSCP and clay ceramic manufacturing sources occurs at the census block centroid and not at the facility fence or property line. The commenters stated that exposures are likely to be higher for people living closest to the plants, especially because census blocks can cover a large area and the center of a census block is almost always farther away from the facility than the facility's property line. One commenter noted that even if the area near the property line is not developed, over time homes and businesses could locate closer to the facility. While it is possible that population distribution is homogenous over a census block, the commenter stated this assumption is not necessarily accurate in considering the predicted impacts from the location of a source.

One commenter stated that no effort was made to move receptor points closer to the facility to assess chronic or cancer risk, even in those instances where local residents live nearer to a facility than the geographic centroid of the census block. This conflicts with the recommendation of the SAB, which has urged the EPA to consider ''specific locations of residences.'' [88] The commenter stated that the EPA failed to adjust receptor points for residents living on the fence-line even though the HEM–AERMOD system allows for such an adjustment, and that such an adjustment was appropriately made for the estimation of acute health risks (see, *e.g.,* 79 FR 75644). The commenter stated that the EPA cannot justify failing to analyze chronic health effects in a similar manner.

Another commenter agreed and stated that the EPA can use HEM–3 to identify the maximum individual risk at any point in a census block that is within a 50-kilometer radius from the center of the modeled facility. The commenter recommended the EPA not use the predicted chronic exposures at the census block centroid as a surrogate for the exposure concentrations for all people living in that block; instead, the EPA should use the maximum individual risk in its risk assessments, irrespective of its location in the census block.

Response: The EPA disagrees with the commenters' assertion that we relied solely on the census block centroids as receptors for human exposure. As we have noted in the development of RTR regulations, in a national-scale assessment of lifetime inhalation exposures and health risks from facilities in a source category, it is appropriate to identify exposure locations where it may be reasonably expected that an individual will spend a majority of his or her lifetime. Further, in determining chronic risks, it is appropriate to use census block information on where people actually reside, rather than points on a fenceline, to locate the estimation of exposures and risks to individuals living near such facilities.

Census blocks are the finest resolution available as part of the nationwide population data (as developed by the U.S. Census Bureau); each is typically comprised of approximately 50 people, or about 20 households. In the EPA risk assessments, the geographic centroid of each census block containing at least one person is used to represent the location where all the people in that census block live. The census block centroid with the highest estimated exposure then becomes the location of maximum exposure, and the entire population of that census block is assumed to experience the maximum individual risk. In some cases, because actual residence locations may be closer to or farther from facility emission points, this may result in an overestimate or underestimate of the actual annual concentrations (although there is no systematic bias for average levels). Given the relatively small dimensions of census blocks in densely populated areas, there is little uncertainty introduced by using the census block centroids in lieu of actual residence locations. There is the potential for more uncertainty when census blocks are larger, although there is still no systematic bias. The EPA concludes that the most appropriate locations at which to estimate chronic exposures and risks are the census block centroids because: (1) Census blocks are the finest resolution available in the national census data, (2) facility fencelines do not usually represent locations where chronic exposures are likely and (3) there is no bias introduced into the estimate of the MIR by using census block centroid locations. In addition, in its peer review of the methodologies used to estimate risks as part of the RTR rulemaking efforts, the EPA's SAB endorsed this approach.

In addition to the approach described above, the EPA recognizes that where a census block centroid is located on industrial property or is large and the centroid is less likely to be representative of the block's residential locations, the block centroid may not be the appropriate surrogate. For BSCP facilities, in cases where a census block centroid was within 300 meters of any emission source (and therefore possibly on facility property), we viewed aerial images of the facility to determine whether the block centroid was likely located on facility property. Likewise, we examined aerial images of all large census blocks within 1 kilometer of any emission source. If the block centroid did not represent the residential locations within that block, we relocated it to better represent them and/or we added additional receptors for residences nearer to the facility than the centroid. For this source category, we relocated 14 census blocks that appeared to be on facility property or were otherwise not representative of the population within the block, and we modeled an additional 15 receptors in cases where the single block centroid was inadequate to characterize the population within the census blocks.

Comment: One commenter stated that the EPA's risk assessment did not account for the synergistic health effects from the potential exposure to multiple acid gas pollutants. Specifically, the EPA did not demonstrate that no health effects would occur if a person is chronically exposed to a combination of

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[88] Memorandum from Science Advisory Board, U.S. EPA, to Lisa Jackson, Administrator, U.S. EPA re: Review of EPA's Draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing'' at 4. May 7, 2010.

HCl, HF, and Cl_2, even if the sum of the exposures (converted into ''equivalent'' units) does not exceed the ''HCl-equivalent'' limit. The commenter also argued the EPA failed to provide evidence showing that the acid gases would not have synergistic effects that could cause harm at a chronic exposure concentration that is lower than the RfC, REL, or MRL of each pollutant. The commenter asserted the EPA did not seek outside peer review by the SAB or other body or request public comment on its use of dose-response values to exchange exposures of one acid gas pollutant for another prior to proposing use of ''HCl-equivalents'' standards.

The commenter stated that since the EPA based the ratio for comparing HF and Cl_2 emissions to HCl emissions on the RfC, REL or MRL values, and those values are uncertain and flawed (see previous comments in this section V.A, explaining that values were not based on a NOAEL, and the EPA has ''low'' confidence in the HCl RfC), the HCl-equivalent method cannot assure ''an ample margin of safety.'' The commenter asserted that CAA section 112(d)(4) requires the EPA to set separate standards for HCl and HF, and the EPA's decision to set a HCl-equivalent emissions standard is unlawful and arbitrary.

Response: The EPA believes that groups of chemicals can behave antagonistically or synergistically, such that combined exposure can either cause less or more harm, depending on the chemicals. To address pollutant mixtures in the determination of the HBEL, the EPA generally used the same methodology used in RTR assessments, which is to follow the EPA's mixture guidelines.[89] [90] This methodology has been formally peer reviewed by the SAB.[91] Following the mixture guidelines, the EPA aggregated noncancer hazard quotients (HQs) of HAP that act by similar toxic modes of action or that affect the same target organ. This process creates, for each target organ, a target-organ-specific hazard index (TOSHI), defined as the sum of HQs for individual HAP that affect the same organ or organ system. All TOSHI calculations were based exclusively on effects occurring at the ''critical dose'' (*i.e.,* the lowest dose that produces adverse health effects). The EPA actually calculated the HBEL conservatively by including HF in the calculation of equivalent emissions even though it affects a different target organ than HCl and Cl_2, thereby allowing the development of a single emissions limit for all acid gases. The conservatism in the limit due to the inclusion of pollutants with different target organ systems would have the effect of ameliorating potential synergism of the acid gases.

6. Ample Margin of Safety

Comment: One commenter disagreed with the EPA's decision to set an HCl-equivalent HBEL, rather than set separate HBEL for HCl, HF, and Cl_2. The commenter stated that, by setting one ''HCl-equivalent emissions'' limit at 250 tpy (57 lb/hr) for BSCP tunnel kilns and 600 tpy (140 lb/hr) for clay ceramics sources, each source is free to emit whatever combination of HCl, HF, and Cl_2 it would like, provided the aggregate of the ''HCl-equivalent emissions'' does not exceed the limit. The commenter also noted that the HCl-equivalent HBEL for clay ceramics does not include Cl_2 and requested that the EPA explain how it converted Cl_2 into HCl-equivalent emissions.

The commenter stated that CAA section 112(d)(2) mandates that the EPA ''shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section.'' The commenter asserted that it is unlawful for the EPA not to set an emissions limit for a CAA section 112-listed pollutant (*Nat'l Lime Ass'n,* 233 F.3d at 634) and concluded that even if the EPA believes the health risks posed by HF and Cl_2 emissions can be translated into HCl-equivalent units, the proposed ''HCl-equivalent'' limit contravenes the EPA's obligation to set CAA section 112(d) standards for each pollutant.

The commenter also stated that the EPA's approach raises questions about whether the use of ''HCl-equivalents'' results in limits that protect people against all of a pollutant's health risks with ''an ample margin of safety,'' as required by CAA section 112(d)(4). The commenter argued that because pollutants cause different adverse health effects, they are not ''equivalent'' pollutants that cause ''equivalent'' health effects at ''equivalent'' concentrations of exposure. The commenter further argued the RfC for HCl is based on a study of respiratory toxicity and is meant to protect individuals against respiratory harms from chronic exposures, while the REL used for HF is based on a study of skeletal fluorosis (increased bone density) and is meant to protect individuals against skeletal harm from chronic exposures.[92] The commenter noted that the EPA focused only on the respiratory harm caused by the pollutants, when skeletal harm is the most sensitive effect for HF, and the EPA failed to explain why skeletal harm caused by a certain quantity of HF can be converted into respiratory harm caused by HCl.

The commenter also noted that the EPA does not claim to be using HCl as a surrogate for HF or Cl_2. The commenter stated that the EPA previously stated that HCl cannot act as a surrogate for the other acid gases because pollutants that act on humans in different manners, at different doses, cannot stand in for one another (see 76 FR 25049 and 75 FR 32031).

Another commenter expressed concern the HCl-equivalent emissions limit could mask exposures or emissions of concern for the most toxic gas because the comparison would be dominated by a higher concentration pertinent to the less toxic gases. The commenter asserted that there is no analysis that justifies this combined metric and noted it would be more justifiable if the substances were in the same order of magnitude for potential potency. The commenter recommended that the EPA consider whether these gases could contribute to the acid component of ambient air that is thought to potentially contribute to cancer and other effects because these impacts appear not to have been considered by the EPA.

Response: The EPA disagrees with the commenters' assertion that the HBEL cannot be based on equivalent emissions of a single pollutant. For the BSCP Manufacturing rulemaking, the EPA used an approach specific for this NESHAP to set health-protective emissions limits that would account for the multiple acid gas pollutants emitted by the BSCP facilities. By converting the emissions of each acid gas or combination of acid gases (HCl, Cl_2 and

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[89] U.S. EPA, 1986. Guidelines for the Health Risk Assessment of Chemical Mixtures. EPA–630–R–98–002. September 1986.

[90] U.S. EPA, 2000. Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures. August 2000.

[91] U.S. EPA Science Advisory Board, 2010. Review of EPA's draft entitled, ''Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by the EPA's Science Advisory Board with Case Studies—MACT I Petroleum Refining Sources and Portland Cement Manufacturing.'' May 7, 2010. Available at: *http://yosemite.epa.gov/sab/sabproduct.nsf/4AB3966E263D943A8525771F00668381/$File/EPA-SAB-10-007-unsigned.pdf.*

[92] OEHHA, Chronic RELs and Toxicity Summaries, at 278. CalEPA made it clear that its REL is for ''[i]ncreased bone density (skeletal fluorosis),'' that the NOAEL was for ''chronic skeletal fluorosis,'' and that ''[c]hanges in bone density . . . appear[s] to be the most sensitive health effect for chronic exposure.'' OEHHA, Chronic RELs and Toxicity Summaries at 272, 278–79. The principal study on which the REL is based did observe an increase in the incidence of acute respiratory disease, too, *id.* at 271, but the REL was not primarily based on that health effect.

HF) to an HCl-equivalent emission, the EPA can estimate a single exposure concentrations for comparison with the HCl reference value (RfC). If the ratio of HCl exposure concentration to the HCl RfC value remains at or below 1, the HBEL (HCl-equivalent emissions) would ensure that the threshold values for any individual or combination of acid gases would not be exceeded (*i.e.,* remain at or below 1). The EPA used the same approach to convert emissions of HF to an HCl-equivalent and determine the HBEL for the Clay Ceramics Manufacturing NESHAP; the only difference is that there are no valid Cl_2 emissions data for clay ceramics facilities, so Cl_2 is not included in the HBEL.

Comment: Two commenters generally supported the proposed HBEL and stated that the EPA has conclusively demonstrated that the proposed HBEL would provide an ample margin of safety for HCl, HF, and Cl_2 emissions from affected facilities. As the EPA explained in the proposal, the analysis was based on site specific data from each tunnel kiln, and the proposed HBEL was developed at a level that would result in an HQ of 1 at the worst-case facility. Because the potential risks at facilities other than the worst-case facility are predicted to be well below 1, the commenters stated that this analysis assures that an ample margin of safety will be provided for the ''worst case'' facility in the industry and more than an ample margin will be provided for all other affected facilities.

Conversely, another commenter contended that the EPA's proposed HBEL under CAA section 112(d)(4) does not include ''an ample margin of safety.'' The commenter disagreed with the approach the EPA used to determine the CAA section 112(d)(4) limits. Specifically, the commenter stated that by setting the limits at precisely the same level as the threshold value, the EPA proposed to allow plants to emit acid gas pollution that would expose people to amounts of pollution that reach threshold levels.

The commenter stated that these limits do not include any ''margin of safety,'' let alone an ''ample'' one, as the EPA is required to include for CAA section 112(d)(4) standards. The commenter expressed concern that under the EPA's approach, even the slightest uncertainty in the EPA's estimates or low background levels of pollution can place health at risk because plants can emit at the health threshold. The commenter stated that the EPA did not explain how these limits would protect public health with ''an ample margin of safety.''[93] The commenter asserted that a margin of safety is supposed to provide additional safety and account for uncertainty and variability that might result in harm to individuals below the threshold. The commenter further stated that an ''ample'' margin of safety must assure not only extra room for safety, but a ''generous'' margin for safety.[94]

The commenter noted that a TOSHI (which is the sum of the HQs) of ''one'' does not necessarily represent a safe level of exposure. The commenter asserted the EPA characterizes a TOSHI or HQ of ''one'' or less as exposures that ''are not likely to cause adverse health effects'' (79 FR 75643), but did not provide any explanation why this level would meet the statutory standard. According to the commenter, Congress intended the standard to be set at a level at which there is ''no risk'' of ''adverse health effects,'' plus ''an ample margin of safety (and not considering cost).''[95] For these reasons, the commenter concluded that the proposed limits do not comply with the CAA and could put public health at risk.

The commenter also expressed concern that the EPA did not take steps to adjust the limits to reflect the uncertainties regarding health exposures and effects. The EPA has factored in uncertainties and vulnerability factors in other rulemakings, such as when determining a Target Margin of Exposure under the FQPA, where the EPA considered whether risks below the Target Margin of Exposure warranted increased scrutiny and changes to allowable exposures.[96] The commenter also stated that the EPA's proposed limits would allow human exposures to exceed the level that CalEPA has identified is the safety minimum. Allowing human exposure to HCl concentrations above a threshold a state agency determined may cause respiratory harm, the commenter contended, would not provide the ample margin of safety required by law.

The commenter further stated that the ''ample margin of safety'' language in CAA section 112(d)(4) requires that any standard that is set under this authority must be sufficient to protect against significant unforeseen consequences.[97] The commenter stated that because the ''ample margin of safety'' requirement is meant to protect against risks that have not yet been identified in research, a CAA section 112(d)(4) standard cannot be justified on grounds that the EPA does not have sufficient evidence about the health risks posed by a HAP or does not have the time or inclination to review the evidence that is available.

Response: For several reasons, the EPA disagrees with the commenter who stated that the HBEL does not include an ample margin of safety. First, the limit is based on the single facility in the source category with the worst-case combination of meteorology and distance to nearest residential receptor that leads to the highest ambient concentrations. While the EPA estimates that the limit reflects an HI of one at this facility, the HI at most other facilities would be significantly lower, with approximately 90 percent of the facilities having an estimated HI less than or equal to 0.5. Further as the standard is based on a 1-hour emission limit, in determining chronic impacts, the analysis conservatively assumes that each plant emits at the 1-hour HBEL for an entire year (8,760 hours). Also, the limit is based on estimated ambient concentrations and not exposure concentrations. Exposure concentrations are typically lower than ambient concentrations because they reflect that people's activities (*e.g.,* work, school) remove them from their residential exposure locations for significant amounts of time. For these reasons, the EPA concludes that the emission limit is health protective (*i.e.,* exposures will remain below the threshold values) and this conservative exposure scenario is consistent with the ''ample margin of safety'' requirement in CAA section 112(d)(4).

Comment: One commenter expressed concern that the EPA underestimated acute health risks in the evaluation of the risk of acute harm from short-term exposures by ignoring variability in short-term emissions. The commenter noted that the EPA calculated the 1-hour emissions estimates for its modeling of acute harm by dividing the annual emissions level by 8,760 hours per year instead of using a default factor or emissions multiplier to account for higher-than-average short-term

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[93] *Mountain Commc'ns* v. *FCC,* 355 F.3d 644, 648–49 (D.C. Cir. 2004) (agency must ''explain how its position can be reconciled'' with statutory requirements).

[94] Webster's Seventh New Collegiate Dictionary (1971) defines ''margin'' as ''a spare amount or measure or degree allowed or given for contingencies or special situations'' and ''ample'' as ''generous or more than adequate in size, scope, or capacity.''

[95] S. Rep. No. 101–228, at 171.

[96] See, *e.g.,* EPA, Sulfuryl Fluoride; Proposed Order Granting Objections to Tolerances and Denying Request for a Stay, Proposed Rule, 76 FR 3422, 3427 (Jan. 19, 2011) (explaining use of MOE).

[97] *See, e.g., Envtl. Def. Fund* v. *EPA,* 598 F.2d 62, 81 (D.C. Cir. 1978) (holding that the phrase 'ample margin of safety' in the Clean Water Act's toxic provisions required the EPA to protect against as yet unidentified risks to human health, including those ''which research has not yet identified'').

emissions. The commenter noted actual emissions over a 1-hour period will at times exceed the average hourly emissions level used in the modeling. The commenter asserted the EPA did not explain how this approach captures peak short-term emissions levels or adequately protects people from short-term exposures at levels above the average.

The commenter stated that the EPA has used emissions multipliers to scale up average hourly emissions in air dispersion modeling for other risk assessments.[98] The commenter asserted that although emission multipliers in risk assessments still underestimate risk, these assessments show the EPA recognizes the need to use multipliers in assessing health risks from short-term emissions. The commenter stated that it is unlawful and arbitrary for the EPA not to use an emissions multiplier for estimating risk for this rulemaking.

The commenter also stated that the EPA's calculation of 1-hour emissions assumed plants are operating (and generating emissions) 24 hours per day, 365 days per year. The commenter noted that averaging hourly emissions over the full calendar year produces lower hourly emissions than if the EPA had used each plant's actual operating hours. The EPA has information about each plant's operating hours and these data show many units are not operating over the full calendar year. By calculating the 1-hour emissions based on 8,760 operating hours, the commenter asserted the EPA underestimated the risks of acute exposures over shorter spans of time.

The commenter stated that because the EPA used short-term emissions that are neither conservative nor realistic, the EPA cannot conclude the standard assures ''an ample margin of safety.'' The commenter stated that in two other recent rulemakings, the EPA found information on short-term HCl emissions was insufficient to allow the EPA to evaluate ''whether a chronic health-based emission standard for HCl would ensure that acute exposures will not pose any health concerns.'' (75 FR 32031; 76 FR 25050). In these rulemakings, the commenter stated, the EPA did not proceed with risk-based standards due to the lack of this information. The commenter stated that the EPA is incorrectly proceeding with the proposed health-based standards without accounting for or quantifying peak short-term emissions.

Response: The use of an emissions multiplier to convert annual emissions to peak 1-hour emissions (determination of peak emissions for comparison with 1-hour health benchmarks) for acute (short-term) risk calculations was not necessary for this analysis, because the HBEL determined for the category is being promulgated as a mass of HCl-equivalent emitted per hour. Similarly, plant hours of operation need not be considered because the HBEL determined for the category is an hourly limit. As noted in the preamble to the proposed rule for BSCP, ''To assure that no source emits more than the 250 tpy HCl-equivalent limit in a single hour, we propose setting the emissions limit at the hourly equivalent of 250 tpy (57 lb/hr of HCl-equivalent emissions)'' (79 FR 75644). Similarly, for clay ceramics manufacturing, ''to assure that no source emits more than the 600 tpy HCl-equivalent limit in a single hour, we propose setting the emissions limit at the hourly equivalent of 600 tpy (140 lb/hr of HCl-equivalent emissions)'' (79 FR 75661).

The EPA concludes the risk analysis and subsequent standard meet an ''ample margin of safety'' in accordance with the CAA. The proposed HBEL for the entire source category is based on an emissions level corresponding to a maximum noncancer HI of one at the highest impacted facility. All other facilities would have a lower risk than the highest risk facility. Further, as the standard is based on a 1-hour emission limit, in determining chronic impacts, the analysis conservatively assumes that each plant emits at the 1-hour HBEL for an entire year (8,760 hours).

Comment: One commenter disagreed with the EPA's evaluation of acute health risks, stating that the approach is inadequate and does not assure standards are based on a safe health threshold and include ''an ample margin of safety.'' Specifically, the commenter expressed concern that the proposed HBEL are based on the chronic dose-response information and not on thresholds for acute health risks. The commenter noted the EPA approximated exposures, used those estimates to develop HQ values, and concluded ''there is low potential for acute risk'' when the HQ values are less than or equal to one. If values above one were identified, then the EPA examined additional information to determine whether there was a potential for ''significant acute risks'' for those living near the facility. The commenter noted that the EPA did not explain why this method satisfies the CAA section 112(d)(4) requirement that health-based standards be set at a level that ensures ''an amply margin of safety'' for people living near the facility. The EPA's evaluation is designed to determine whether any facilities pose ''significant acute risks''; however, the commenter stated that this is not the statutory standard, and such a determination would not signify that an ''ample margin of safety'' is included.

The commenter stated that for HF, the EPA's evaluation identified numerous plants at which there were potential acute health risks. Specifically, the EPA found 23 BSCP facilities exceeded the HQ value for HF, with nearly half of those facilities exceeding the value by four- or five-fold. For the clay ceramics category, the EPA found that eight facilities exceeded the HQ value for HF. The additional analysis the EPA performed to determine whether these facilities posed ''significant acute risks'' did not rule out the possibility of such ''significant acute risks.'' For these facilities, the EPA focused its analysis on maximum offsite HQ values; however, the commenter noted that many of the maximum offsite HQ values exceed one, thereby indicating the potential for ''significant acute risks'' remained. The commenter asserted that the EPA provided no support for why values above one means there is no potential for ''significant acute risks.''

The commenter disagreed with the EPA's assertion that there is no potential for ''significant acute risks'' because the risk assessment assumes there is a person present at the location and time where the maximum HQ value occurs and stated that relaxing conservative assumptions about exposure in individual instances is arbitrary and defeats the purpose of the evaluation. The EPA cannot pretend that the person is not present and ignore the potential for harm. The EPA's statement that a facility is not likely to emit only HF similarly provides no assurance of safety. According to the commenter, the EPA relaxed an assumption in the model because the model predicted an outcome the EPA did not like. The

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[98] See, *e.g.,* National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins; Pesticide Ingredient Production; and Polyether Polyols Production; Proposed Rule, 77 FR 1268, 1279 (Jan. 9, 2012) (finalized at 79 FR 17340 (Mar. 27, 2014); see also National Emission Standards for Hazardous Air Pollutants: Ferroalloys Production, 79 FR 60238, 60252 (Oct. 6, 2014) (applying ''an emission adjustment factor'' to ''average annual hourly emission rates . . . to account for emission fluctuations due to normal facility operations''); National Emissions Standards for Hazardous Air Pollutants Residual Risk and Technology Review for Flexible Polyurethane Foam Production, 78 FR 66108, 66122 (Nov. 4, 2013) (applying ''a conservative default emissions multiplier of 10 to estimate the peak hourly emission rates from the average rates'' as part of EPA's screening of ''worst-case acute impacts''); National Emissions Standards for Hazardous Air Pollutants: Mineral Wool Production and Wool Fiberglass Manufacturing, 76 FR 72770, 72785 (Nov. 25, 2011) (applying an ''emissions multiplier of 3 to estimate the peak hourly emission rates from the average rates'').

commenter stated the EPA provided no basis for its assertion that a facility is unlikely to emit only HF or explain why a combination of HF (for which the EPA found a potential for ''significant acute risks''), HCl, and Cl_2 emissions would not still pose ''significant acute risks.''

The commenter stated that the EPA's use of acute exposure guideline levels (AEGLs) and emergency response planning guidelines (ERPGs) to assess acute risks cannot assure that exposure presents ''no risk'' of health effects at those concentrations. The AEGL and ERPG values were created for emergency exposure scenarios. The commenter stated that levels defined for ''once-in-a-lifetime, short-term exposures'' and ''emergency'' chemical releases or accidents are not appropriate for measuring acute exposure risk. According to the SAB, indicated ''AEGL–2 and ERPG–2 values should never be used in residual risk assessments because they represent levels that if exceeded could cause serious or irreversible health effects.''[99]

The commenter stated that because the AEGL and ERPG numbers would underestimate risk to the maximum exposed individual, AEGL and ERPG values do not indicate ''safe'' thresholds that protect health with ''an ample margin of safety.'' For these reasons, the commenter contends AEGL and ERPG values should not be used to set CAA section 112(d)(4) standards.

Response: The EPA disagrees with the commenter that the EPA's acute assessment includes arbitrary decision-making and does not reflect an ample margin of safety. The EPA is not required to regulate based solely on the results of a conservative acute screening scenario which assumes that a person will be present at a specific location and during worst-case meteorological conditions. Rather, this initial screening scenario is used as a starting point in the assessment of the potential for acute effects.

For HCl and Cl_2, the acute REL values for the pollutants are not estimated to be exceeded even when using the screening scenario, and the acute REL for HF is estimated to be exceeded only by a factor of two for seven facilities using the screening scenario. The other cases of higher exceedances mentioned by the commenter are situations where the locations of the exceedances are on facility property and, therefore, not considered for public health. The acute REL is defined by CalEPA as ''the concentration level at or below which no adverse health effects are anticipated for a specified exposure duration. RELs are based on the most sensitive, relevant, adverse health effect reported in the medical and toxicological literature. RELs are designed to protect the most sensitive individuals in the population by the inclusion of uncertainty factors which are incorporated to address data gaps and uncertainties.

Regarding the use of AEGL and ERPG values, the EPA does not rely exclusively upon these values for assessment of acute exposures. Rather, the EPA's approach is to consider various acute health effect reference values, including the California REL, in assessing the potential for risks from acute exposures. To better characterize the potential health risks associated with estimated acute exposures to HAP, and in response to a key recommendation from the SAB's peer review of the EPA's RTR risk assessment methodologies, we generally examine a wider range of available acute health metrics (*e.g.,* RELs, AEGLs) than we do for our chronic risk assessments. This is in response to the SAB's acknowledgement that there are generally more data gaps and inconsistencies in acute reference values than there are in chronic reference values. In some cases, when Reference Value Arrays[100] for HAP have been developed, we consider additional acute values (*i.e.,* occupational and international values) to provide a more complete risk characterization. Because HCl, HF, and Cl_2 all have 1-hour REL values, the maximum estimated 1-hour concentrations were compared to these values to assess the potential for acute health effects.

Comment: One commenter expressed concern that the EPA's risk analysis ignored exposures from emissions of HCl, HF, Cl_2, and other pollutants with similar biological endpoints from units subject to the proposed work practice standards, including emissions during startup and shutdown, and emissions from BSCP periodic kilns and sanitaryware shuttle kilns. The commenter asserted that even though the EPA stated that the work practice standards are intended to minimize emissions, these sources are not included in the calculation of the CAA section 112(d)(4) standards, and exposures to emissions from these other sources will contribute to an individual's cumulative health risks. The commenter asserted that the EPA does not know whether the proposed HBEL will provide ''an ample margin of safety'' once emissions from periods of startup and shutdown and emissions from BSCP periodic kilns and sanitaryware shuttle kilns are added to the levels of pollution permitted by the proposed standards. For this reason, the commenter stated that the proposed CAA section 112(d)(4) standards are unlawful and arbitrary.

The commenter also stated that emissions during startup and shutdown are expected to be uncontrolled, because the EPA did not propose to require that BSCP and clay ceramics plants use APCD or other methods to reduce emissions (such as mandating the use of clean fuels) during these periods. The proposed work practice standards for periodic and shuttle kilns do not require control technology and, according to the commenter, are not anticipated to reduce emissions.

Finally, the commenter stated that the only reason startup and shutdown periods and periodic and shuttle kilns are not subject to the proposed CAA section 112(d)(4) limits is because the EPA exempted them from CAA section 112(d). The commenter stated that it is arbitrary to exclude those emissions from the health analysis solely because the EPA proposed to regulate those sources of emissions under a different subsection of the CAA. The commenter argued all exposures contribute to the risk of harm, regardless of whether they are CAA section 112(d)-regulated emissions or section CAA 112(h)-regulated emissions.

Response: The EPA disagrees that emissions during periods of startup and shutdown and emissions from BSCP periodic kilns and sanitaryware shuttle kilns will exceed the numerical HBEL. Regarding the standards for periods of startup and shutdown, as noted in the preamble to the proposed rule and further documented in Docket ID No. EPA–HQ–OAR–2013–0291,[101] temperature is the main factor affecting full production at BSCP plants. The kiln cars should be introduced into the kiln at a steadily increasing push rate to facilitate development of that specific kiln's firing temperature profile. Since emissions are generated from the firing of the bricks and the fuel combusted, the EPA has concluded that the maximum magnitude of emissions will occur when all kiln cars have been

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[99] Memorandum from Science Advisory Board re: Review of EPA's Draft at 6.

[100] U.S. EPA. (2009) Chapter 2.9 Chemical Specific Reference Values for Formaldehyde in Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R–09/061, and available on-line at *http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=211003.*

[101] Email from Susan Miller, BIA, to Sharon Nizich and Keith Barnett, EPA. ''Additional documents.'' Dated June 25, 2015.

loaded with the maximum number of bricks and the maximum amount of fuel is used. During startup, kiln operators will limit production until the kiln has heated enough to begin normal operation. This is the point whereby the standard transitions from a work practice to a numeric limit. The opposite process occurs during shutdown. Fuel use will decrease significantly so as to cool the kiln, and kiln operators will slow production to a stop. Since emissions will be lower below this point of maximum loading and fuel use, emissions will not rise above the emission limit for all pollutants, including the acid gas limits.

The owner or operator of each kiln will be required to determine the startup production rate for the kiln. For kilns with an APCD, the owner or operator will determine the minimum inlet temperature for the APCD. For kilns that, through compliance testing once the compliance date has been reached, have shown they are emitting under the emission limits and thus do not have an APCD, the owner or operator will determine the product-specific kiln temperature profile that must be achieved before the kiln can reach full production. The startup standards will be tied to the startup production rate never being exceeded until the kiln reaches the minimum inlet temperature for the APCD or the product-specific kiln temperature profile, whichever is applicable. During shutdown, once the kiln falls below the minimum inlet temperature for the APCD or the product-specific kiln temperature profile, whichever is applicable, no additional product can be introduced. These temperature limits will be required to be included in the facility's records and kept on site. Thus, for periods of startup and shutdown, the HBEL set for HCl, HF, and Cl_2 will not be surpassed during startup and shutdown.

In the case of sanitaryware shuttle kilns, the commenter is mistaken that we did not mandate the use of clean fuels. The rule does limit the fuels used to natural gas or equivalent, and also outlines work practice standards relative to temperature cycles and maintenance procedures designed to minimize HAP emissions (see Table 3 to subpart KKKKK). The use of clean fuels applies for all times the kiln is running, not just startup and shutdown. Therefore, the commenter is incorrect that we are not requiring the use of clean fuels for startup and shutdown relative to the operation of shuttle kilns.

The EPA also disagrees that just because the proposed work practice standards for periodic and shuttle kilns do not reflect the use of any control technology, they are not anticipated to reduce emissions. As the commenter has stated elsewhere, control technologies are not the only means of limiting emissions. Control of parameters such as fuel, operating temperature, combustion conditions, and throughput are also effective means of limiting emissions, and these are the types of parameters the EPA considered when finalizing the work practice standards for periodic and shuttle kilns.

As discussed in the proposal at 79 FR 75662, CAA section 112(h)(1) states that the Administrator may prescribe a work practice standard or other requirements, consistent with the provisions of CAA sections 112(d) or (f), in those cases where, in the judgment of the Administrator, it is not feasible to enforce an emission standard. Section 112(h)(2)(B) of the CAA further defines the term ''not feasible'' in this context to apply when ''the application of measurement technology to a particular class of sources is not practicable due to technological and economic limitations,'' which is the case here. There are fewer BSCP periodic kilns and first-fire sanitaryware shuttle kilns compared to tunnel kilns, and they tend to be low-emitting sources compared to tunnel kilns,[102] so their emissions will not cause an exceedance of the health threshold. The work practice standards we are finalizing will serve to ensure that emissions from these sources continue to remain low.

Comment: One commenter stated that, to create standards that assure ''an ample margin of safety,'' the EPA is required to build a margin into the HBEL for exposures to HCl, HF, Cl_2, and other pollutants with similar biological endpoints resulting from (a) exceedances of the HCl, HF, and Cl_2 standards, (b) violations of the work practice standards applicable during startup and shutdown, and (c) exceedances of other standards (*e.g.,* MACT standards for non-Hg HAP metals) that restrict pollutants with similar biological endpoints. The commenter also stated that estimating short-term emissions by averaging annual emissions does not reflect emissions spikes that occur during plant malfunctions or upsets. The commenter stated that malfunctions and upsets increase emissions and thereby pose increased health risks that the EPA must consider.

The commenter stated that relevant chronic exposures include exposures from exceedances and violations and noted that many exceedances, such as those from malfunctions and upsets, are likely to contribute significant emissions that can elevate an individual's total exposures over time. The commenter also stated that the EPA explains malfunction events can be significantly higher than emissions at any other time of source operation (79 FR 75626). The commenter stated that these emissions pose much higher short-term risks and can accumulate and combine to increase public health impacts and risk and that guarding against the health risks of releases of large amounts of HF (for example) must be built into the HBEL through the margin of safety. The commenter stated that HF exhibits characteristics in some circumstances that can make it uniquely hazardous over large areas. For example, HF molecules may associate with one another (*i.e.,* form larger molecules like H_4F_4, H_6F_6, H_8F_8) via hydrogen bonding and such molecules may form a cloud that is heavier than air, therefore less likely to disperse.

The commenter stated that, by not accounting for exposures from exceedances, the EPA assumed that such exceedances will be zero and built in no additional protections in case exceedances do occur. The commenter claimed that there is no factual basis for assuming that 100 percent of BSCP and clay ceramics facilities will comply with each of the relevant emissions limits 100 percent of the time. Over the long term and across the population of regulated facilities, the commenter noted that it is predictable that a number of exceedances will occur at facilities. The commenter stated it is unlawful to ignore emissions and the resulting health risks from those exceedances and argued the additional risk from exceedances should not be ignored in risk assessments.

The commenter stated that EPA regularly uses statistical methods and probability factors to assess health risk due to exceedances and to set clean air standards, and the EPA has data available to calculate representative factors to assess the health risk from

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[102] For example, even assuming that lb/ton emissions are similar for BSCP periodic and tunnel kilns, a comparison of annual kiln design capacities (ton product/yr) for model BSCP periodic kilns and tunnel kilns indicates that annual capacities for periodic kilns are on average only 5 percent of annual capacities for tunnel kilns. (For the basis of this calculation, see the memorandum ''Updated Inventory Database and Documentation for Brick and Structural Clay Products Manufacturing Final Rule'' in Docket ID No. EPA–HQ–OAR–2013–0291 and the memorandum ''Final Rule: Documentation of Database and Responses to the 1997 Information Collection Request for Brick and Structural Clay Products'' in Docket ID No. A–99–30.) In addition, in the BSCP industry, there are currently 120 periodic kilns located at 15 facilities, compared to 168 tunnel kilns at 84 facilities. In the sanitaryware industry sector, there are currently five first-fire shuttle kilns, compared to 11 first-fire tunnel kilns.

malfunctions or can collect information on major sources' malfunction and violation histories.[103] If the EPA needs more refined data regarding these emissions, the commenter suggested the EPA may request additional data from sources.

The commenter stated that it is irrelevant that exceedances are a result of a failure to comply with the law when the EPA is setting CAA section 112(d)(4) standards, which must be set at a level that protects health. It does not matter to a person whether the pollution he or she is breathing is a result of a permitted or unpermitted release; the commenter argued the EPA cannot turn a blind eye to the reality that compliance with its standards is not perfect.

Response: The HBEL was determined based on the assessment of acute affects at the worst-case facility with respect to meteorology and distance to receptor and is protective of most facilities even if they had SSM event emissions. Even for the worst-case facility, the SSM emissions event would need to be coincident with the worst-case meteorological conditions, which is not likely if SSM events are not frequent. For chronic risk, SSM emissions are not significant compared to the HBEL level, and most facilities are well below an HI of one with emissions at the HBEL level.

The commenter is correct that the EPA did not include malfunctions and upsets emissions in setting emissions limits. As noted in the preamble to the proposed rule (79 FR 75626), malfunctions ''are, by definition sudden, infrequent and not reasonably preventable failures of emissions control, process or monitoring equipment.'' The preamble also stated that ''accounting for malfunctions in setting emission standards would be difficult, if not impossible, given the myriad different types of malfunctions that can occur across all sources in the category and given the difficulties associated with predicting or accounting for the frequency, degree and duration of various malfunctions that might occur. For these reasons, the performance of units that are malfunctioning is not 'reasonably' foreseeable.'' It should also be noted that sources cannot conduct performance tests during periods of malfunction (40 CFR 63.8445(e) and 40 CFR 63.8595(d)) and there are no continuous emissions monitoring systems (CEMS) in place in the BSCP industry.

The EPA disagrees that it is required to evaluate the ample margin of safety provided by a CAA section 112(d)(4) standard based on the level of emissions that could occur during an exceedance of the standard caused by a malfunction or any other cause. When the EPA establishes a standard under CAA section 112(d)(4), the EPA evaluates the ample margin of safety based on what sources will emit when they are meeting the standard (which applies at all times including periods of malfunction) and does *not* include some additional margin of safety to compensate for periods of time that sources may violate the standard. This is consistent with how the EPA evaluates standards under CAA section 112(f)(2) (in that the EPA's evaluation of the ample margin of safety under that review looks at the emissions allowed under the standard, not emissions that might occur when the standard is exceeded).

Regarding the comment that the standard is not health protective for emissions of HF, the proposed rule determined the HCl equivalent emissions for HF by the ratio of the RfC value for each pollutant, such that a 250 tpy emission of HCl is equivalent to 175 tpy emissions of HF. By performing a risk analysis for each facility/kiln, the EPA demonstrated that these emissions limits are protective of both chronic and acute risks.

Regarding the comment that HF exhibits release characteristics that may make it uniquely hazardous over large areas, the EPA notes that the commenter did not include data or information supporting their assertion that plumes of acid gases from BSCP facilities could become heavier than air. The commenter's example case of the formation of dense clouds of acid gases is from studies performed on the vaporization of liquefied gaseous fuels from spills, and the commenter did not explain how this scenario is relevant to the emission of acid gases formed in BSCP kilns. In the absence of evidence suggesting that clouds of dense gases are formed from BSCP facilities, and without a suggested alternate modeling methodology, the EPA used its preferred model AERMOD for dispersion for BSCP facilities.

7. Other Issues

Comment: One commenter stated that the EPA must account for the variability in emissions measured by compliance testing to measure whether each plant's emissions meet the HBEL because that testing does not capture a source's variance in emissions performance over time. The commenter noted that the EPA already recognizes this fact for stack tests for technology-based standards. The EPA has stated that it lacks a high degree of confidence that stack tests capture variation in emissions over time, and the commenter noted that as a result of this variance, it can be expected that the compliance tests would not be accurate. The commenter asserted that if the EPA believes that measurement variability needs to be corrected for, then it is irrational and arbitrary to correct for it with one set of standards (MACT standards) and not another (health-based standards), when they both rely upon emissions data from stack tests. The commenter noted that the EPA's proposal to account for variability for MACT standards but not for compliance with the HBEL would result in weaker and less-protective standards in both cases.

Response: Variability in emissions would not have a significant impact on the estimated risks associated with the HBEL. For chronic exposures and risks, the estimates are based on long-term (annual) emissions, so short-term emissions variability would not impact the estimates of chronic risks as long as the annual emissions, on average, do not exceed the limit. For acute exposures and risks, short-term emissions variability that causes emissions to exceed the 1-hour HBEL would increase the potential for acute health effects, but the likelihood of such effects is low because the emissions variability would have to occur at the small number of facilities we estimated as having the highest acute HQs based on the emissions limits, and the emissions variability would have to coincide with worst-case meteorological conditions even at those facilities to result in acute HQs higher than those we estimated based on the HBEL. Most facilities have acute HQ estimates significantly below one, so short-term emissions variability would have to be high (approximately 60 percent higher for the median facility) for the estimated HQs to approach a value of one.

The EPA also notes that the HBEL was not established using emissions data from stack tests. Therefore, there was no need to account for variability in setting the HBEL as was done for the Hg and non-Hg HAP metals standards. Instead, the standard was established at a conservative level to ensure that the HQs remain below one for all facilities. The EPA agrees that there would be variability in the test results used to demonstrate compliance with the rule, but as already noted in this response, short-term emissions variability would have to be high for the estimated HQs to approach a value of one. In addition,

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[103] See, *e.g.*, EPA, Enforcement and Compliance History Online (ECHO), *www.epa.gov/echo*.

variability is not considered when comparing compliance testing results to any other emissions limit, so it would be inconsistent for the EPA to require owners and operators to adjust their test results before comparing those results to the HBEL.

Comment: One commenter suggested that the EPA should require fence-line ambient air quality monitoring that measures multiple pollutants in real-time or near real-time to ensure that people are not being exposed to ambient pollutant concentrations that exceed the proposed HBEL. The commenter recommended the EPA also require real-time public reporting of the monitoring data.

In addition, the commenter suggested that the EPA should require facilities to submit monitoring plans, data, and corrective action plans for agency review and public comment. These requirements would ensure concerned community members have the ability to review and recommend improvements to monitoring plans before they are implemented and would enable the EPA to consider community concerns when deciding whether to approve a plan.

Response: The EPA disagrees with the commenter. Because stack emissions can travel for long distances and are at heights above where a fence-line monitors would measure, it is inappropriate to use fence-line monitoring for stack emissions. Fence-line monitoring is performed for fugitive emissions (see discussion of fence-line monitoring use on fugitive emissions at 79 FR 36919, Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards; Proposed Rule). In response to the comment that the EPA should require all facilities to submit monitoring plans, data, and corrective action plans for agency review and public comment, the EPA notes that these requirements are indeed in the rule, as facilities are required to submit monitoring plans, data and corrective actions for the regulatory agency review. However, in most cases, these submissions are required to be sent to the delegated authority, and the follow-up to that review, is left to the discretion of the delegated authority.

B. BSCP Manufacturing NESHAP

1. MACT Floors

a. Sources in MACT Floor Pool

One commenter stated that the DC Circuit held that the BSCP Manufacturing NESHAP published on May 16, 2003 (68 FR 26690) violated the CAA in a number of ways (*Sierra Club* v. *EPA,* 479 F.3d 875 (D.C. Cir. 2007)). The court held that, in setting MACT floors for brick tunnel kilns, the EPA's exclusion of kilns employing non-DLA controls from its ranking and identification of the best performing sources was unlawful because CAA section 112(d)(3) ''requires floors based on the emission level actually achieved by the best performers (those with the lowest emission levels).'' *Id.* In addition, the court recognized that factors other than pollution control technology affect performance (*e.g.,* clay type), and the EPA cannot ignore such factors, even where the EPA finds that floors based on those factors would be unachievable.

The commenter noted that the EPA is once again excluding best performing sources from its floor analysis and basing floors on a group of kilns using the EPA's preferred control technologies, in contravention of the holding of *Sierra Club,* which is the decision to which this rulemaking is intended to be a response. In the proposed rule, prior to ranking the best performing sources for the BSCP tunnel kiln floors for PM (as a surrogate for non-Hg HAP metals) for existing and new sources, the EPA removed all kilns without a FF-based APCD. Once removed, those kilns were not included in the ranking of best performing sources, and hence they were not considered for inclusion among the best performing 12 percent of sources (for the existing source floor) or the best controlled similar source (for the new source floor). The commenter asserted that the agency's reprisal of a floor approach that the DC Circuit has already rejected repeatedly is not just unlawful, but amounts to contempt for the court's authority.

Response: The EPA disagrees with the commenter's assertion that the EPA's proposed approach to calculating PM surrogate MACT floors for kilns was illegal in that it impermissibly excluded certain kilns. However, at proposal, we asked for comment on this approach and requested additional data to support this approach, and we did not receive any such additional data. In addition, some of the test data for sources with FF-based APCD could not be used in the final rulemaking because it was discovered that the testing was not carried out in accordance with the appropriate test method. Therefore, we can no longer assert that we have emissions data for all BSCP kilns with FF-based APCD. Thus, the EPA did not use the approach challenged by the commenter to establish the MACT floors in the final rule.

The EPA has amended the approach to developing PM surrogate MACT floors for reasons explained in section IV.A.1 of this preamble, so these comments are now moot. However, the EPA still believes the approach to identify the best performing sources has merit. When the EPA has data on every single controlled source in the category, and these data support that these sources are the best performing, then basing the MACT floor on the top 12 percent of the total number of sources is appropriate.

b. Equivalent Limits

Comment: One commenter stated that, in addition to the lb/ton MACT floors for emissions of Hg and PM (as a surrogate for non-Hg HAP metals), the EPA developed two ''equivalent limits.'' The EPA used its ranking of the sources based on their ''average'' lb/ton emissions to identify the best performing source or sources for the floor pool. To develop the PM and Hg ''equivalent'' limits, the EPA took the best performing source or sources the EPA had selected and retrieved data on those sources' emission performance as measured by gr/dscf at 7-percent O_2 for PM and Hg and lb/hr for Hg. For non-Hg HAP metals, the EPA proposed to set an additional standard that would limit the pounds of non-Hg HAP metals emitted per hour. For this additional limit, the EPA again used the ranking of the sources based on their ''average'' lb/ton emissions and also (without any explanation) no longer used PM as a surrogate for non-Hg HAP metals, but instead set the limit in terms of total non-Hg HAP metals. The commenter stated that the EPA acknowledged that the available data on non-Hg HAP metals is incomplete, so to develop this proposed limit, the EPA simply took the final pounds of PM per ton of fired product floor limit that it had derived and applied a set of ''conversion factors'' it invented to put that standard in terms of pounds of non-Hg HAP metal emissions per hour. The commenter stated the EPA used completely different ''conversion'' methodologies for the new and existing standards because the EPA lacks even the limited data it used for the existing source methodology on new sources.

The commenter stated the ''equivalent'' limits the EPA proposed are not ''equivalent'' and Congress did not give the EPA the authority to set multiple limits and allow sources to comply with whichever limit they choose. The commenter stated the EPA's use of different measures of performance to identify the top sources on the one hand and to evaluate their performance on the other is inconsistent, irrational, and unexplained; the same metric should apply for purposes of identifying the best performers and identifying those sources' actual performance. The commenter also stated the EPA did not use the best performing 12 percent of existing sources ''for which the Administrator has emissions information'' for the non-Hg HAP metals lb/hr limit.

Another commenter supported the EPA's inclusion of multiple formats for both PM/non-Hg HAP metals and Hg. The commenter stated that the inclusion of each of these formats, as well as the inclusion of small and large kiln subcategories, provides needed flexibility to numerous BSCP facilities, including a large number of small businesses, to find that standard that best suits their operations while still ensuring that the CAA requirements are met. The commenter asserted that the inclusion of three alternate compliance formats is so critical to the development of this standard that the EPA must re-propose this rule if it maintains numeric limits but deletes any of these alternative formats for the final rule.

Response: The EPA appreciates all comments regarding the alternative limits. The EPA is retaining the alternative limits in the final rule but is revising the ranking methodology as described in section IV.A.2 of this preamble. For the final rule, the concentration floor is based on the ranking of the concentration data, and the lb/hr floor is based on the ranking of the lb/hr data. Each floor is based on the best performing units for that unit of measurement.

c. Oxygen Correction

Comment: One commenter stated, regarding the concentration compliance limits, that the use of the equation to correct measured concentrations to 7-percent O_2 could be problematic when used to correct concentrations measured in stacks with high O_2 content, which is typical of the brick industry. The commenter stated because the correction term is in the denominator of the equation for the correction to 7-percent O_2, the overall correction factor increases exponentially as O_2 concentrations approach 20.9 percent. As a result, any variances in the O_2 measurement are greatly magnified in the correction factor for kilns with high stack O_2 content. The commenter suggested that the correction factor should be the average O_2 content represented in the respective floors, 17-percent O_2 (based on a range of O_2 stack contents for BSCP kilns from 13 to 20 percent). The commenter asserted that the correction to an average of 17-percent will minimize the artificial inflation of the results for the industry.

Response: The EPA evaluated the O_2 content of the run-by-run datasets of PM and Hg for BSCP tunnel kilns as described in section IV.A.1 of this preamble and agrees that correcting concentration data to 17-percent O_2 rather than 7-percent, as proposed, provides more representative values of kilns' operating conditions and would not artificially inflate the values. For the final rule, the EPA has taken the O_2 percent analysis into consideration and revised the equivalent concentration based limits to be developed from 17-percent O_2-corrected concentration data.

2. Startup and Shutdown

Comment: Numerous commenters supported the use of work practice standards for periods of startup and shutdown but asserted that the startup and shutdown procedures listed in the proposed rule cannot be met by all BSCP kilns and must be modified. Commenters requested that the final language allow a more basic construct for the work practice requirements in the final rule and require facilities to develop site-specific temperatures as part of their permitting process.

Multiple commenters specifically stated that the requirement for an exhaust temperature of 400 °F at startup is not workable because the kiln exhaust temperature in some kilns never reaches 400 °F. Commenters also noted that kilns must have product at startup. Therefore, commenters requested that the startup provisions apply to the introduction, or charging, of new brick or structural clay product through a kiln and not impact the initial staging of kiln cars in a kiln before start-up. Commenters suggested revisions to the proposed language to ''not put any bricks into the kiln'' below specified temperatures.

Multiple commenters agreed with the language that requires a kiln to vent to an APCD before the exhaust gas reaches 400 °F, because it can vent at any time up to that temperature. Multiple commenters stated that for a controlled kiln, it is acceptable to require that no new product is allowed to be introduced to the controlled kiln until the kiln is vented to an APCD. One commenter stated that a feasible work practice standard would be for the exhaust gases to be vented through the APCD during the startup process, with the reagent feed started on an intermittent basis during this period and then brought up to full feed rate once the exhaust temperature has reached the normal operating temperature range.

A few commenters also requested specific revisions to the production requirements for periods of shutdown. One commenter stated that during shutdown, a kiln operator would not be pushing any cars in the kiln after reaching a range of 250 to 300 °F in the exhaust stack (depending on the type of kiln and its operating parameters). The commenter asked that a minimum operating range be allowed during a shutdown cycle. Another commenter noted that a limitation for a kiln to cease charging in new product before a kiln stops venting to an APCD may be a reasonable alternative to temperature requirements.

Response: The EPA evaluated the comments and additional information received following proposal as described in section IV.A.4 of this preamble. As a result, the EPA has revised the work practice standards for periods of startup and shutdown for BSCP tunnel kilns to provide requirements that are more representative of the best performing kilns. Specifically, instead of defining the minimum inlet APCD temperature as 400 °F, the EPA is requiring the owner or operator to determine the minimum inlet temperature for each APCD. If a kiln does not have an APCD, the owner or operator is required to determine the product-specific kiln temperature profile that must be achieved before the kiln can reach full production. In addition, instead of specifying that no product can be introduced to the kiln during startup, the EPA is requiring the owner or operator to determine the production rate needed to start up the kiln. The final startup standards specify that this startup production rate cannot be exceeded until the kiln exhaust reaches the APCD minimum inlet temperature or the product-specific kiln temperature profile, whichever is applicable. The final shutdown standards specify that no additional product can be introduced once the kiln exhaust falls below the APCD minimum inlet temperature or the product-specific kiln temperature profile, whichever is applicable.

C. Clay Ceramics Manufacturing NESHAP

1. Authority

Comment: Two commenters argued that the EPA has no legal authority to finalize major source NESHAP for the ceramic tile manufacturing industry[104]

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[104] There are three distinct sectors within the clay ceramics manufacturing industry: ceramic floor tile manufacturing, ceramic wall tile manufacturing, and sanitaryware manufacturing. These comments

Continued

because there are currently no existing major sources in that industry sector that will be subject to the standards. Specifically, they argued that CAA section 112(d)(1) only provides the EPA authority to regulate a category or subcategory if it has major sources. Commenters contended that, here, ceramic tile manufacturing facilities that emit HAP have all become synthetic area sources and so are subject to the ''area source'' NESHAP regulation. Thus, they argue, the law does not allow the EPA to proceed with a major source standard for these subcategories. Both commenters also stated that the CAA does not give the EPA the authority to regulate ''just-in-case'' there is a major source in the future, and the EPA may only regulate categories and subcategories that currently have major sources in them.

One commenter stated that the EPA should not devote resources to finalizing these regulations when those regulations would apply to no one, and, thus, will have no environmental benefits. The commenter stated that it is the EPA's duty to responsibly steward the public resources with which it has been entrusted to use in fulfillment of its mission, and using these resources to issue regulations that will regulate no one fails to satisfy that responsibility. Issuing such regulations is expensive for the regulated community and has the real potential to create unintended, inaccurate impressions of the industry, its emissions and its products. It serves no public purpose, and will impose short and long term costs on the EPA, and long term costs on delegated states as an unfunded mandate and on the tile manufacturing industry, 79 FR 75671 (Dec. 18, 2014).

The commenter argued that, because the EPA's promulgation of standards for the ceramic tile industry is not authorized by the CAA, finalizing such standards would violate Articles I and II of the U.S. Constitution because it is an attempt by the EPA to rewrite portions of the CAA when the power to enact laws is reserved to Congress. The commenter stated that Congress provided clear instructions to the EPA, in the unambiguous numerical definition of ''major source,'' as to which industry categories or subcategories could be regulated by major source NESHAP standards. The commenter noted that the Supreme Court very recently stated: ''An agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate.'' *Util. Air Regulatory Grp.* v. *EPA,* 134 S.Ct. 2427, 2446 (2014). Further, the Court stated: ''We are not willing to stand on the dock and wave goodbye as EPA embarks on a multiyear voyage of discovery.'' 134 S.Ct. at 2446. The commenter asserted that the Supreme Court's concerns in the *UARG* case are instructive here because, as in the *UARG* case, the statute creates unambiguous numeric thresholds defining a major source: the emission of 10 tpy any one HAP or the emission of 25 tpy in the aggregate of all HAP, 42 U.S.C. 9612(a)(l). The commenter contended that the Supreme Court supported the commenter's position when it stated that ''[i]t is hard to imagine a statutory term less ambiguous than the precise numerical thresholds . . .'' *Id.* at 2445.

The commenter argued that the *Sierra Club* consent decree is irrelevant to the EPA's statutory authority and its limitations. The consent decree entered in the case of *Sierra Club* v. *EPA,* 850 F.2d 300 (D.D.C. 2012) (hereafter the ''consent decree'') is germane to the timing of this rulemaking, but it does not, and legally could not, expand CAA section 112(d) to grant the EPA legal authority to regulate on the just-in-case basis the EPA has proposed. The withdrawal of the proposed NESHAP does not preclude the EPA from meeting its statutory obligations, fulfilling the requirements of the consent decree, and continuing its existing precedent. The EPA may issue final NESHAP for those subcategories within this category in which a major source exists. The ceramic tile manufacturing industry is not among them.

The commenter argued that the proposed NESHAP would, if finalized as proposed, be arbitrary and capricious because the proposed NESHAP is based on hypothetical or imaginary manufacturing and air emissions control strategies, flawed data from an invalidated stack test method, and on statistically created emissions data. The EPA even proposed in places not to use actual emissions data.

According to the commenter, the EPA's proposal, if finalized, would create an economic hurdle so high that no one in the industry would expand their business to the point of becoming a NESHAP major source. Further, a substantial number of these entities meet the definition of a ''small business'' as defined by the U.S. Small Business Administration (SBA). The result of this regulation, if finalized, would be to hand non-market-based economic advantages to foreign producers to grow their presence in the U.S. market by importing their competing ceramic tile. Financing of capital projects will be adversely affected by the costs imposed by the NESHAP, further raising the economic hurdle. Major source domestic manufacturing capacity will not be built, and the jobs and tax base that go along with that capacity will not be created.

Response: Under CAA section 112(c)(1), the EPA first lists all categories and subcategories of major sources. It is at this first step that the EPA determines that a given category or subcategory contains major sources of HAP. Then, the EPA sets standards for those listed categories and source categories. Both CAA section 112(c)(2) and CAA section 112(d)(1) make clear that the EPA is to regulate all listed categories and subcategories. As CAA section 112(c)(2) states: ''For the categories and subcategories the Administrator lists, the Administrator shall establish standards . . .'' As CAA section 112(d)(1) states: ''The Administrator shall promulgate regulations establishing emissions standards for each category and subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) of this section . . .'' In short, once a category or subcategory of major sources is listed under CAA section 112(c), it must be regulated. If commenters believe that the major source ceramic tile subcategories should not be regulated, they may seek to delete these subcategories from the list, which is a process that Congress established in CAA section 112(c)(9) and which the DC Circuit has held is the EPA's sole authority for removing a listed category or subcategory from the list. *New Jersey* v. *EPA,* 517 F.3d 574, 581–583 (D.C. Cir. 2008).

In interpreting the relevant provisions here, the EPA is mindful of the recent and longstanding instructions from the Supreme Court that statutory provisions must be read to further rather than undermine Congress's statutory intent. *King* v. *Burwell,* 2015 U.S. Lexis 4248, *29 (2015)(''We cannot interpret federal statutes to negate their own stated purposes.'')(citing and quoting *New York State Dept. of Social Servs.* v. *Dublino,* 413 U. S. 405, 419–420, 93 S. Ct. 2507, 37 L. Ed. 2d 688 (1973)); *E.I. Du Pont De Nemours* v. *Train,* 430 U.S. 112, 132 (1977)(''We cannot, in these circumstances, conclude that Congress has given authority inadequate to achieve with reasonable effectiveness the purposes for which it has acted.'')(quoting Permian Basin Area Rate Cases, 390 U.S. 747, 777 (1968)). In this context, it is unreasonable to read

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address the regulation of HAP emissions from ceramic floor tile manufacturing and ceramic wall tile manufacturing.

CAA section 112(d)(1) as limiting the EPA's authority to set standards that will be applicable to the highest emitting sources in a category or subcategory and creating a loophole by which major sources can evade regulation. Without suggesting that the following is the commenters' intent, the effect of the commenters' interpretation of CAA section 112 would be that major sources would be able to evade regulation by, first, becoming synthetic area sources during the rulemaking process (which, under the commenters' view, would preclude the EPA from finalizing standards for major sources) and then, after the EPA withdraws the proposed standards, reconverting to be major sources and thus not subject to any standard. Consideration of this scenario is particularly appropriate in the circumstances here, because there are standards in place for area sources in the ceramic tile subcategories. It is not reasonable to interpret CAA section 112 to create a structure where an area source (whether a natural area source or a synthetic area source) has an incentive to increase emissions to become a major source, and by doing so is no longer subject to emissions limitations.

Further, the issue of whether there are major sources in the ceramic tile subcategories is not as clear as the commenters presume. Even if, as the commenters contend, all of the existing major sources in these subcategories have successfully completed the process of becoming synthetic area sources, then these sources are not subject to the requirements imposed on major sources but that does not equate to a conclusion that they are no longer major sources in any respect. The EPA's view is that synthetic area sources, though subject to area source requirements rather than major source requirements, are still major sources in certain respects. For example, synthetic area sources are considered to be major sources when the EPA identifies the best performing major sources as part of a MACT floor calculation under CAA section 112(d). Further, CAA section 112(a)(1) defines a major source as ''any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.'' The reference to a source's ''potential to emit considering controls'' in this definition allows the interpretation that a source's potential to emit before and after controls is relevant, such that synthetic area sources may be considered within the meaning of this definition.

With respect to the commenter's argument that CAA section 112 does not authorize ''just in case'' regulation, that is both not correct and off point. First, CAA section 112 clearly provides that the EPA will set standards for new sources in the listed categories and subcategories notwithstanding that the EPA can never know whether there will actually be any new sources. As required under CAA section 112, the EPA establishes new source standards ''just in case'' (to use commenter's phrasing) new sources come into existence. Second, as discussed above, it is reasonable for the EPA to promulgate major source standards where, as here, there are synthetic area sources that could revert to major sources just in case that happens.

With respect to the commenters' argument that it is a poor use of agency resources for the EPA to finalize standards for the ceramic tile subcategories, the EPA has considered whether it is better to complete the current rulemaking with respect to the ceramic tile subcategories (and have them in place in the event that there are new major sources or a synthetic area source reverts to major source status) or to take no action now and re-do this rulemaking with respect to these subcategories in the event that there are major sources in the future. The EPA's conclusion is that, having gotten this far along in the rulemaking process, it is a better use of agency resources to finalize requirements for the ceramic tile subcategories now. Given the options, finalizing these requirements in this rulemaking requires only a modest amount of additional resources, and is a much more efficient use of agency resources than restarting and repeating the rulemaking process at some point in the future. Even if one considers that there may not be any major sources that become subject to these requirements and that such a rulemaking might not ever be done, the EPA's judgment is still that it is more efficient and a more cost-effective use of agency resources to finalize these requirements now. Finally, on the issue of how likely it is that major sources will be built in the future, the EPA notes that the commenters' own arguments suggest they will be. Specifically, the commenters stated that having a major source standard in place will dissuade companies from expanding small facilities into major sources and will impede financing for new major sources. The premise of such a comment is that, in the absence of a standard, there will be such expansions and new major sources.

The document ''National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2013–0290 addresses additional comments on this topic.

Comment: According to one commenter, the EPA failed to demonstrate that the benefits of this proposed arbitrary and capricious NESHAP justify the costs. As stated in Executive Order 13563, ''Improving Regulation and Regulatory Review,'' issued by President Obama on January 18, 2011 to reaffirm Executive Order 12866, ''[e]ach agency must . . . propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs.'' The preamble to the proposed NESHAP provides cost information (which the commenter noted elsewhere is erroneous) but did not discuss the benefits. The EPA only articulated the benefits of the BSCP Manufacturing NESHAP. With respect to costs, the EPA's cost analysis failed to account for costs to the agency and delegated states to promulgate and implement the regulations. There are no benefits to justify any of these costs. Further, ''[i]n deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating.'' The EPA did not assess the alternative of not regulating—a path that would have exactly the same result, as there are no major sources to be regulated or not regulated. Therefore, the commenter stated that the EPA failed to meet its burden; the proposed NESHAP does not have benefits justifying its costs, and therefore such a regulation cannot be adopted.

Response: We disagree with the commenter. First, CAA section 112 clearly states that the EPA is obligated to regulate emissions of HAP from listed source categories. There is no benefits test in the statutory requirement. The language in Executive Order 12866 does not supersede a clear legal requirement in the CAA. Second, because there are no major sources that will be regulated by this rule at the present time, there will be no implementation costs for the rule. If at a later date a major source is constructed, or a non-major source becomes major, then there will be implementation costs, but this rule will result in emission reduction requirements compared to the emissions that would be expected to occur in the absence of a rule. Therefore, at the point where this rule actually results in costs, it will also have corresponding benefits. In the absence of any current major sources that will be covered by this rule, we simply cannot calculate the benefits.

2. MACT Floors

Comment: One commenter disagreed with the inclusion of emissions data from Kohler's South Carolina facility tunnel kiln with the wet scrubber in the sanitaryware tunnel kiln existing source data pool for MACT floor determination. The commenter stated that Kohler installed a new tunnel kiln at the South Carolina facility in 2005 under the Clay Ceramics Manufacturing NESHAP promulgated in 2003, which, according to the commenter, required the installation of APCD on any new first-fire tunnel kilns to meet the HF and HCl emission limitations. The APCD that Kohler installed, a wet scrubber, was written into the facility's air permit at the time, and so its use at that time was federally enforceable. The court vacated the Clay Ceramics Manufacturing NESHAP in 2007, and the South Carolina Department of Health and Environmental Control revised the facility's air permit in March 2009, removing any reference to the Clay Ceramics Manufacturing NESHAP and any requirement to operate the scrubber. Kohler then permanently shut down the scrubber in March 2009, though they continued to operate the tunnel kiln per permit requirements. Due to cost considerations, the scrubber was abandoned in place and not demolished/removed.

The commenter noted that, when the EPA issued the information collection request (ICR) for clay ceramics emissions test data in 2010, the EPA required that Kohler make operational that wet scrubber for emissions testing of that tunnel kiln, even though the APCD was not listed in any permit nor required under any rule and had not been operated in 17 months. Initially, Kohler agreed to test the kiln as an existing source per operational requirements in the facility's air permit (*i.e.,* without the wet scrubber). However, the EPA demanded that Kohler restart and operate the abandoned scrubber during the kiln's emissions testing. The commenter noted that Kohler cooperated with the EPA and tested emissions with the scrubber operating, but the scrubber was immediately shut down after testing. This scrubber has operated for a total of 1 week in the past 6 years, and that short period of operation was only to comply with the EPA's ICR testing demand.

The commenter acknowledged that the EPA has the authority require operation of any permitted source for emissions testing under rulemaking and ICR protocol. The commenter agreed with the EPA that the ''kiln'' in question is an existing source but disagreed that the non-operating wet scrubber qualifies as part of an existing source. The commenter contended that the EPA is arbitrarily penalizing Kohler for not spending the money to demolish and remove the wet scrubber back in 2009 when it was removed from the facility's air permit. The commenter asserted that the test data from the wet scrubber are not representative of any existing source and were not actually achieved in practice over time. Therefore, using the test data in the MACT floor analysis is inconsistent with the EPA's expressed intent to determine MACT floors for existing sources based on the average emissions actually achieved in practice by the best performing sources with consideration for variability in emissions over time. The commenter asserted that all emissions data from the wet scrubber should be excluded from the existing source data pool for MACT floor analysis, and the existing source floors should be recalculated for the remaining existing sources.

Response: Data from the APCD the commenter refers to was considered in developing both the new and existing MACT floors for sanitaryware kilns. As stated by the commenter, the APCD was installed to comply with the previously promulgated Clay Ceramics Manufacturing NESHAP and thus was an available data point for collection through the CAA section 114 data collection process for this rulemaking. Because this source had an operational APCD (even though it was not being operated), we believe that testing with the APCD operating would be most representative of the source's best performance as defined in the CAA. Having collected the emissions data for the source with the APCD operating, the EPA considered the data consistent with section 112(d)(3)(B) of the CAA, under which the Administrator is required to calculate ''the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.'' Since it is appropriate to include the data in the database available to determine MACT floors, it is appropriate to use these data in floor calculations, if it is actually part of the best performing facilities. We note, however, that the data from this device was only significant for the existing source dioxin/furan MACT floor, for reasons that are dependent on each regulated pollutant and discussed as follows.

For both new and existing PM MACT floors, the final limit was unaffected by use of these data, since the data from the APCD was not ranked in the top five sources with data.

For both new and existing Hg MACT floors, the data from the APCD were not ranked because the data were invalidated. The data were removed from the dataset because of errors in the analytical procedures surrounding the digestion process as dictated by Method 29. See Section 4.1: Analytical discrepancy of the Test Report ''Kohler Co., Spartanburg, SC: Tunnel Kilns and Glaze Spray Booths 08/11–17/2010 Stack Test,'' Docket Item No. EPA–HQ–OAR–2013–0290–0069.

For dioxin/furan, the data from the APCD are in the top five but is not the best performing unit based on the dioxin/furan ng/kg ranking. (Note the units of measure for dioxin/furan ranking have changed from the proposed ng/dscm at 7-percent O_2 to ng/kg.) For the existing source floor, the result of the calculation of the best performing five sources is 3.3 ng/kg with the data point, and would have been 4.0 ng/kg without the data point, which we consider a nominal difference. The difference does not result in any source having to add controls. The calculation of the new source floor was not affected by the data from the APCD because, as stated above, the source was not the best performing unit, and the new source floor is based on the best performing unit.

Comment: Three commenters questioned EPA's decision to propose the dioxin/furan emission limits for ceramic tile manufacturing and sanitaryware manufacturing in concentration format only. Two commenters stated that the final dioxin/furan standards should provide the option to comply with a limitation expressed in units of nanograms per milligram of tile produced, in addition to or in lieu of the proposed standard stated in ng/dscm. A mass-based production-related standard effectively removed the issues around O_2 correction created by use of a standard based only on concentration. Further, the commenters asserted that it is a more universally appropriate adjustment for comparison of emissions from large kilns having high air flow rates to emissions from small kilns with low air volumes. The third commenter agreed and noted that the proposed limits for PM and Hg are expressed as lb/ton fired product. The commenter asked EPA to explain how the concentration format for the emission limit is more appropriate for dioxins/furans than a mass throughput limit. If it is not, the commenter suggested using a mass throughput format for the dioxin/furan emission limit.

Response: The dioxin/furan limits provided in the final rule for clay ceramics are in units of ng TEQ/kg of throughput fired or processed. The EPA agrees that this change in format eliminates the questions surrounding the O_2 correction for concentration values and is more consistent with the other units of measure provided in the Clay Ceramics Manufacturing NESHAP. To demonstrate compliance with the limits, the owner or operator will determine the mass TEQ for each test run (using the toxic equivalency factors in Table 5 to subpart KKKKK), divide the mass TEQ by the production rate during the test run, and average the test runs.

The production-based dioxin/furan limits are provided in lieu of the proposed concentration limits. The compliance flexibility provided to the BSCP Manufacturing source category (including alternative compliance options for PM and Hg) was solely related to concerns under the Small Business Regulatory Enforcement Fairness Act (SBREFA), specifically reducing the regulatory burden of the numerous small entities in the BSCP category. There are no small businesses expected to be subject to the Clay Ceramics Manufacturing NESHAP, so the EPA determined that no additional compliance flexibility was necessary or warranted for the Clay Ceramics Manufacturing source category.

3. Startup and Shutdown

Comment: One commenter challenged the proposed startup and shutdown regulations for ceramic tile manufacturing. The commenter asserted that these standards are based conceptually on the desire to minimize the time during which ceramic tile manufacturing process units operate in a temperature range that is ''conducive'' to the formation of new dioxins/furans (*i.e.,* 200–450 degrees Celsius). The commenter stated that this concern is moot because there are no new dioxins/furans formed in the ceramic tile industry sector, based on the emissions data the EPA proposed to use to set MACT floors for ceramic tile sources and on the fact that ceramic tile dioxin/furan congener profiles are different from the profile of the dioxins/furans created as a product of combustion.

The commenter also challenged the EPA's startup and shutdown proposal for spray dryers relative to dioxins/furans. The input to the spray dryer experiences no more than 212 °F because the operational purpose of the spray dryer is to cause the excess moisture suspended or attached to the ball clay matrix to evaporate. If any spray dryer operating temperature is relevant to the EPA's concern about temperatures in a spray dryer conducive to dioxin/furan formation, this is the correct focus.

For ceramic tile floor tile and wall tile roller kilns, the commenter stated that the proposed temperature requirements for startup and shutdown reflect good kiln production practices; therefore, the proposed startup and shutdown standards are unnecessary.

The commenter noted that the standards are based only on data from the BSCP subcategory, and the proposed temperatures are not appropriate for all sources. For example, ceramic tile dryers uniformly operate below 400 °F, so product could never be introduced to a tile dryer. The commenter also noted that the startup provisions require startup of APCD at 400 °F. However, ceramic tile dryers do not have APCD because they burn only natural gas, their normal operating temperature is less than 400 °F, and their resulting emissions are minimal. For these reasons, the proposal effectively constitutes a ban on the operation of tile dryers. If tile dryers are not an available manufacturing process, ceramic tile manufacturing as it is currently conducted in the United States would effectively cease at major sources. The commenter stated that the EPA lacks the legal authority to implement a de facto shut down of major sources, or to bar the possibility of the proposal of a major source, in this industry.

For all the above reasons, the commenter asserted that the EPA must withdraw the startup and shutdown proposal from any final NESHAP for this subcategory. The commenter contended that, as proposed, these standards are arbitrary and capricious.

Response: The CAA requires that NESHAP emissions limitations under section 112 must apply continuously, including during periods of startup and shutdown. As noted in the preamble to the proposed rule, we recognize that it is not feasible to conduct emission testing during periods of startup and shutdown; therefore, owners and operators would be unable to demonstrate compliance with the final numeric MACT standards during those periods. Therefore, the EPA is finalizing work practice standards for periods of startup or shutdown to ensure that the Clay Ceramics Manufacturing NESHAP includes continuous CAA section 112-compliant standards.

The commenter is correct that the specific startup and shutdown work practice standards proposed were based on information from the BSCP industry. In absence of any data on specific startup and shutdown procedures from the clay ceramics CAA section 114 survey, the EPA used the only data available for a similar industry. The EPA has not received any additional information from clay ceramics manufacturers on specific procedures, and in light of that lack of data, the EPA maintains that the less prescriptive startup and shutdown work practices being finalized for the BSCP industry are appropriate for the clay ceramics industry. First, one of the commenter's main points is that the specific temperatures that were proposed are not appropriate for all the types of units to which the standards were proposed to apply, which is consistent with comments received on the BSCP proposal. Second, the commenter did note that the proposed standards reflect good kiln production practices for one type of process unit for which the specific temperature was appropriate. Therefore, the EPA is finalizing work practice standards that are based on best practices but are less prescriptive than the proposed standards.

As a final note, the EPA is clarifying in this response that the startup and shutdown standards are not intended to minimize only emissions of dioxins/furans. Instead, the standards are intended to minimize emissions of all pollutants by limiting the amount of throughput being processed before the unit reaches full production and limiting the amount of time the exhaust is not being routed to the APCD, if applicable. In addition, the proposed startup and shutdown work practice requirements did not require the use of an APCD, nor do the final standards. The standards only specify the requirements for routing exhaust to an APCD if one is present. The EPA has reviewed the language in the final rule to ensure the standards are clear.

VI. Summary of the Cost, Environmental, Energy and Economic Impacts

A. What are the cost and emissions reduction impacts?

Table 8 of this preamble illustrates the costs and emissions reductions for existing sources under the final BSCP Manufacturing NESHAP and final Clay Ceramics Manufacturing NESHAP. The costs include the costs of installing APCD as well as the costs for the testing and monitoring needed to demonstrate compliance.

TABLE 8—SUMMARY OF COSTS AND EMISSIONS REDUCTIONS FOR BSCP AND CLAY CERAMICS EXISTING SOURCES [a]

[2011 dollars]

Industry	Cost (million)		Emissions reductions (tpy)							
	Capital	Annual	HF	HCl	Cl_2	Non-Hg HAP metals [b]	Hg	PM	$PM_{2.5}$ [c]	SO_2
BSCP	$64.6	$24.6	344	22.1	2.04	7.08	0.0733	643	309	205
Clay Ceramics	0.267	0.0924	0	0	0	0	0	0	0	0

[a] Includes costs for APCD, testing and monitoring.
[b] Includes antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel and selenium.
[c] $PM_{2.5}$ = particulate matter with particles less than 2.5 micrometers in diameter.

The nationwide capital and annual costs of the APCD, testing, and monitoring needed to comply with the final BSCP Manufacturing NESHAP are expected to total $64.6 million and $24.6 million, respectively (2011 dollars). The nationwide HAP emissions reductions achieved under the final BSCP Manufacturing NESHAP are expected to total 375 tpy. The methodology used to estimate the nationwide costs and emissions reductions of the final BSCP Manufacturing NESHAP is presented in the technical memoranda titled ''Development of Cost and Emission Reduction Impacts for the Final BSCP Manufacturing NESHAP'' and ''Monitoring and Testing Requirements and Costs for the Final BSCP Manufacturing NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0291.

It is anticipated that all sanitaryware emission points will meet the MACT floor emission limits in the final Clay Ceramics Manufacturing NESHAP, so no emission control costs or emissions reductions are expected for these sources. However, these facilities are expected to incur $92,400 annually in monitoring and testing costs to demonstrate compliance with the final Clay Ceramics Manufacturing NESHAP. These costs are documented in the technical memorandum titled, ''Monitoring and Testing Requirements and Costs for the Final Clay Ceramics Manufacturing NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0290.

There are no major sources producing ceramic floor tile or ceramic wall tile. The five facilities that were major sources at the time of the 2008 and 2010 EPA surveys have already taken the necessary steps to become synthetic area sources. Consequently, none of the known tile facilities will be subject to the provisions of the Clay Ceramics Manufacturing NESHAP, which means that no costs or emissions reductions are expected for tile affected sources under the final Clay Ceramics Manufacturing NESHAP.

B. What are the secondary impacts?

Table 9 of this preamble illustrates the secondary impacts for existing sources under the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP.

TABLE 9—SUMMARY OF SECONDARY IMPACTS FOR BSCP AND CLAY CERAMICS EXISTING SOURCES [a]

Industry	Secondary air emissions (tpy)						Energy impacts (MMBtu/yr)	Solid waste impacts (tpy)
	PM	$PM_{2.5}$	CO	NO_X	SO_2	CO_2		
BSCP	3.40	1.14	5.74	45.6	133	27,900	461,000	5,210
Clay Ceramics	0	0	0	0	0	0	0	0

[a] CO = carbon monoxide; CO_2 = carbon dioxide; MMBtu/yr = million British thermal units per year.

The relevant secondary impacts that were evaluated for the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP include secondary air emissions, energy impacts and solid waste impacts. Indirect or secondary air emissions are impacts that result from the increased electricity usage associated with the operation of APCD to meet the promulgated limits (*i.e.,* increased secondary emissions of criteria pollutants from power plants). Energy impacts consist of the electricity needed to operate the APCD, and solid waste impacts consist of the particulate captured by the APCD that is disposed of as waste (not reused or recycled).

Under the final BSCP Manufacturing NESHAP, the nationwide secondary emissions of the criteria pollutants PM, CO, NO_X and SO_2 are expected to total 188 tpy, and secondary emissions of the greenhouse gas pollutant CO_2 are expected to total 27,900 tpy, with energy impacts of 461,000 MMBtu/yr and solid waste impacts of 5,210 tpy. The methodology used to estimate the nationwide secondary impacts of the final BSCP Manufacturing NESHAP is presented in the technical memorandum, ''Development of Cost and Emission Reduction Impacts for the Final BSCP Manufacturing NESHAP'' in Docket ID No. EPA–HQ–OAR–2013–0291.

As noted in the previous section, it is anticipated that all sanitaryware emission points will meet the MACT floor emission limits in the Clay Ceramics Manufacturing final rule, so there are no secondary impacts expected for these sources. There are no major sources producing ceramic floor tile or ceramic wall tile. The five facilities that were major sources at the time of the 2008 and 2010 EPA surveys have already taken the necessary steps to become synthetic area sources. Consequently, none of the known ceramic tile facilities are expected to be subject to the provisions of the Clay Ceramics Manufacturing NESHAP, which means that no secondary impacts are expected for ceramic tile affected sources under the final Clay Ceramics Manufacturing NESHAP.

C. What are the economic impacts?

For the BSCP Manufacturing source category, the average national brick price under the promulgated standards increases by 1.8 percent or $4.37 per

1,000 Standard Brick Equivalent (SBE) (2011 dollars), while overall domestic production falls by 1.5 percent or 52 million bricks per year. Under the promulgated standards, the EPA estimated that two to four BSCP manufacturing facilities are at significant risk of closure.

Based on the results of the small entity screening analysis for BSCP Manufacturing, the EPA concluded that it is not able to certify that the BSCP Manufacturing NESHAP will not have a significant impact on a substantial number of small entities. As a result, the EPA initiated a Small Business Advocacy Review (SBAR) Panel and undertook an Initial Regulatory Flexibility Analysis (IRFA).

For Clay Ceramics Manufacturing, one sanitaryware company owns major sources and will incur costs (for testing, monitoring, recordkeeping and reporting). That affected company is not a small business. The compliance costs are less than 0.002 percent of sales for the affected company. Hence, the economic impact for compliance is minimal. As noted above, there are no major sources producing ceramic floor tile or ceramic wall tile. Because no small firms face significant control costs, there is no significant impact on small entities. Thus, the Clay Ceramics Manufacturing regulation is not expected to have significant impact on a substantial number of small entities.

For more information on the benefits analysis and market analyses, please refer to the Regulatory Impact Analysis (RIA) for the BSCP Manufacturing NESHAP, ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' which is available in Docket ID No. EPA–HQ–OAR–2013–0291.

D. What are the benefits?

Emission controls installed to meet the requirements of this rule will generate benefits by reducing emissions of HAP as well as criteria pollutants and their precursors, NO_X and SO_2. Sulfur dioxide and NO_X are precursors to $PM_{2.5}$, and NO_X is a precursor to ozone. The criteria pollutant benefits are considered co-benefits for this rule. For this rule, we were only able to quantify the health co-benefits associated with reduced exposure to $PM_{2.5}$ from changes in emissions directly emitted $PM_{2.5}$, SO_2, and NO_X. We estimate the monetized co-benefits of the BSCP Manufacturing NESHAP in 2018 to be $83 million to $190 million (2011 dollars) at a 3-percent discount rate and $75 million to $170 million (2011 dollars) at a 7-percent discount rate, not including consideration of energy disbenefits. Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower co-benefits estimates are plausible, but most of the expert-based estimates fall between these two estimates.[105] A summary of the emission reduction and monetized co-benefits estimates for this BSCP Manufacturing NESHAP at discount rates of 3 percent and 7 percent is illustrated in Table 10 of this preamble.

TABLE 10—SUMMARY OF THE MONETIZED $PM_{2.5}$ CO-BENEFITS FOR THE BSCP MANUFACTURING NESHAP IN 2018

[Millions of 2011 dollars] [a] [b]

Pollutant	Emission reductions (tpy)	Total monetized co-benefits (3 percent discount)	Total monetized co-benefits (7 percent discount)
Directly emitted $PM_{2.5}$	308	$83 to $190	$75 to $170.
$PM_{2.5}$ precursors			
SO_2	72	$2.9 to $6.6	$2.6 to $6.0.
NO_X [c]	−46	−$0.29 to −$0.66	−$0.26 to −$0.59.
Total monetized benefits		$84 to $190	$76 to $170.

[a] All estimates are for the analysis year and are rounded to two significant figures so numbers may not sum across rows. The total monetized co-benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of $PM_{2.5}$ precursors, such as SO_2 and directly emitted $PM_{2.5}$. It is important to note that the monetized co-benefits do not include reduced health effects from exposure to HAP, direct exposure to nitrogen dioxide (NO_2), exposure to ozone, ecosystem effects or visibility impairment.

[b] PM co-benefits are shown as a range from Krewski, *et al.* (2009) to Lepeule, *et al.* (2012). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because the scientific evidence is not yet sufficient to allow differentiation of effects estimates by particle type.

[c] These emission reductions are the net emission reductions from the rule after subtracting out secondary emission increases due to additional energy requirements to run the control equipment. These estimates do not include monetized CO_2 disbenefits, which range from $0.3 to $3 million depending on the discount rate. See the RIA for more information about how the EPA monetized these disbenefits.

These co-benefits estimates represent the total monetized human health benefits for populations exposed to less $PM_{2.5}$ from controls installed to reduce air pollutants in order to meet this rule. Due to analytical limitations, it was not possible to conduct air quality modeling for this rule. Instead, we used a ''benefit-per-ton'' approach to estimate the benefits of this rulemaking. To create the benefit-per-ton estimates, this approach uses a model to convert emissions of $PM_{2.5}$ precursors into changes in ambient $PM_{2.5}$ levels and another model to estimate the changes in human health associated with that change in air quality, which are then divided by the emissions in specific sectors. These benefit-per-ton estimates were derived using the approach published in Fann, *et al.* (2012),[106] but they have since been updated to reflect the studies and population data in the 2012 p.m. National Ambient Air Quality Standards (NAAQS) RIA.[107] Specifically, we multiplied the benefit-per-ton estimates from the ''Non-EGU Point other'' category by the corresponding emission reductions.[108] All national-average benefit-per-ton estimates reflect the geographic distribution of the modeled emissions, which may not exactly match the

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[105] Roman, *et al.,* 2008. ''Expert Judgment Assessment of the Mortality Impact of Changes in Ambient Fine Particulate Matter in the U.S.,'' *Environ. Sci. Technol.,* 42, 7, 2268–2274.

[106] Fann, N., K.R. Bakerand C.M. Fulcher. 2012. ''Characterizing the $PM_{2.5}$-related health benefits of emission reductions for 17 industrial, area and mobile emission sectors across the U.S.'' *Environment International* 49 41–151.

[107] U.S. Environmental Protection Agency (U.S. EPA). 2012. *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.* EPA–452/R–12–003. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. December. Available at *http://www.epa.gov/pm/2012/finalria.pdf.*

[108] U.S. Environmental Protection Agency. 2013. *Technical support document: Estimating the benefit per ton of reducing $PM_{2.5}$ precursors from 17 sectors.* Research Triangle Park, NC. January.

emission reductions in this rulemaking and, thus, they may not reflect the local variability in population density, meteorology, exposure, baseline health incidence rates or other local factors for any specific location. More information regarding the derivation of the benefit-per-ton estimates for this category is available in the technical support document, which is available as Docket Item No. EPA–HQ–OAR–2013–0291–0089.

These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because the scientific evidence is not yet sufficient to allow differentiation of effects estimates by particle type. Even though we assume that all fine particles have equivalent health effects, the benefit-per-ton estimates vary between precursors depending on the location and magnitude of their impact on $PM_{2.5}$ levels, which drive population exposure.

It is important to note that the magnitude of the $PM_{2.5}$ co-benefits is largely driven by the concentration response function for premature mortality. We cite two key empirical studies, one based on the American Cancer Society cohort study [109] and the extended Six Cities cohort study.[110] In the RIA for the final rule, which is available in Docket ID No. EPA–HQ–OAR–2013–0291, we also include benefits estimates derived from expert judgments (Roman, *et al.,* 2008) as a characterization of uncertainty regarding the $PM_{2.5}$-mortality relationship.

Considering a substantial body of published scientific literature, reflecting thousands of epidemiology, toxicology and clinical studies, the EPA's *Integrated Science Assessment for Particulate Matter* [111] documents the association between elevated $PM_{2.5}$ concentrations and adverse health effects, including increased premature mortality. This assessment, which was twice reviewed by the EPA's independent SAB, concluded that the scientific literature consistently finds that a no-threshold model most adequately portrays the PM-mortality concentration-response relationship. Therefore, in this analysis, the EPA assumes that the health impact function for fine particles is without a threshold.

In general, we are more confident in the magnitude of the risks we estimate from simulated $PM_{2.5}$ concentrations that coincide with the bulk of the observed PM concentrations in the epidemiological studies that are used to estimate the benefits. Likewise, we are less confident in the risk we estimate from simulated $PM_{2.5}$ concentrations that fall below the bulk of the observed data in these studies. Concentration benchmark analyses (*e.g.,* lowest measured level (LML) or one standard deviation below the mean of the air quality data in the study) allow readers to determine the portion of population exposed to annual mean $PM_{2.5}$ levels at or above different concentrations, which provides some insight into the level of uncertainty in the estimated $PM_{2.5}$ mortality benefits. There are uncertainties inherent in identifying any particular point at which our confidence in reported associations becomes appreciably less and the scientific evidence provides no clear dividing line. However, the EPA does not view these concentration benchmarks as a concentration threshold below which we would not quantify health benefits of air quality improvements.

For this analysis, policy-specific air quality data are not available due to time and resource limitations and, thus, we are unable to estimate the percentage of premature mortality associated with this specific rule's emission reductions at each $PM_{2.5}$ level. As a surrogate measure of mortality impacts, we provide the percentage of the population exposed at each $PM_{2.5}$ level using the source apportionment modeling used to calculate the benefit-per-ton estimates for this sector. Using the Krewski, *et al.* (2009) study, 93 percent of the population is exposed to annual mean $PM_{2.5}$ levels at or above the LML of 5.8 $\mu g/m^3$. Using the Lepeule, *et al.* (2012) study, 67 percent of the population is exposed above the LML of 8 $\mu g/m^3$. It is important to note that baseline exposure is only one parameter in the health impact function, along with baseline incidence rates, population and change in air quality. Therefore, caution is warranted when interpreting the LML assessment for this rule because these results are not consistent with results from rules that model changes in air quality.

Every benefit analysis examining the potential effects of a change in environmental protection requirements is limited, to some extent, by data gaps, model capabilities (such as geographic coverage) and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Despite these uncertainties, we believe the benefit analysis for this rule provides a reasonable indication of the expected health benefits of the rulemaking under a set of reasonable assumptions. This analysis does not include the type of detailed uncertainty assessment found in the 2012 $PM_{2.5}$ NAAQS RIA [112] because we lack the necessary air quality input and monitoring data to run the benefits model. In addition, we have not conducted air quality modeling for this rule, and using a benefit-per-ton approach adds another important source of uncertainty to the benefits estimates. The 2012 $PM_{2.5}$ NAAQS benefits analysis provides an indication of the sensitivity of our results to various assumptions.

It should be noted that the monetized co-benefits estimates provided above do not include benefits from several important benefit categories, including exposure to HAP, NO_X and ozone exposure, as well as ecosystem effects and visibility impairment. Although we do not have sufficient information or modeling available to provide monetized estimates for this rule, we include a qualitative assessment of these unquantified benefits in the RIA for these promulgated standards.

The specific control technologies for this rule are anticipated to have minor secondary disbenefits, including an increase of 41 tons of NO_X, about 3 tons of PM, less than 6 tons of CO and 121 tons of SO_2 each year. Because we do not currently have methods to monetize emission changes of CO, only secondary effects of PM, SO_2, and NO_X were included in the monetary evaluation of the actual benefits.

For more information on the benefits analysis, please refer to the RIA for this rule, ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' which is available in Docket ID No. EPA–HQ–OAR–2013–0291.

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[109] Krewski, C.A., III, R.T. Burnett, M.J. Thun, E.E. Calle, D. Krewski, K. Itoand G.D. Thurston. 2002. ''Lung Cancer, Cardiopulmonary Mortalityand Long-term Exposure to Fine Particulate Air Pollution.'' *Journal of the American Medical Association* 287:1132–1141.

[110] Lepeule J, Laden F, Dockery D, Schwartz J. 2012. ''Chronic Exposure to Fine Particles and Mortality: An Extended Follow-Up of the Harvard Six Cities Study from 1974 to 2009.'' *Environ Health Perspect.* July; 120(7):965–70.

[111] U.S. Environmental Protection Agency (U.S. EPA). 2009. *Integrated Science Assessment for Particulate Matter (Final Report).* EPA–600–R–08–139F. National Center for Environmental Assessment—RTP Division. December. Available on the Internet at http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.

[112] U.S. Environmental Protection Agency (U.S. EPA). 2012. *Regulatory Impact Analysis for the Final Revisions to the National Ambient Air Quality Standards for Particulate Matter.* EPA–452/R–12–003. Office of Air Quality Planning and Standards, Health and Environmental Impacts Division. December. Docket Item No. EPA–HQ–OAR–2013–0291–0087.

VII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *http://www2.epa.gov/laws-regulations/laws-and-executive-orders.*

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is an economically significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the dockets for this action. The EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP.'' A copy of the analysis is available in the docket for the BSCP Manufacturing NESHAP (Docket ID No. EPA–HQ–OAR–2013–0291) and the analysis is briefly summarized here.

The EPA's study estimates that affected BSCP facilities will incur total annualized costs of $24.6 million (2011 dollars) under the BSCP Manufacturing NESHAP, including costs of emission controls, testing and monitoring, along with recordkeeping and reporting costs for facilities that have testing and monitoring. The EPA gathered information on firm sales and overall industry profitability for firms owning affected BSCP facilities. The EPA estimated that two to four BSCP manufacturing facilities are at significant risk of closure under the final standards.

The EPA also conducted an assessment of the benefits of the final rule, as described in section VI of this preamble. These estimates reflect the monetized human health benefits of reducing cases of morbidity and premature mortality among populations exposed to $PM_{2.5}$ reduced by this rule. Data, resource and methodological limitations prevented the EPA from monetizing the benefits from several important benefit categories, including benefits from reducing exposure to 375 tons of HAP each year for the promulgated standards, as well as ecosystem effects and visibility impairment. In addition to reducing emissions of PM precursors such as SO_2, this rule will reduce several non-Hg HAP metals emissions (*i.e.,* arsenic, cadmium, chromium, lead, manganese, nickel, and selenium) each year. The EPA estimates the total monetized co-benefits to be $83 million to $190 million (2011 dollars) at a 3-percent discount rate and $75 million to $170 million (2011 dollars) at a 7-percent discount rate on a yearly average in 2018 for the promulgated standards.

Based on the EPA's examination of costs and benefits of the final BSCP Manufacturing NESHAP, the EPA believes that the benefits of the BSCP Manufacturing NESHAP will exceed the costs.

The EPA also examined the costs and economic impacts associated with the Clay Ceramics Manufacturing NESHAP. The remaining firm with major sources is estimated to incur costs as a result of the Clay Ceramics Manufacturing final rule and the firm only incurs costs associated with testing, monitoring, recordkeeping and reporting. Total annualized costs are only $92,400 (2011 dollars) and the firm's estimated costs of complying with the Clay Ceramics Manufacturing NESHAP are less than 0.002 percent of sales.

B. Paperwork Reduction Act (PRA)

The information collection activities in the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP have been submitted for approval to OMB under the PRA. The ICR document that the EPA prepared for the BSCP Manufacturing NESHAP has been assigned EPA ICR number 2509.01. The ICR document that the EPA prepared for the Clay Ceramics Manufacturing NESHAP has been assigned EPA ICR number 2510.01. You can find copies of the ICRs in the dockets for the BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP, and they are briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

The information collected from respondents will be used by EPA enforcement personnel to: (1) identify new, modified, reconstructed and existing sources subject to the standards; (2) ensure that MACT is being properly applied; and (3) ensure that the APCD are being properly operated and maintained on a continuous basis. In addition, records and reports are necessary to enable the EPA to identify facilities that may not be in compliance with the standards. Based on the reported information, the EPA can decide which facilities should be inspected and what records or processes should be inspected at these facilities. The records that facilities maintain will indicate to the EPA whether the owners and operators are in compliance with the emission limitations (including emission limits, operating limits) and work practice standards. Much of the information the EPA would need to determine compliance would be recorded and retained onsite at the facility. Such information would be reviewed by enforcement personnel during an inspection and would not need to be routinely reported to the EPA.

All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to EPA policies set forth in title 40, chapter 1, part 2, subpart B—Confidentiality of Business Information. (See 40 CFR 2; 41 FR 36902, September 1, 1976; amended by 43 FR 39999, September 28, 1978; 43 FR 42251, September 28, 1978; and 44 FR 17674, March 23, 1979.)

Potential respondents to the information collection requirements in the BSCP Manufacturing NESHAP are owners and operators of new and existing sources at BSCP manufacturing facilities. A BSCP facility manufactures brick, including face brick, structural brick, brick pavers, or other brick and/or structural clay products including clay pipe; roof tile; extruded floor and wall tile; or other extruded, dimensional clay products. The BSCP facilities typically form, dry and fire bricks and shapes that are composed primarily of clay and shale. Kilns are used to fire BSCP. The rule applies to all new and existing tunnel and periodic kilns at BSCP facilities.

Potential respondents to the information collection requirements in the Clay Ceramics Manufacturing NESHAP are owners and operators of new and existing sources at clay ceramics manufacturing facilities. A clay ceramics facility manufactures pressed floor tile, pressed wall tile, or sanitaryware (*e.g.,* sinks and toilets). Clay ceramics facilities typically form, dry and fire tile or sanitaryware products that are composed of clay, shale and various additives. Spray dryers are used during the forming process at tile facilities to process the ceramic mix into a powder to allow tile pressing. Dryers are used to reduce the moisture content of the ceramic products prior to firing. Glazes are applied to some tile and sanitaryware products, with glaze spraying accounting for all glazing emissions. Kilns are used to fire the ceramic products and include ceramic tile roller kilns and sanitaryware tunnel and shuttle kilns. The rule applies to all existing, new and reconstructed affected sources, which include the kilns, glaze spray operations, ceramic tile spray dryers and floor tile press dryers. (Wall tile press dryers and sanitaryware ware dryers, with no measurable emissions, are not covered.)

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

In addition to the notification, recordkeeping and reporting requirements in the NESHAP General Provisions, the final rule includes paperwork requirements associated with initial and 5-year repeat testing for selected process equipment, electronic reporting of performance test results, parameter monitoring, preparation of an OM&M plan, maintenance and inspection of process and control equipment, compliance with work practice standards and periods of malfunction.

Collection of data will begin after the effective date of the final BSCP Manufacturing NESHAP and Clay Ceramics Manufacturing NESHAP. The compliance date for existing sources is 3 years after the effective date. The compliance date for new or reconstructed sources is the effective date if the source startup date is before the effective date, or upon startup if the startup date is on or after the effective date. The schedule for notifications and reports required by the rule is summarized below.

For BSCP and clay ceramics facilities with existing affected sources, the initial notification stating that the facility is subject to the rule must be submitted no later than 120 calendar days after the effective date of the rule. Facilities with new or reconstructed affected sources for which startup occurs on or after the effective date must submit the initial notification no later than 120 calendar days after the source becomes subject to the rule (although we are projecting no new affected sources in the short term). Facilities may choose to submit a request to use the routine control device maintenance alternative standard no later than 120 calendar days prior to the compliance date. Facilities required to conduct a performance test must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin. For each initial compliance demonstration that includes a performance test, facilities must submit an initial notification of compliance status no later than 60 calendar days following the completion of the performance test. For each initial compliance demonstration that does not involve a performance test, facilities must submit an initial notification within 30 calendar days of completing the initial compliance demonstration. Records necessary to determine compliance with the emission limitations and work practice standards must be compiled on a daily basis, and compliance reports must be submitted to the Administrator on a semiannual basis. Repeat performance tests are to be conducted every 5 years to ensure ongoing compliance.

There are 90 BSCP facilities that are currently major sources of HAP, 84 of which have at least one tunnel kiln. An estimated 21 of these facilities are projected to become synthetic area sources by promulgation rather than comply with the BSCP standards. The remaining 69 facilities (63 of which have a tunnel kiln) are expected to be subject to the BSCP Manufacturing NESHAP. For these 69 facilities, the annual recordkeeping and reporting burden associated with the BSCP standards (averaged over the first 3 years after the effective date of the standards) is estimated to be 20,963 labor hours per year, at a cost of $1,113,105 per year (yr). Burden is defined at 5 CFR 1320.3(b).

No capital costs associated with monitoring, testing, recordkeeping or reporting are expected to be incurred during this period. The annual operation and maintenance costs are estimated to be $682/yr.

The total burden for the federal government (averaged over the first 3 years after the effective date of the standards) is estimated to be 71 labor hours per year, at a total labor cost of $3,698/yr. (All costs are in 2011 dollars.)

There are three clay ceramics facilities that are currently major sources of HAP and are expected to be subject to the Clay Ceramics Manufacturing NESHAP. For these three facilities, the annual recordkeeping and reporting burden associated with the Clay Ceramics standards (averaged over the first 3 years after the effective date of the standards) is estimated to total 996 labor hours per year at a cost of $52,674/yr.

As with the BSCP standards, no capital costs associated with monitoring, testing, recordkeeping or reporting are expected to be incurred during this period. The annual operation and maintenance costs are estimated to be $44/yr.

The total burden for the federal government (averaged over the first 3 years after the effective date of the standards) is estimated to be 4.6 labor hours per year, at a total labor cost of $239/yr. (All costs are in 2011 dollars.)

Because BSCP and clay ceramics facilities are not required to come into full compliance with the standards until 3 years after promulgation, much of the respondent burden (*e.g.,* performance tests, inspections, notification of compliance status, compliance reports, records of compliance data and malfunctions) does not occur until the fourth year following promulgation.

For the BSCP Manufacturing NESHAP, we estimate an average annual recordkeeping and reporting burden of 48,674 labor hours per year, at a cost of $2,702,447/yr, for years 4 through 6. We also estimate annualized capital costs of $606,760/yr and annual operating and maintenance costs of $206,872/yr over this period, for a total annualized cost of $813,632/yr. The average annual burden for the federal government for years 4 through 6 is estimated to be 3,891 labor hours per year, at a total labor cost of $204,550/yr. (All costs are in 2011 dollars.)

For the Clay Ceramics Manufacturing NESHAP, we estimate an average annual recordkeeping and reporting burden of 2,323 labor hours per year, at a cost of $122,786/yr, for years 4 through 6. We also estimate annualized capital costs of $72,050/yr and annual operating and maintenance costs of $27,069/yr over this period, for a total annualized cost of $99,119/yr. The average annual burden for the federal government for years 4 through 6 is estimated to be 180 labor hours per year, at a total labor cost of $9,448 per year. (All costs are in 2011 dollars.)

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9. When OMB approves this ICR, the agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in this final rule.

C. Regulatory Flexibility Act (RFA)

Pursuant to sections 603 and 609(b) of the RFA, the EPA prepared an IRFA that examines the impact of the proposed rule on small entities along with regulatory alternatives that could minimize that impact. The complete IRFA is available for review in the docket and is summarized here. We convened a SBAR Panel to obtain advice and recommendations from small entity representatives that potentially would be subject to the rule's requirements. Summaries of the IRFA and Panel recommendations are included at 79 FR 75669–75671.

As required by section 604 of the RFA, the EPA prepared a final regulatory flexibility analysis (FRFA) for this action. The FRFA addresses the issues raised by public comments on the IRFA for the proposed rule. The complete FRFA is included in Section 5 of ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' available for review in the docket (Docket ID No. EPA–HQ–OAR–2013–0291), and is summarized here.

1. Need for the Rule

The EPA is required under CAA section 112(d) to establish emission standards for each category or subcategory of major and area sources of HAP listed for regulation in section 112(b). These standards are applicable to new or existing sources of HAP and shall require the maximum degree of emission reduction. In the Administrator's judgment, the pollutants emitted from BSCP manufacturing facilities cause or contribute significantly to air pollution that may reasonably be anticipated to endanger public health. Consequently, NESHAP for the BSCP source category are being finalized.

2. Objectives and Legal Basis for the Rule

Section 112(d) of the CAA requires the EPA to set emissions standards for HAP emitted by major stationary sources based on the performance of the MACT. The MACT standards for existing sources must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the Administrator has emissions information) or the best performing five sources for source categories with less than 30 sources (CAA section 112(d)(3)(A) and (B)). For new sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source (CAA section 112(d)(3)). The EPA also must consider more stringent ''beyond-the-floor'' control options. When considering beyond-the-floor options, the EPA must consider not only the maximum degree of reduction in emissions of HAP, but must take into account costs, energy and non-air environmental impacts when doing so. This rule is being proposed to comply with CAA section 112(d).

3. Significant Issues Raised

The EPA received comments on the proposed standards and requests for comment that were included based on SBAR Panel recommendations. See section V of this preamble and ''National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2013–0291 for more detailed comment summaries and responses.

- *Work practices for dioxin/furan:* One commenter stated that work practices for dioxin/furan emissions from BSCP tunnel kilns are not lawful under the CAA, and, even if they were, the work practices proposed are not sufficient to minimize dioxin/furan emissions. Other commenters supported the proposed work practices for dioxin/furan.

Response: The EPA is finalizing work practices for dioxin/furan as proposed. The EPA's response to the legal arguments made against work practice standards is presented in ''National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' found in the docket (Docket ID No. EPA–HQ–OAR–2013–0291).

- *Work practices for Hg and other metals:* Several commenters responded to the EPA's request for comment on work practices for Hg and non-Hg HAP metals. Numerous commenters stated that the EPA should finalize work practices instead of numeric limits and provided support for their assertion that the numeric limits are technically and economically impracticable to enforce. Commenters also noted that the emissions reduced by these numeric standards are not justified by the high cost that would be incurred to meet the standards.

Response: Emissions of Hg and non-Hg HAP metals were detected using standard EPA test methods; therefore, the Hg and non-Hg HAP metals data sets do not meet the criteria for setting work practice standards under CAA section 112(h). The EPA is finalizing numeric standards for Hg and non-Hg HAP metals under CAA section rather than work practices. The final numeric standards have been revised since the proposal to account for new data from the industry (including data on the Hg content of raw materials), removal of test data found not to meet the requirements of the applicable data, and changes in the EPA's approach to selecting the MACT floor pools (see section V.B.1 of this preamble for additional details).

- *Health-based standard for acid gases:* Several commenters asserted that the EPA may not legally set CAA section 112(d)(4) health-based standards for acid gases for BSCP facilities. Other commenters supported the EPA's decision to propose health-based standards for acid gases but noted that the EPA's approach was overly conservative and requested that the EPA consider setting multiple limits based on site characteristics.

Response: The EPA is finalizing the health-based standards for acid gases as proposed. The EPA's response to the legal arguments made against health-based standards is presented in section V.A of this preamble. The EPA is not changing the HBEL from proposal, as the proposed HBEL provides low potential for both chronic and acute health effects.

- *Size subcategories for MACT floors:* Several commenters requested that the EPA subcategorize by size for the non-Hg HAP metal/PM MACT floor limits, as was proposed for Hg.

Response: As part of recalculating the MACT floor limits based on the final data set, the EPA is finalizing separate limits for small and large kilns for non-Hg HAP metals/PM as well as Hg. The EPA is also finalizing limits in three different formats for both pollutants to provide additional flexibility for small tunnel kilns and tunnel kilns with a low metals content in the PM emissions.

- *Sawdust dryers:* Several commenters requested that the EPA finalize a subcategory of sawdust-fired kilns venting to sawdust dryers. Commenters provided general descriptions of how the operation of these kilns is different than tunnel kilns and stated that there are only two operating that would be subject to the BSCP Manufacturing NESHAP.

Response: Although one commenter noted that stack testing of a sawdust dryer is being considered, commenters did not provide test data to demonstrate that emissions from sawdust dryers are different than other tunnel kilns. Therefore, the EPA is not finalizing a subcategory of sawdust-fired kilns venting to sawdust dryers.

- *Periods of startup and shutdown:* One commenter stated that work practices for periods of startup and shutdown of BSCP tunnel kilns are not lawful under the CAA. Other commenters supported the proposal to provide work practices for periods of startup and shutdown, but suggested improvements to the standards to make them feasible for all tunnel kilns.

Response: The EPA evaluated the comments and is finalizing work practice standards for periods of startup and shutdown that reflect best practices for minimizing emissions during these periods (see section V.B.2 of this preamble for additional information).

- *MACT floor pool:* Several commenters supported the EPA's proposal to calculate MACT floor standards for PM based on the top 12 percent of the kilns in the industry (*i.e.,* the best-performing sources with a FF-based APCD). One commenter asserted that the EPA's proposal is unlawful and the EPA must consider other factors than the APCD type when setting MACT standards.

Response: The EPA reviewed all the data used for the MACT floor for PM as a surrogate for non-Hg HAP metals and found that some of the test data did not meet the requirements of EPA Method 5. When these data were removed, the EPA could no longer confirm that the data available to the agency represented all the best-performing sources. Therefore, the final PM and non-Hg HAP metals are based on the top 12 percent of sources for which we had test data, regardless of APCD type (see section V.B.1 of this preamble for additional details).

4. SBA Comments

The SBA's Office of Advocacy supported the EPA's proposals to set work practice standards and health-based emission standards in all instances allowed by statute and suggested other areas of improvement. The comments on areas of improvement and the EPA's responses are summarized below:

- *Hg standards:* The EPA should pursue subcategorization by input (raw material) type and delay promulgation of a Hg standard to gather more information if needed. Standards may need to be combined with a significantly longer averaging time to allow for continuous compliance.

Response: The EPA maintains that a delay in promulgation of an Hg standard is not appropriate for two reasons. First, under CAA section 112(e), the EPA was scheduled to complete standards for all source categories by 2000. The EPA's 2003 BSCP Manufacturing NESHAP was vacated, and that vacatur re-created the EPA's obligation to set standards for the BSCP source category. *Sierra Club* v. *EPA,* 850 F.Supp.2d 300, 303–304 (D.D.C. 2012). Under the consent decree in that case, as amended in August 2014, the EPA was obligated to sign a notice of final rulemaking to set standards for the BSCP source category by September 24, 2015.

Second, the EPA notes that following proposal, it received additional information on the Hg content of raw materials from facilities in the BSCP industry. This information did not provide the EPA with the information needed to establish subcategories based on the class or type of raw materials. However, the EPA has concluded that it has sufficient information to allow it to finalize Hg standards that account for the variability of Hg content in raw materials. Thus, the EPA's conclusion is that there is no basis to delay promulgation of the Hg standards in order to gather more information.

- *Economic analysis:* The economic impact of the proposed rule on small entities is significantly underestimated. Specifically, the EPA should not annualize costs at 7 percent over 20 years because that does not reflect the financing options available to small entities, the EPA underestimated the cost for a facility to become a synthetic area source, and the EPA has underestimated the cost to comply with the Hg standards given the limited information the agency has on the performance of Hg controls in this industry.

Response: The EPA standard engineering cost practice is to annualize over the expected life of the control equipment at 7 percent. The EPA does not have the data available to model the way a firm pays for an APCD because each firm has a different set of potential options for financing including debt financing, equity financing, and financing through retained earnings. The EPA acknowledges that some firms may not be able to borrow the money and some may close. The EPA's closure analysis is quite uncertain, but we do not have the detailed firm-specific information necessary to refine the analysis. The EPA agrees that the costs to become a synthetic area source at proposal were underestimated, and the final rule impacts include testing costs for all facilities, as potential synthetic area sources would have to demonstrate that their emissions qualify them to apply for synthetic area status. Finally, the EPA must use the best information available to the agency to estimate the impact of the standards on all entities. The final Hg standards incorporate variability in the Hg content of raw materials, which is expected to ease the burdens on some small entities.

5. Affected Small Entities

Of 44 parent companies owning BSCP facilities, 36 parent companies are small businesses. The EPA computed the ratio of estimated compliance costs to company sales (cost-to-sales ratio) to measure the magnitude of potential impacts on small companies. Under the final standards, the EPA estimated that two to three small BSCP manufacturing facilities (two to four BSCP manufacturing facilities overall) are at significant risk of closure.

6. Reporting, Recordkeeping, and Other Compliance Requirements

Respondents would be required to provide one-time and periodic notifications, including initial notification, notification of performance tests, and notification of compliance status. Respondents would also be required to submit semiannual reports documenting compliance with the rule and detailing any compliance issues, and they would be required to submit the results of performance tests to the EPA's ERT. Respondents would be required to keep documentation supporting information included in these notifications and reports, as well as records of the operation and maintenance of affected sources and APCD at the facility.

7. Significant Alternatives

The EPA considered three major options for this final rule; see ''Regulatory Impact Analysis: Final Brick and Structural Clay Products NESHAP,'' in Docket ID No. EPA–HQ–OAR–2013–0291), for more information about the alternatives. Finalizing the proposed changes without revision is expected to have similar cost and emission reduction impacts to the standards the EPA is finalizing, with a similar number of closures (one to two small BSCP manufacturing facilities rather than two to three). However, for the various legal and technical reasons outlined in this preamble and ''National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing: Background Information for Final Rule—Summary of Public Comments and Responses'' in Docket ID No. EPA–HQ–OAR–2013–0291, the EPA determined that the PM/non-Hg HAP metals and Hg standards should not be finalized as proposed. The other alternative considered included the same standards for acid gases and Hg that are being finalized but only provided one set of limits PM/non-Hg HAP metals (*i.e.,* did not provide separate sets of limits for small and large tunnel kilns). This alternative is expected to have significantly higher cost impacts than the standards the EPA is finalizing, along with a significantly higher number of closures (five to 10 small BSCP manufacturing facilities rather than two to three small BSCP manufacturing facilities). Therefore, the EPA determined that it is necessary to exercise its discretion to subcategorize by kiln size to minimize the significant economic impact on small entities.

In addition, the EPA is preparing a Small Entity Compliance Guide to help small entities comply with this rule. The guide will be available on the World Wide Web approximately 1 year after promulgation of the rule, at *http://www.epa.gov/ttn/atw/brick/brickpg.html.*

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in the UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

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

This action 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. The action imposes requirements on owners and operators of BSCP and clay ceramics manufacturing facilities and not tribal governments. Thus, Executive Order 13175 does not apply to this action.

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

This action is not subject to Executive Order 13045 because the EPA does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children. This action's health and risk assessments are contained in the memoranda ‘‘Risk Assessment to Determine a Health-Based Emission Limitation for Acid Gases for the Brick and Structural Clay Products Manufacturing Source Category,’’ Docket Item No. EPA–HQ–OAR–2013–0291–0132 and ‘‘Risk Assessment to Determine a Health-Based Emission Limitation for Acid Gases for the Clay Ceramics Manufacturing Source Category,’’ Docket Item No. EPA–HQ–OAR–2013–0290–0213.

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

This action is not a ‘‘significant energy action’’ because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action will not adversely directly affect productivity, competition, or prices in the energy sector.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR Part 51

This action involves technical standards. The EPA has decided to use the following four voluntary consensus standards as acceptable alternatives to the EPA test methods for the purpose of this rule.

The EPA has decided to use ANSI/ASME PTC 19.10–1981, ‘‘Flue and Exhaust Gas Analyses,’’ for its manual methods of measuring the oxygen or carbon dioxide content of the exhaust gas. This standard is acceptable as an alternative to Method 3A and 3B and is available from the American Society of Mechanical Engineers (ASME) at *http://www.asme.org;* by mail at Three Park Avenue, New York, NY 10016–5990; or by telephone at (800) 843–2763.

The EPA has also decided to use ASTM D6735–01 (Reapproved 2009), ‘‘Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method,’’ for its measurement of the concentration of gaseous HCl and HF and other gaseous chlorides and fluorides. This standard is acceptable as an alternative to Methods 26 and 26A.

In addition, the EPA has decided to use ASTM D6784–02 (Reapproved 2008), ‘‘Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),’’ for its determination of elemental, oxidized, particle-bound, and total Hg emissions. This standard is acceptable as an alternative to Method 29 (portion for Hg only).

Finally, the EPA has decided to use ASTM D6348–03 (Reapproved 2010), ‘‘Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy,’’ for its use of an extractive sampling system to direct stationary source effluent to an FTIR spectrometer for the identification and quantification of gaseous compounds. This standard is acceptable as an alternative to Method 320 with the following conditions: (1) The test plan preparation and implementation in the Annexes to ASTM D 6348–03, Sections A1 through A8 are mandatory; and (2) in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent recovery (%R) must be determined for each target analyte (Equation A5.5). In order for the test data to be acceptable for a compound, %R must be greater than or equal to 70 percent and less than or equal to 130 percent. If the %R value does not meet this criterion for a target compound, the test data are not acceptable for that compound and the test must be repeated for that analyte (*i.e.,* the sampling and/or analytical procedure should be adjusted before a retest). The %R value for each compound must be reported in the test report and all field measurements must be corrected with the calculated %R value for that compound by using the following equation: Reported Result = (Measured Concentration in the Stack × 100)/%R.

The standards ASTM D6735–01, ASTM D6784–02, and ASTM D6348–03 are available from the American Society of Testing and Materials (ASTM) at *http://www.astm.org*; by mail at 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959; or by telephone at (610) 832–9585.

While the EPA identified ASTM D7520–13, ‘‘Standard Test Method for Determining the Opacity in a Plume in an Outdoor Ambient Atmosphere’’ as being potentially applicable as an alternative to Method 9 for measuring opacity from BSCP tunnel kilns, the agency decided not to use it. The use of this voluntary consensus standard would be impractical. The five provisions for the use of this standard appear to be based on the assumption that the optical camera will be used on a daily basis. However, this rulemaking does not include daily Method 9 tests. The rule requirements are such that a Method 9 observation would need to be made unexpectedly and only when the Method 22 test failed. It would be unreasonable to expect that a source would be making daily calibrations of the camera when its use would be so infrequent. Given that, it is unlikely that the camera could be made ready in the time specified for the Method 9 readings. Therefore, this standard is not usable based on the current requirements in this rulemaking.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it does not affect the level of protection provided to human health or the environment. As explained in the December 2014 proposal (79 FR 75672), the EPA determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations, because it increases the level of environmental protection for all affected populations without having any disproportionately high and adverse human health or environmental effects on any population, including any minority or low-income population. Additionally, the agency has conducted a proximity analysis for this rulemaking, which is located in the docket. (See ''EJ Screening Report for Brick and Structural Clay,'' Docket Item No. EPA–HQ–OAR–2013–0291–0102, and ''EJ Screening Report for Clay Ceramics,'' Docket Item No. EPA–HQ–OAR–2013–0290–0241.)

K. Congressional Review Act (CRA)

This action is subject to the CRA, and the EPA will submit a rule report to each house of the Congress and to the Comptroller General of the United States. This action is 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, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: September 24, 2015.

Gina McCarthy,

Administrator.

For the reasons discussed in the preamble, the Environmental Protection Agency amends 40 CFR part 63 as follows:

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

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

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

■ 2. Section 63.14 is amended by:
■ a. Revising paragraph (g)(1);
■ b. Revising paragraph (h)(75);
■ c. Redesignating paragraphs (h)(86) through (98) as paragraphs (h)(87) through (99), respectively;
■ d. Adding new paragraph (h)(86);
■ e. Revising newly redesignated paragraph (h)(88); and
■ f. Revising paragraph (m)(2).

The revisions and additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(g) * * *

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

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(h) * * *

(75) ASTM D6348–03 (Reapproved 2010), Standard Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared (FTIR) Spectroscopy, including Annexes A1 through A8, (Approved October 1, 2010), IBR approved for tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, tables 1, 2, and 5 to subpart UUUUU, and appendix B to subpart UUUUU.

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(86) ASTM D6735–01 (Reapproved 2009), Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method, IBR approved for tables 4 and 5 to subpart JJJJJ and tables 4 and 6 to subpart KKKKK.

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(88) ASTM D6784–02 (Reapproved 2008), Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method), (Approved April 1, 2008), IBR approved for §§ 63.11646(a), 63.11647(a) and (d), tables 1, 2, 5, 11, 12t, and 13 to subpart DDDDD, tables 4 and 5 to subpart JJJJJ, tables 4 and 6 to subpart KKKKK, table 4 to subpart JJJJJJ, table 5 to subpart UUUUU, and appendix A to subpart UUUUU.

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(m) * * *

(2) EPA–454/R–98–015, Office of Air Quality Planning and Standards (OAQPS), Fabric Filter Bag Leak Detection Guidance, September 1997, IBR approved for §§ 63.548(e), 63.7525(j), 63.8450(e), 63.8600(e), and 63.11224(f).

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■ 3. Part 63 is amended by revising subpart JJJJJ to read as follows:

Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing

Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing

What This Subpart Covers

§ 63.8380 What is the purpose of this subpart?

This subpart establishes national emission limitations for hazardous air pollutants (HAP) emitted from brick and structural clay products (BSCP) manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

§ 63.8385 Am I subject to this subpart?

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

(a) A BSCP manufacturing facility is a plant site that manufactures brick (including, but not limited to, face brick, structural brick, and brick pavers); clay pipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional clay products. Brick and structural clay products manufacturing facilities typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes. A plant site that manufactures refractory products, as defined in § 63.9824, or clay ceramics, as defined in § 63.8665, is not a BSCP manufacturing facility.

(b) A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

§ 63.8390 What parts of my plant does this subpart cover?

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

(b) For the purposes of this subpart, the affected sources are described in paragraphs (b)(1) and (2) of this section.

(1) All tunnel kilns at a BSCP manufacturing facility are an affected source. For the remainder of this subpart, a tunnel kiln with a design capacity equal to or greater than 9.07 megagrams per hour (Mg/hr) (10 tons per hour (tph)) of fired product will be called a large tunnel kiln, and a tunnel kiln with a design capacity less than 9.07 Mg/hr (10 tph) of fired product will be called a small tunnel kiln.

(2) Each periodic kiln is an affected source.

(c) Process units not subject to the requirements of this subpart are listed in paragraphs (c)(1) through (4) of this section.

(1) Kilns that are used exclusively for setting glazes on previously fired products are not subject to the requirements of this subpart.

(2) Raw material processing and handling.

(3) Dryers.

(4) Sources covered by subparts KKKKK and SSSSS of this part.

(d) A source is a new affected source if construction of the affected source began after December 18, 2014, and you met the applicability criteria at the time you began construction.

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

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

§ 63.8395 When do I have to comply with this subpart?

(a) You must comply with this subpart no later than the compliance dates in Table 7 to this subpart.

(b) You must meet the notification requirements in § 63.8480 according to the schedule in § 63.8480 and in subpart A of this part. 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

§ 63.8405 What emission limitations 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.

§ 63.8410 What are my options for meeting the emission limitations and work practice standards?

(a) To meet the emission limitations in Tables 1 and 2 to this subpart, you must use one or more of the options listed in paragraphs (a)(1) and (2) of this section.

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

(2) *Process changes.* Use low-HAP raw materials or implement manufacturing process changes and demonstrate that the resulting emissions or emissions reductions meet the emission limits in Table 1 to this subpart.

(b) To meet the work practice standards for affected periodic kilns, you must comply with the requirements listed in Table 3 to this subpart.

(c) To meet the work practice standards for dioxins/furans for affected tunnel kilns, you must comply with the requirements listed in Table 3 to this subpart.

(d) To meet the work practice standards for affected tunnel kilns during periods of startup and shutdown, you must comply with the requirements listed in Table 3 to this subpart.

General Compliance Requirements

§ 63.8420 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations (including operating limits) in this subpart at all times, except during periods that you are approved for and in compliance with the alternative standard for routine control device maintenance as specified in paragraph (d) of this section, and except during periods of start-up and shutdown, at which time you must comply with the applicable work practice standard specified in Table 3 to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. During the period between the compliance date specified for your affected source in § 63.8395 and the date upon which continuous monitoring systems (CMS) (*e.g.,* continuous parameter monitoring systems) have been installed and verified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must prepare and implement a written operation, maintenance, and monitoring (OM&M) plan according to the requirements in § 63.8425.

(d) If you own or operate an affected kiln that is subject to the emission limits specified in Table 1 to this subpart and must perform routine maintenance on the control device for that kiln, you may bypass the kiln control device and continue operating the kiln subject to the alternative standard established in this paragraph upon approval by the Administrator and provided you satisfy the conditions listed in paragraphs (d)(1) through (5) of this section.

(1) You must request to use the routine control device maintenance alternative standard from the Administrator no later than 120 calendar days before the compliance date specified in § 63.8395. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of the maintenance activities, explain why the maintenance cannot be accomplished during kiln shutdowns, provide information stating whether the continued operation of the affected source will result in fewer emissions than shutting the source down while the maintenance is performed, describe how you plan to comply with paragraph (b) of this section during the maintenance, and provide any other documentation required by the Administrator.

(2) The routine control device maintenance must not exceed 4 percent of the annual operating uptime for each kiln.

(3) The request for the routine control device maintenance alternative standard, if approved by the Administrator, must be incorporated by reference in and attached to the affected source's title V permit.

(4) You must minimize HAP emissions during the period when the kiln is operating and the control device is offline by complying with the applicable standard in Table 3 to this subpart.

(5) You must minimize the time period during which the kiln is operating and the control device is offline.

(e) You must be in compliance with the work practice standards in this subpart at all times.

(f) You must be in compliance with the provisions of subpart A of this part, except as noted in Table 10 to this subpart.

§ 63.8425 What do I need to know about operation, maintenance, and monitoring plans?

(a) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must prepare, implement, and revise as necessary an OM&M plan that includes the information in paragraph (b) of this section. Your OM&M plan must be available for inspection by the delegated authority upon request.

(b) Your OM&M plan must include, as a minimum, the information in paragraphs (b)(1) through (13) of this section.

(1) Each process and APCD to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.

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

(3) The limits for each parameter that represent continuous compliance with the emission limitations in § 63.8405. The limits must be based on values of the monitored parameters recorded during performance tests.

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

(5) Procedures for installing the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last APCD).

(6) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system.

(7) Continuous monitoring system performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(8) Procedures for the proper operation and maintenance of monitoring equipment consistent with the requirements in §§ 63.8450 and 63.8(c)(1), (3), (7), and (8).

(9) Continuous monitoring system data quality assurance procedures consistent with the requirements in § 63.8(d)(1) and (2). The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in § 63.8(d)(2) is revised, the owner or operator shall keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

(10) Continuous monitoring system recordkeeping and reporting procedures consistent with the requirements in §§ 63.8485 and 63.8490.

(11) Procedures for responding to operating parameter deviations,

including the procedures in paragraphs (b)(11)(i) through (iii) of this section.

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

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

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

(12) Procedures for keeping records to document compliance.

(13) If you operate an affected kiln and you plan to take the kiln control device out of service for routine maintenance, as specified in § 63.8420(d), the procedures specified in paragraphs (b)(13)(i) and (ii) of this section.

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

(ii) Procedures for minimizing the duration of any period of routine maintenance on the kiln control device when the kiln is operating and the control device is offline.

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

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

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

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

Testing and Initial Compliance Requirements

§ 63.8435 By what date must I conduct performance tests?

For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must conduct performance tests within 180 calendar days after the compliance date that is specified for your source in § 63.8395 and according to the provisions in § 63.7(a)(2).

§ 63.8440 When must I conduct subsequent performance tests?

(a) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart, you must conduct a performance test before renewing your 40 CFR part 70 operating permit or at least every 5 years following the initial performance test.

(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.

§ 63.8445 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 calibrate 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) Performance tests shall be conducted under such conditions as the Administrator specifies to you based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

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

(f) You must use the data gathered during the performance test and the equations in paragraphs (f)(1) and (2) of this section to determine compliance with the emission limitations.

(1) To determine compliance with the production-based particulate matter (PM) and mercury (Hg) emission limits in Table 1 to this subpart, you must calculate your mass emissions per unit of production for each test run using Equation 1:

$$MP = \frac{ER}{P} \qquad \text{(Eq. 1)}$$

Where:

MP = mass per unit of production, kilograms (pounds) of pollutant per megagram (ton) of fired product

ER = mass emission rate of pollutant (PM or Hg) during each performance test run, kilograms (pounds) per hour

P = production rate during each performance test run, megagrams (tons) of fired product per hour.

(2) To determine compliance with the health-based standard for acid gas HAP for BSCP manufacturing facilities in Table 1 to this subpart, you must:

(i) Calculate the HCl-equivalent emissions for HF, HCl, and Cl_2 for each tunnel kiln at your facility using Equation 2:

$$E_i = E_{HCl} + \left[E_{HF}\left(\frac{RfC_{HCl}}{RfC_{HF}}\right)\right] + \left[E_{Cl_2}\left(\frac{RfC_{HCl}}{RfC_{Cl_2}}\right)\right] \qquad \text{(Eq. 2)}$$

Where:

E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour

E_{HCl} = emissions of HCl, kilograms (pounds) per hour

E_{HF} = emissions of HF, kilograms (pounds) per hour

E_{Cl2} = emissions of Cl_2, kilograms (pounds) per hour

RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter

RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter
RfC_{Cl2} = reference concentration for Cl_2, 0.15 micrograms per cubic meter

(ii) If you have multiple tunnel kilns at your facility, sum the HCl-equivalent values for all tunnel kilns at the facility using Equation 3:

$$E_{total} = \sum_{i=1}^{n} E_i \qquad \text{(Eq. 3)}$$

Where:
E_{total} = HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour
E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
n = number of tunnel kilns at facility

(iii) Compare this value to the health-based standard in Table 1 to this subpart.

(g) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you as specified in paragraph (g)(1) of this section and in Table 4 to this subpart.

(1)(i) If you do not have an APCD installed on your kiln, calculate the maximum potential HCl-equivalent emissions for HF, HCl, and Cl_2 for each tunnel kiln at your facility using Equation 4:

$$E_{\max i} = \left(Cap_i\right)\left[\left(MP_{iHCl}\right) + \left(MP_{iHF}\right)\left(\frac{RfC_{HCl}}{RfC_{HF}}\right) + \left(MP_{iCl_2}\right)\left(\frac{RfC_{HCl}}{RfC_{Cl_2}}\right)\right] \qquad \text{(Eq. 4)}$$

Where:
$E_{\max\ i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
Cap_i = design capacity for kiln i, megagrams (tons) of fired product per hour
MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of fired product
MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of fired product
MP_{iCl2} = mass of Cl_2 per unit of production for kiln i, kilograms (pounds) of Cl_2 per megagram (ton) of fired product
RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter
RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter
RfC_{Cl2} = reference concentration for Cl_2, 0.15 micrograms per cubic meter

(ii) If you have multiple tunnel kilns at your facility, sum the maximum potential HCl-equivalent values for all tunnel kilns at the facility using Equation 5:

$$E_{\max total} = \sum_{i=1}^{n} E_{\max i} \qquad \text{(Eq. 5)}$$

Where:
$E_{\max\ total}$ = maximum potential HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour
$E_{\max\ i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour
n = number of tunnel kilns at facility

(iii) If you have a single tunnel kiln at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{\max\ total}$) are greater than the HCl-equivalent limit in Table 1 to this subpart, determine the maximum process rate for the tunnel kiln using Equation 6 that would ensure the total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit. The maximum process rate would become your operating limit for process rate and must be included in your OM&M plan.

$$P_{\max i} = \frac{HCl\text{-}eq}{\left[\left(MP_{iHCl}\right) + \left(MP_{iHF}\right)\left(\frac{RfC_{HCl}}{RfC_{HF}}\right) + \left(MP_{iCl_2}\right)\left(\frac{RfC_{HCl}}{RfC_{Cl_2}}\right)\right]} \qquad \text{(Eq. 6)}$$

Where:
$P_{\max\ i}$ = maximum process rate for kiln i, megagrams (tons) per hour
HCl-eq = HCl-equivalent limit in Table 1 to this subpart, 26 kilograms (57 pounds) per hour
MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of fired product
MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of fired product
MP_{iCl2} = mass of Cl_2 per unit of production for kiln i, kilograms (pounds) of Cl_2 per megagram (ton) of fired product
RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter
RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter
RfC_{Cl2} = reference concentration for Cl_2, 0.15 micrograms per cubic meter

(iv) If you have multiple tunnel kilns at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{\max\ total}$) are greater than the HCl-equivalent limit in Table 1 to this subpart, determine the combination of maximum process rates that would ensure that total facility maximum potential HCl-equivalent remains at or below the HCl-equivalent limit. The maximum process rates would become your operating limits for process rate and must be included in your OM&M plan.

(2) [Reserved]

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

(1) Submit a request for approval of alternative monitoring procedures to the Administrator no later than the notification of intent to conduct a performance test. The request must contain the information specified in paragraphs (h)(1)(i) through (iv) of this section.

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

(ii) The type of monitoring device or procedure that will be used.

(iii) The operating parameters that will be monitored.

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

(2) Establish site-specific operating limits during the performance test based on the information included in the approved alternative monitoring procedures request and, as applicable, as specified in Table 4 to this subpart.

§ 63.8450 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each CMS according to your OM&M plan and the requirements in paragraphs (a)(1) through (5) of this section.

(1) Conduct a performance evaluation of each CMS according to your OM&M plan.

(2) The CMS must complete a minimum of one cycle of operation for each successive 15-minute period. To have a valid hour of data, you must have at least three of four equally spaced data values (or at least 75 percent if you collect more than four data values per hour) for that hour (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8420(d)).

(3) Determine and record the 3-hour block averages of all recorded readings, calculated after every 3 hours of operation as the average of the previous 3 operating hours. To calculate the average for each 3-hour average period, you must have at least 75 percent of the recorded readings for that period (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8420(d)).

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

(5) At all times, maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) For each liquid flow measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (b)(1) through (3) of this section.

(1) Locate the flow sensor in a position that provides a representative flowrate.

(2) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the liquid flowrate.

(3) At least semiannually, conduct a flow sensor calibration check.

(c) For each pressure measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (c)(1) through (7) of this section.

(1) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(4) Check the pressure tap daily to ensure that it is not plugged.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Any time the sensor exceeds the manufacturer's specified maximum operating pressure range, conduct calibration checks or install a new pressure sensor.

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

(d) For each pH measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (d)(1) through (4) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration at one point daily.

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

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

(1) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to EPA–454/R–98–015, ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). 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 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 audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard 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 EPA–454/R–98–015, ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14).

(10) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in your OM&M plan. In no case may the sensitivity be increased by more than 100 percent or

decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection that demonstrates that the fabric filter is in good operating condition, as defined in section 5.2 of the ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). Record each adjustment.

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

(f) For each lime, chemical, or carbon feed rate measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (f)(1) and (2) of this section.

(1) Locate the measurement device in a position that provides a representative feed rate measurement.

(2) At least semiannually, conduct a calibration check.

(g) For each limestone feed system on a dry limestone adsorber (DLA), you must meet the requirements in paragraphs (a)(1), (4), and (5) of this section and must ensure on a monthly basis that the feed system replaces limestone at least as frequently as the schedule set during the performance test.

(h) For each temperature measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (h)(1) through (3) of this section.

(1) Locate the measurement device in a position that provides a representative temperature.

(2) Use a measurement device with a minimum sensitivity of 1 percent of the temperature being measured.

(3) At least semiannually, conduct a calibration check.

(i) Requests for approval of alternate monitoring procedures must meet the requirements in §§ 63.8445(h) and 63.8(f).

§ 63.8455 How do I demonstrate initial compliance with the emission limitations and work practice standards?

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

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in § 63.8445 and Table 4 to this subpart.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.8480(c).

Continuous Compliance Requirements

§ 63.8465 How do I monitor and collect data to demonstrate continuous compliance?

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

(b) Except for periods of monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating. This includes periods of startup, shutdown, malfunction, and routine control device maintenance as specified in § 63.8420(d) when the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities for purposes of calculating data averages. You must use all the valid data collected during all other periods in assessing compliance. Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation from the monitoring requirements.

§ 63.8470 How do I demonstrate continuous compliance with the emission limitations and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1, 2, and 3 to this subpart that applies to you according to the methods specified in Table 6 to this subpart.

(b) For each affected kiln that is subject to the emission limits specified in Table 1 to this subpart and is equipped with an 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 § 63.8445(h)(2) according to the methods specified in your approved alternative monitoring procedures request, as described in §§ 63.8445(h)(1) and 63.8(f).

(c) 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. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in § 63.8485(c)(9).

(d) [Reserved]

(e)(1) *VE testing.* You must demonstrate continuous compliance with the operating limits in Table 2 to this subpart for visible emissions (VE) from tunnel kilns that are uncontrolled or equipped with DLA, dry lime injection fabric filter (DIFF), dry lime scrubber/fabric filter (DLS/FF), or other dry control device by monitoring VE at each kiln stack according to the requirements in paragraphs (e)(1)(i) through (v) of this section.

(i) Perform daily VE observations of each kiln stack according to the procedures of Method 22 of 40 CFR part 60, appendix A–7. You must conduct the Method 22 test while the affected source is operating under normal conditions. The duration of each Method 22 test must be at least 15 minutes.

(ii) If VE are observed during any daily test conducted using Method 22 of 40 CFR part 60, appendix A–7, you must promptly conduct an opacity test, according to the procedures of Method 9 of 40 CFR part 60, appendix A–4. If opacity greater than 10 percent is observed, you must initiate and complete corrective actions according to your OM&M plan.

(iii) You may decrease the frequency of Method 22 testing from daily to weekly for a kiln stack if one of the conditions in paragraph (e)(1)(iii)(A) or (B) of this section is met.

(A) No VE are observed in 30 consecutive daily Method 22 tests for any kiln stack; or

(B) No opacity greater than 10 percent is observed during any of the Method 9 tests for any kiln stack.

(iv) If VE are observed during any weekly test and opacity greater than 10 percent is observed in the subsequent Method 9 test, you must promptly initiate and complete corrective actions according to your OM&M plan, resume testing of that kiln stack following Method 22 of 40 CFR part 60, appendix A–7, on a daily basis, as described in paragraph (e)(1)(i) of this section, and maintain that schedule until one of the conditions in paragraph (e)(1)(iii)(A) or (B) of this section is met, at which time you may again decrease the frequency of Method 22 testing to a weekly basis.

(v) If greater than 10 percent opacity is observed during any test conducted using Method 9 of 40 CFR part 60, appendix A–4, you must report these deviations by following the requirements in § 63.8485.

(2) *Alternative to VE testing.* In lieu of meeting the requirements under paragraph (e)(1) of this section, you may conduct a PM test at least once every year following the initial performance test, according to the procedures of

Method 5 of 40 CFR part 60, appendix A–3, and the provisions of § 63.8445(e) and (f)(1).

Notifications, Reports, and Records

§ 63.8480 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), (g)(1), and (h) that apply to you, by the dates specified.

(b) You must submit all of the notifications specified in Table 8 to this subpart that apply to you, by the dates specified.

(c) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, your Notification of Compliance Status as specified in Table 8 to this subpart must include the information in paragraphs (c)(1) through (3) of this section.

(1) The requirements in § 63.9(h)(2)(i).

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

(3) For each APCD that includes a fabric filter, if a bag leak detection system is used, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 63.8450(e).

§ 63.8485 What reports must I submit and when?

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

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 9 to this subpart and 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 § 63.8395 and ending on either June 30 or December 31. The first reporting period must be 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, 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 the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (8) 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) A description of control device maintenance performed while the control device was offline and the kiln controlled by the control device was operating, including the information specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) The date and time when the control device was shut down and restarted.

(ii) Identification of the kiln that was operating and the number of hours that the kiln operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance request developed as specified in § 63.8420(d). If the control device maintenance was included in your approved routine control device maintenance request, then you must report the information in paragraphs (c)(4)(iii)(A) through (C) of this section.

(A) The total amount of time that the kiln controlled by the control device operated during the current semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each kiln controlled by the control device operated while the control device was offline for maintenance covered under the routine control device maintenance alternative standard during the current semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under paragraphs (c)(4)(iii)(A) and (B) of this section, compute the annual percent of kiln operating uptime during which the control device was offline for routine maintenance using Equation 7.

$$RM = \frac{DT_p + DT_c}{KU_p + KU_c}(100) \qquad \text{(Eq. 7)}$$

Where:

RM = Annual percentage of kiln uptime during which control device was offline for routine control device maintenance

DT_p = Control device downtime claimed under the routine control device maintenance alternative standard for the previous semiannual compliance period

DT_c = Control device downtime claimed under the routine control device maintenance alternative standard for the current semiannual compliance period

KU_p = Kiln uptime for the previous semiannual compliance period

KU_c = Kiln uptime for the current semiannual compliance period

(5) A report of the most recent burner tune-up conducted to comply with the dioxin/furan work practice standard in Table 3 to this subpart.

(6) If there are no deviations from any emission limitations (emission limits or operating limits) that apply to you, the compliance report must contain a statement that there were no deviations from the emission limitations during the reporting period.

(7) If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, the compliance report must contain a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(8) The first compliance report must contain the startup push rate for each kiln, the minimum APCD inlet temperature for each APCD, and the temperature profile for each kiln without an APCD.

(9) For each deviation that occurs at an affected source, report such events in the compliance report by including the information in paragraphs (c)(9)(i) through (iii) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment for which the deviation occurred.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(d) For each deviation from an emission limitation (emission limit or operating limit) occurring at an affected source where you are using a CMS to comply with the emission limitations in this subpart, you must include the information in paragraphs (c)(1) through (4) and (c)(9), and paragraphs (d)(1) through (11) of this section. This includes periods of startup, shutdown, and routine control device maintenance.

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

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

(3) The date, time, and duration that each CMS was out-of-control, including the pertinent information in your OM&M plan.

(4) Whether each deviation occurred during routine control device maintenance covered in your approved routine control device maintenance alternative standard or during another period, and the cause of each deviation (including unknown cause, if applicable).

(5) A description of any corrective action taken to return the affected unit to its normal or usual manner of operation.

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

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

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or control equipment since the last reporting period.

(e) If you have obtained a title V operating permit according 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 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limitation (including any operating limit), 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 permitting authority.

(f) Within 60 calendar days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance test following the procedure specified in either paragraph (f)(1) or (f)(2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

§ 63.8490 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) Records of performance tests as required in § 63.10(b)(2)(viii).

(3) Records relating to control device maintenance and documentation of your approved routine control device maintenance request, if you request to use the alternative standard under § 63.8420(d).

(b) You must keep the records required in Table 6 to this subpart to show continuous compliance with each emission limitation and work practice standard that applies to you.

(c) You must also maintain the records listed in paragraphs (c)(1) through (11) of this section.

(1) 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.

(2) For each deviation, record the information in paragraphs (c)(2)(i) through (iv) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Actions taken to minimize emissions in accordance with § 63.8420(b) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(3) For each affected source, records of production rates on a fired-product basis.

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

(5) Records of maintenance and inspections performed on the APCD.

(6) Current copies of your OM&M plan, including any revisions, with records documenting conformance.

(7) Logs of the information required in paragraphs (c)(7)(i) through (iii) of this section to document proper operation of your periodic kiln.

(i) Records of the firing time and temperature cycle for each product produced in each periodic kiln. If all periodic kilns use the same time and temperature cycles, one copy may be maintained for each kiln. Reference numbers must be assigned to use in log sheets.

(ii) For each periodic kiln, a log that details the type of product fired in each batch, the corresponding time and temperature protocol reference number, and an indication of whether the appropriate time and temperature cycle was fired.

(iii) For each periodic kiln, a log of the actual tonnage of product fired in the periodic kiln and an indication of whether the tonnage was below the maximum tonnage for that specific kiln.

(8) Logs of the maintenance procedures used to demonstrate compliance with the maintenance requirements of the periodic kiln work practice standards specified in Table 3 to this subpart.

(9) Records of burner tune-ups used to comply with the dioxin/furan work practice standard for tunnel kilns.

(10) For periods of startup and shutdown, records of the following information:

(i) The date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

(ii) For periods of startup, the kiln push rate and kiln exhaust temperature prior to the time the kiln exhaust reaches the minimum APCD inlet temperature (for a kiln with an APCD) or the kiln temperature profile is attained (for a kiln with no APCD).

(iii) For periods of shutdown, the kiln push rate and kiln exhaust temperature after the time the kiln exhaust falls below the minimum APCD inlet temperature (for a kiln with an APCD) or the kiln temperature profile is no longer maintained (for a kiln with no APCD).

(11) All site-specific parameters, temperature profiles, and procedures required to be established or developed according to the applicable work practice standards in Table 3 to this subpart.

§ 63.8495 In what form and for 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

§ 63.8505 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.8510 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the 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 of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under subpart E of this part, 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 (6) of this section.

(1) Approval of alternatives to the applicability requirements in §§ 63.8385 and 63.8390, the compliance date requirements in § 63.8395, and the non-opacity emission limitations in § 63.8405.

(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.

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

(6) Approval of a routine control device maintenance request under § 63.8420(d).

§ 63.8515 What definitions apply to this subpart?

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

Air pollution control device (APCD) means any equipment that reduces the quantity of a pollutant that is emitted to the air.

Bag leak detection system means an instrument that is capable of monitoring PM 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.

Brick and structural clay products (BSCP) manufacturing facility means a plant site that manufactures brick (including, but not limited to, face brick, structural brick, and brick pavers); clay pipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional clay products. Brick and structural clay products manufacturing facilities typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes. A plant site that manufactures refractory products, as defined in 40 CFR 63.9824, or clay ceramics, as defined in 40 CFR 63.8665, is not a BSCP manufacturing facility.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

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

(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.

Dry lime injection fabric filter (DIFF) means an APCD 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 APCD that includes continuous injection of humidified hydrated lime or other sorbent into a reaction chamber followed by a fabric filter. These systems typically include recirculation of some of the sorbent.

Dry limestone adsorber (DLA) means an APCD 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 emission limit or operating limit.

Fabric filter means an APCD used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

Initial startup means:

(1) For a new or reconstructed tunnel kiln controlled with a DLA, the time at which the temperature in the kiln first reaches 260 °C (500 °F) and the kiln contains product; or

(2) for a new or reconstructed tunnel kiln controlled with a DIFF, DLS/FF, or wet scrubber (WS), the time at which the kiln first reaches a level of production that is equal to 75 percent of the kiln design capacity or 12 months after the affected source begins firing BSCP, whichever is earlier.

Fired product means brick or structural clay products that have gone through the firing process via kilns.

Kiln exhaust process stream means the portion of the exhaust from a tunnel kiln that exhausts directly to the atmosphere (or to an APCD), rather than to a sawdust dryer.

Large tunnel kiln means a tunnel kiln (existing, new, or reconstructed) with a design capacity equal to or greater than 9.07 Mg/hr (10 tph) of fired product.

Minimum APCD inlet temperature means the minimum temperature that kiln exhaust can be vented to the APCD that ensures the long-term integrity of the APCD.

Particulate matter (PM) means, for purposes of this subpart, emissions of PM that serve as a measure of total particulate emissions, as measured by Method 5 (40 CFR part 60, appendix A–3) or Method 29 (40 CFR part 60, appendix A–8), and as a surrogate for non-mercury metal HAP contained in the particulates including, but not limited to, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium.

Periodic kiln means a batch firing kiln.

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.

Responsible official means responsible official as defined in 40 CFR 70.2.

Small tunnel kiln means a tunnel kiln (existing, new, or reconstructed) with a design capacity less than 9.07 Mg/hr (10 tph) of fired product.

Startup means the setting in operation of an affected source and starting the production process.

Startup push rate means the kiln push rate required to bring the kiln to the proper operating temperature during startup.

Tunnel kiln means any continuous kiln that is used to fire BSCP. Some tunnel kilns have two process streams, including a process stream that exhausts directly to the atmosphere or to an APCD, and a process stream in which the kiln exhaust is ducted to a sawdust dryer where it is used to dry sawdust before being emitted to the atmosphere.

Tunnel kiln design capacity means the maximum amount of brick, in Mg (tons), that a kiln is designed to produce in one year divided by the number of hours in a year (8,760 hours), taking into account the void space in the brick, the push rate for the kiln, and the stacking pattern, if applicable. If a kiln is modified to increase the capacity, the design capacity is considered to be the capacity following modifications.

Wet scrubber (WS) means an APCD that uses water, which may include caustic additives or other chemicals, as the sorbent. Wet scrubbers may use any of various design mechanisms to increase the contact between exhaust gases and the sorbent.

Work practice standard means any design, equipment, work practice, operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Tables to Subpart JJJJJ of Part 63

As stated in § 63.8405, you must meet each emission limit in the following table that applies to you:

TABLE 1 TO SUBPART JJJJJ OF PART 63—EMISSION LIMITS

For each . . .	You must meet the following emission limits . . .	Or you must comply with the following . . .
1. Collection of all tunnel kilns at facility, including all process streams.	HF, HCl, and Cl_2 emissions must not exceed 26 kg/hr (57 lb/hr) HCl equivalent, under the health-based standard, as determined using Equations 2 and 3.	Not applicable.
2. Existing large tunnel kiln (design capacity ≥10 tons per hour (tph) of fired product), including all process streams.	a. PM emissions must not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product.	i. PM emissions must not exceed 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr).
	b. Hg emissions must not exceed 2.1 E–05 kilogram per megagram (kg/Mg) (4.1 E–05 pound per ton (lb/ton)) of fired product.	i. Hg emissions must not exceed 7.7 micrograms per dry standard cubic meter (µg/dscm) at 17% O_2; or ii. Hg emissions must not exceed 2.5 E–04 kg/hr (5.5 E–04 lb/hr).
3. Existing small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.	i. PM emissions must not exceed 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr).
	b. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product.	i. Hg emissions must not exceed 91 µg/dscm at 17% O_2; or ii. Hg emissions must not exceed 8.5 E–04 kg/hr (0.0019 lb/hr).

TABLE 1 TO SUBPART JJJJJ OF PART 63—EMISSION LIMITS—Continued

For each . . .	You must meet the following emission limits . . .	Or you must comply with the following . . .
4. New or reconstructed large tunnel kiln (design capacity ≥10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product..	i. PM emissions must not exceed 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr) of fired product.
	b. Hg emissions must not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product.	i. Hg emissions must not exceed 6.2 µg/dscm at 17% O_2. ii. Hg emissions must not exceed 1.6 E–04 kg/hr (3.4 E–04 lb/hr).
5. New or reconstructed small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product.	i. PM emissions must not exceed 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2; or ii. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr) of fired product.
	b. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product.	i. Hg emissions must not exceed 91 µg/dscm at 17% O_2. ii. Hg emissions must not exceed 8.5 E–04 kg/hr (0.0019 lb/hr).

As stated in § 63.8405, you must meet each operating limit in the following table that applies to you:

TABLE 2 TO SUBPART JJJJJ OF PART 63—OPERATING LIMITS

For each . . .	You must . . .
1. Tunnel kiln equipped with a DLA	a. Maintain the average pressure drop across the DLA for each 3-hour block period at or above the average pressure drop established during the HF/HCl/Cl_2 performance test; or, if you are monitoring the bypass stack damper position, initiate corrective action within 1 hour after the bypass damper is opened allowing the kiln exhaust gas to bypass the DLA and complete corrective action in accordance with your OM&M plan; and b. Maintain an adequate amount of limestone in the limestone hopper, storage bin (located at the top of the DLA), and DLA at all times; maintain the limestone feeder setting (on a per ton of fired product basis) at or above the level established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and c. Use the same grade of limestone from the same source as was used during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; maintain records of the source and grade of limestone; and d. Maintain no VE from the DLA stack.
2. Tunnel kiln equipped with a DIFF or DLS/FF.	a. If you use a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with your OM&M plan; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; or maintain no VE from the DIFF or DLS/FF stack; and b. Maintain free-flowing lime in the feed hopper or silo and to the APCD at all times for continuous injection systems; maintain the feeder setting (on a per ton of fired product basis) at or above the level established during the HF/HCl/Cl_2 performance test for continuous injection systems in which compliance was demonstrated.
3. Tunnel kiln equipped with a WS	a. Maintain the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and b. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl/Cl_2 and PM/non-Hg HAP metals performance tests in which compliance was demonstrated.
4. Tunnel kiln equipped with an ACI system.	Maintain the average carbon flow rate for each 3-hour block period at or above the average carbon flow rate established during the Hg performance test in which compliance was demonstrated.
5. Tunnel kiln with no add-on control.	a. Maintain no VE from the stack. b. Maintain the kiln process rate at or below the kiln process rate determined according to § 63.8445(g)(1).

As stated in § 63.8405, you must meet each work practice standard in the following table that applies to you:

TABLE 3 TO SUBPART JJJJJ OF PART 63—WORK PRACTICE STANDARDS

For each . . .	You must . . .	According to the following requirements . . .
1. Existing, new or reconstructed periodic kiln	a. Minimize HAP emissions	i. Develop and use a designed firing time and temperature cycle for each periodic kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and ii. Label each periodic kiln with the maximum load (in tons) of product that can be fired in the kiln during a single firing cycle; and iii. For each firing load, document the total tonnage of product placed in the kiln to ensure that it is not greater than the maximum load identified in item 1b; and iv. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and v. Develop and maintain records for each periodic kiln, as specified in § 63.8490.
2. Existing, new or reconstructed tunnel kiln	a. Minimize dioxin/furan emissions	i. Maintain and inspect the burners and associated combustion controls (as applicable); and ii. Tune the specific burner type to optimize combustion.
3. Existing, new or reconstructed tunnel kiln during periods of startup.	a. Minimize HAP emissions	i. Establish the startup push rate for each kiln, the minimum APCD inlet temperature for each APCD, and temperature profile for each kiln without an APCD and include them in your first compliance report, as specified in § 63.8485(c)(8); and ii. After initial charging of the kiln with loaded kiln cars, remain at or below the startup push rate for the kiln until the kiln exhaust reaches the minimum APCD inlet temperature for a kiln with an APCD or until the kiln temperature profile is attained for a kiln with no APCD; and iii. If your kiln has an APCD, begin venting the exhaust from the kiln through the APCD by the time the kiln exhaust temperature reaches the minimum APCD inlet temperature.
4. Existing, new or reconstructed tunnel kiln during periods of shutdown.	a. Minimize HAP emissions	i. Do not push loaded kiln cars into the kiln once the kiln exhaust temperature falls below the minimum APCD inlet temperature if the kiln is controlled by an APCD or when the kiln temperature profile is no longer maintained for an uncontrolled kiln; and ii. If your kiln has an APCD, continue to vent the exhaust from the kiln through the APCD until the kiln exhaust temperature falls below the minimum inlet temperature for the APCD.
5. Existing, new or reconstructed tunnel kiln during periods of routine control device maintenance.	a. Minimize HAP emissions.	i. Develop and use a temperature profile for each kiln; and ii. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices and controls that regulate air-to-fuel ratios; and iii. Develop and maintain records for each kiln, as specified in § 63.8490(a)(3).

As stated in § 63.8445, you must conduct each performance test in the following table that applies to you:

TABLE 4 TO SUBPART JJJJJ OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Tunnel kiln	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure HF, HCl and Cl_2 emissions.	i. Method 26A of 40 CFR part 60, appendix A–8; or.	You may use Method 26 of 40 CFR part 60, appendix A–8, as an alternative to using Method 26A of 40 CFR part 60, appendix A–8, when no acid PM (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a WS) is present. ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14) may be used as an alternative to Methods 26 and 26A.
		ii. Method 320 of appendix A of this part.	When using Method 320 of appendix A of this part, you must follow the analyte spiking procedures of section 13 of Method 320 of appendix A of this part, unless you can demonstrate that the complete spiking procedure has been conducted at a similar source. ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14) may be used as an alternative to Method 320 if the test plan preparation and implementation in Annexes A1–A8 are mandatory and the %R in Annex A5 is determined for each target analyte.
	f. Measure PM emissions or non-Hg HAP metals.	i. For PM only: Method 5 of 40 CFR part 60, appendix A–3; or. ii. For PM or non-Hg HAP metals: Method 29 of 40 CFR part 60, appendix A–8.	
	g. Measure Hg emissions	Method 29 of 40 CFR part 60, appendix A–8.	ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14) may be used as an alternative to Method 29 (portion for Hg only).
2. Tunnel kiln with no add-on control.	Establish the operating limit(s) for kiln process rate if the total facility maximum potential HCl-equivalent emissions are greater than the HCl-equivalent limit in Table 1 to this subpart.	HCl-equivalent limit in Table 1 to this subpart and emissions and production data from the HF/HCl/Cl_2 performance test.	Using the procedures in § 63.8445(g)(1), you must determine the maximum process rate(s) for your kiln(s) that would ensure total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit in Table 1 to this subpart. The maximum process rate(s) would become your site-specific process rate operating limit(s).
3. Tunnel kiln that is complying with PM and/or Hg production-based emission limits.	Determine the production rate during each PM/Hg test run in order to determine compliance with PM and/or Hg production-based emission limits.	Production data collected during the PM/Hg performance tests (*e.g.,* no. of pushes per hour, no. of bricks per kiln car, weight of a typical fired brick).	You must measure and record the production rate, on a fired-product basis, of the affected source for each of the three test runs.
4. Tunnel kiln equipped with a DLA.	a. Establish the operating limit for the average pressure drop across the DLA.	Data from the pressure drop measurement device during the HF/HCl/Cl_2 performance test.	You must continuously measure the pressure drop across the DLA, determine and record the block average pressure drop values for the three test runs, and determine and record the 3-hour block average of the recorded pressure drop measurements for the three test runs. The average of the three test runs establishes your minimum site-specific pressure drop operating limit.

TABLE 4 TO SUBPART JJJJJ OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Establish the operating limit for the limestone feeder setting.	Data from the limestone feeder during the HF/HCl/Cl_2 performance test.	You must ensure that you maintain an adequate amount of limestone in the limestone hopper, storage bin (located at the top of the DLA), and DLA at all times during the performance test. You must establish your limestone feeder setting, on a per ton of fired product basis, one week prior to the performance test and maintain the feeder setting for the one-week period that precedes the performance test and during the performance test.
	c. Document the source and grade of limestone used.	Records of limestone purchase.	
5. Tunnel kiln equipped with a DIFF or DLS/FF.	Establish the operating limit for the lime feeder setting.	Data from the lime feeder during the HF/HCl/Cl_2 performance test.	For continuous lime injection systems, you must ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the performance test and record the feeder setting, on a per ton of fired product basis, for the three test runs. If the feed rate setting varies during the three test runs, determine and record the average feed rate from the three test runs. The average of the three test runs establishes your minimum site-specific feed rate operating limit.
6. Tunnel kiln equipped with a WS.	a. Establish the operating limit for the average scrubber liquid pH.	Data from the pH measurement device during the performance HF/HCl/Cl_2 performance test.	You must continuously measure the scrubber liquid pH, determine and record the block average pH values for the three test runs, and determine and record the 3-hour block average of the recorded pH measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid pH operating limit.
	b. Establish the operating limit for the average scrubber liquid flow rate.	Data from the flow rate measurement device during the HF/HCl/Cl_2 and PM/non-Hg HAP metals performance tests.	You must continuously measure the scrubber liquid flow rate, determine and record the block average flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid flow rate operating level. If different average wet scrubber liquid flow rate values are measured during the HF/HCl/Cl_2 and PM/non-Hg HAP metals tests, the highest of the average values become your site-specific operating limit.
7. Tunnel kiln equipped with an ACI system.	Establish the operating limit for the average carbon flow rate.	Data from the carbon flow rate measurement conducted during the Hg performance test.	You must measure the carbon flow rate during each test run, determine and record the block average carbon flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded carbon flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific activated carbon flow rate operating limit.

As stated in § 63.8455, you must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
1. Collection of all tunnel kilns at the facility, including all process streams.	a. HF, HCl, and Cl_2 emissions must not exceed 26 kg/hr (57 lb/hr) HCl equivalent.	i. You measure HF, HCl, and Cl_2 emissions for each kiln using Method 26 or 26A of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14); or Method 320 of appendix A of this part or its alternative, ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14); and

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You calculate the HCl-equivalent emissions for each kiln using Equation 2 to this subpart; and iii. You sum the HCl-equivalent values for all kilns at the facility using Equation 3 to this subpart; and iv. The facility total HCl-equivalent does not exceed 26 kg/hr (57 lb/hr).
2. Existing large tunnel kiln (design capacity ≥10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product or 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product or 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.018 kg/Mg (0.036 lb/ton) of fired product or 6.6 mg/dscm (0.0029 gr/dscf) at 17% O_2.
	b. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.0026 kg/hr (0.0057 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.0026 kg/hr (0.0057 lb/hr).
	c. Hg emissions must not exceed 2.1 E–05 kg/Mg (4.1 E–05 lb/ton) of fired product or 7.7 µg/dscm at 17% O_2 or 2.5 E–04 kg/hr (5.5 E–04 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 2.1 E–05 kg/Mg (4.1 E–05 lb/ton) of fired product or 7.7 µg/dscm at 17% O_2 or 2.5 E–04 kg/hr (5.5 E–04 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 2.1 E–05 kg/Mg (4.1 E–05 lb/ton) of fired product or 7.7 µg/dscm at 17% O_2 or 2.5 E–04 kg/hr (5.5 E–04 lb/hr).
3. Existing small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product or 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product or 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product or 4.8 mg/dscm (0.0021 gr/dscf) at 17% O_2.

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
	b. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.047 kg/hr (0.11 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.047 kg/hr (0.11 lb/hr).
	c. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 µg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 µg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 µg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).
4. New or reconstructed large tunnel kiln (design capacity ≥10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product or 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product or 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.0089 kg/Mg (0.018 lb/ton) of fired product or 3.2 mg/dscm (0.0014 gr/dscf) at 17% O_2.
	b. Non-Hg HAP metals emissions must not exceed 0.0026 kg/hr (0.0057 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.0026 kg/hr (0.0057 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.0026 kg/hr (0.0057 lb/hr).
	c. Hg emissions must not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product or 6.2 µg/dscm at 17% O_2 or 1.6 E–04 kg/hr (3.4 E–04 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product or 6.2 µg/dscm at 17% O_2 or 1.6 E–04 kg/hr (3.4 E–04 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.4 E–05 kg/Mg (2.8 E–05 lb/ton) of fired product or 6.2 µg/dscm at 17% O_2 or 1.6 E–04 kg/hr (3.4 E–04 lb/hr).

TABLE 5 TO SUBPART JJJJJ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
5. New or reconstructed small tunnel kiln (design capacity <10 tph of fired product), including all process streams.	a. PM emissions must not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product or 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2; or.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8445(f)(1), do not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product or 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.015 kg/Mg (0.030 lb/ton) of fired product or 4.7 mg/dscm (0.0021 gr/dscf) at 17% O_2.
	b. Non-Hg HAP metals emissions must not exceed 0.047 kg/hr (0.11 lb/hr).	i. The non-Hg HAP metals emissions measured using Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, do not exceed 0.047 kg/hr (0.11 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which non-Hg HAP metals emissions did not exceed 0.047 kg/hr (0.11 lb/hr).
	c. Hg emissions must not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 µg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 µg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr); and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.7 E–04 kg/Mg (3.3 E–04 lb/ton) of fired product or 91 µg/dscm at 17% O_2 or 8.5 E–04 kg/hr (0.0019 lb/hr).
6. Existing, new or reconstructed periodic kiln ..	a. Minimize HAP emissions	i. Develop a designed firing time and temperature cycle for each periodic kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and ii. Label each periodic kiln with the maximum load (in tons) of product that can be fired in the kiln during a single firing cycle; and iii. Develop maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles.
7. Existing, new or reconstructed tunnel kiln	a. Minimize dioxin/furan emissions	i. Conduct initial inspection of the burners and associated combustion controls (as applicable); and ii. Tune the specific burner type to optimize combustion.

As stated in § 63.8470, you must demonstrate continuous compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 6 TO SUBPART JJJJJ OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
1. Tunnel kiln equipped with a DLA	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 1 of Table 2 to this subpart for tunnel kilns equipped with a DLA.	i. Collecting the DLA pressure drop data according to § 63.8450(a); reducing the DLA pressure drop data to 3-hour block averages according to § 63.8450(a); maintaining the average pressure drop across the DLA for each 3-hour block period at or above the average pressure drop established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; or continuously monitoring the bypass stack damper position at least once every 15 minutes during normal kiln operation, and initiating corrective action within 1 hour after the bypass damper is opened allowing the kiln exhaust gas to bypass the DLA and completing corrective action in accordance with your OM&M plan; and ii. Verifying that the limestone hopper and storage bin (located at the top of the DLA) contain adequate limestone by performing a daily visual check, which could include one of the following: (1) Conducting a physical check of the hopper; (2) creating a visual access point, such as a window, on the side of the hopper; (3) installing a camera in the hopper that provides continuous feed to a video monitor in the control room; or (4) confirming that load level indicators in the hopper are not indicating the need for additional limestone; and iii. Recording the limestone feeder setting daily (on a per ton of fired product basis) to verify that the feeder setting is being maintained at or above the level established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and iv. Using the same grade of limestone from the same source as was used during the HF/HCl/Cl_2 performance test; maintaining records of the source and type of limestone; and v. Performing VE observations of the DLA stack at the frequency specified in § 63.8470(e) using Method 22 of 40 CFR part 60, appendix A–7; maintaining no VE from the DLA stack.
2. Tunnel kiln equipped with a DIFF or DLS/FF.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 2 of Table 2 to this subpart for tunnel kilns equipped with DIFF or DLS/FF.	i. If you use a bag leak detection system, as prescribed in 63.8450(e), initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with your OM&M plan; operating and maintaining the fabric filter such that the alarm is not engaged 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 is counted as a minimum of 1 hour; if you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken by you to initiate corrective action; or performing VE observations of the DIFF or DLS/FF stack at the frequency specified in § 63.8470(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the DIFF or DLS/FF stack; and ii. Verifying 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 in accordance with your OM&M plan; recording the feeder setting once during each shift of operation to verify that the feeder setting is being maintained at or above the level established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated.
3. Tunnel kiln equipped with a WS	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 3 of Table 2 to this subpart for tunnel kilns equipped with WS.	i. Collecting the scrubber liquid pH data according to § 63.8450(a); reducing the scrubber liquid pH data to 3-hour block averages according to § 63.8450(a); maintaining the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl/Cl_2 performance test in which compliance was demonstrated; and ii. Collecting the scrubber liquid flow rate data according to § 63.8450(a); reducing the scrubber liquid flow rate data to 3-hour block averages according to § 63.8450(a); maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl/Cl_2 and PM/non-Hg HAP metals performance tests in which compliance was demonstrated.

TABLE 6 TO SUBPART JJJJJ OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
4. Tunnel kiln equipped with an ACI system.	Each emission limit in Table 1 to this subpart and each operating limit in Item 4 of Table 2 to this subpart for tunnel kilns equipped with ACI system.	Collecting the carbon flow rate data according to § 63.8450(a); reducing the carbon flow rate data to 3-hour block averages according to § 63.8450(a); maintaining the average carbon flow rate for each 3-hour block period at or above the average carbon flow rate established during the Hg performance test in which compliance was demonstrated.
5. Tunnel kiln with no add-on control.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 5 of Table 2 to this subpart for tunnel kilns with no add-on control.	i. Performing VE observations of the stack at the frequency specified in § 63.8470(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the stack.
		ii. If your last calculated total facility maximum potential HCl-equivalent was not at or below the health-based standard in Table 1 to this subpart, collecting the kiln process rate data according to § 63.8450(a); reducing the kiln process rate data to 3-hour block averages according to § 63.8450(a); maintaining the average kiln process rate for each 3-hour block period at or below the kiln process rate determined according to § 63.8445(g)(1).
6. Periodic kiln	a. Minimize HAP emissions	i. Using a designed firing time and temperature cycle for each periodic kiln; and ii. For each firing load, documenting the total tonnage of product placed in the kiln to ensure that it is not greater than the maximum load identified in Item 1.a.ii of Table 3 to this subpart; and iii. Following maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and iv. Developing and maintaining records for each periodic kiln, as specified in § 63.8490.
7. Tunnel kiln	a. Minimize dioxin/furan emissions	i. Maintaining and inspecting the burners and associated combustion controls (as applicable) and tuning the specific burner type to optimize combustion no later than 36 calendar months after the previous tune-up; and ii. Maintaining records of burner tune-ups used to demonstrate compliance with the dioxin/furan work practice standard; and iii. Submitting a report of most recent tune-up conducted with compliance report.

As stated in § 63.8395, you must meet each compliance date in the following table that applies to you:

TABLE 7 TO SUBPART JJJJJ OF PART 63—COMPLIANCE DATES

If you have a(n) . . .	Then you must . . .	No later than . . .
1. New or reconstructed affected source and the initial startup of your affected source is after December 18, 2014, but before December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 28, 2015.
2. New or reconstructed affected source and the initial startup of your affected source is after December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	Initial startup of your affected source.
3. Existing affected source	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 26, 2018.
4. Existing area source that increases its emissions or its potential to emit such that it becomes a major source of HAP by adding a new affected source or by reconstructing.	Be in compliance with this subpart	Initial startup of your affected source as a major source.
5. New area source (*i.e.,* an area source for which construction or reconstruction commenced after December 18, 2014) that increases its emissions or its potential to emit such that it becomes a major source of HAP.	Be in compliance with this subpart	Initial startup of your affected source as a major source.

As stated in § 63.8480, you must submit each notification that applies to you according to the following table:

TABLE 8 TO SUBPART JJJJJ OF PART 63—DEADLINES FOR SUBMITTING NOTIFICATIONS

If you . . .	You must . . .	No later than . . .	As specified in . . .
1. Start up your affected source before December 28, 2015.	Submit an Initial Notification	June 22, 2016	§ 63.9(b)(2).
2. Start up your new or reconstructed affected source on or after December 28, 2015.	Submit an Initial Notification	120 calendar days after you become subject to this subpart.	§ 63.9(b)(2).
3. Are required to conduct a performance test.	Submit a notification of intent to conduct a performance test.	60 calendar days before the performance test is scheduled to begin.	§ 63.7(b)(1).
4. Are required to conduct a compliance demonstration that includes a performance test according to the requirements in Table 4 to this subpart.	Submit a Notification of Compliance Status, including the performance test results.	60 calendar days following the completion of the performance test, by the close of business.	§ 63.9(h) and § 63.10(d)(2).
5. Are required to conduct a compliance demonstration required in Table 5 to this subpart that does not include a performance test (*i.e.,* compliance demonstrations for the work practice standards).	Submit a Notification of Compliance Status.	30 calendar days following the completion of the compliance demonstrations, by the close of business.	§ 63.9(h).
6. Request to use the routine control device maintenance alternative standard according to § 63.8420(d).	Submit your request	120 calendar days before the compliance date specified in § 63.8395.	

As stated in § 63.8485, you must submit each report that applies to you according to the following table:

TABLE 9 TO SUBPART JJJJJ OF PART 63—REQUIREMENTS FOR REPORTS

You must submit . . .	The report must contain . . .	You must submit the report . . .
1. A compliance report.	a. If there are no deviations from any emission limitations (emission limits, operating limits) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period. If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, a statement that there were no periods during which the CMS was out-of-control during the reporting period.	Semiannually according to the requirements in § 63.8485(b).
	b. If you have a deviation from any emission limitation (emission limit, operating limit) during the reporting period, the report must contain the information in § 63.8485(c)(9). If there were periods during which the CMS was out-of-control, as specified in your OM&M plan, the report must contain the information in § 63.8485(d).	Semiannually according to the requirements in § 63.8485(b).

As stated in § 63.8505, you must comply with the General Provisions in §§ 63.1 through 63.16 that apply to you according to the following table:

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§ 63.4	Prohibited Activities	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.

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ—Continued

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 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	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved]		No.
§ 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 calendar days of effective date unless compliance extension.	Yes.
§ 63.6(c)(3)–(4)	[Reserved]		No.
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§ 63.6(d)	[Reserved]		No.
§ 63.6(e)(1)(i)	Operation & Maintenance	General Duty to minimize emissions	No. See § 63.8420(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Operation & Maintenance	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(1)(iii)	Operation & Maintenance	Operation and maintenance requirements enforceable independent of emissions limitations.	Yes.
§ 63.6(e)(2)	[Reserved]		No.
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for startup, shutdown, and malfunction (SSM) and SSMP; content of SSMP.	No.
§ 63.6(f)(1)	Compliance Except During SSM.	You must comply with emission standards at all times except during SSM.	No.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance.	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§ 63.6(h)	Opacity/VE Standards	Requirements for opacity and VE standards	No, not applicable.
§ 63.6(i)	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 for emission limits and work practice standards; must conduct 180 calendar 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(a)(4)	Notification of Delay in Performance Testing Due To Force Majeure.	Must notify Administrator of delay in performance testing due to force majeure.	Yes.
§ 63.7(b)(1)	Notification of Performance Test.	Must notify Administrator 60 calendar days before the test.	Yes.
§ 63.7(b)(2)	Notification of Rescheduling.	Must notify Administrator 5 calendar days before scheduled date of rescheduled date.	Yes.
§ 63.7(c)	Quality Assurance(QA)/ Test Plan.	Requirements; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	Cannot conduct performance tests during SSM; not a violation to exceed standard during SSM.	No, § 63.8445 specifies requirements.
§ 63.7(e)(2)–(3)	Conditions for Conducting Performance Tests.	Must conduct according to subpart and EPA test methods unless Administrator approves alternative; must have at least 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.
§ 63.7(e)(4)	Testing under Section 114	Administrator's authority to require testing under section 114 of the Act.	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§ 63.7(g)	Performance Test Data Analysis.	Must include raw data in performance test report; must submit performance test data 60 calendar days after end of test with the notification of compliance status.	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ—Continued

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.8(a)(1)	Applicability of Monitoring Requirements.	Subject to all monitoring requirements in subpart	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved]		No.
§ 63.8(a)(4)	Monitoring with Flares	Requirements for flares in § 63.11 apply	No, 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.	No.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Reporting requirements for SSM when action is not described in SSMP.	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	How Administrator determines if source complying with operation and maintenance requirements.	No.
§ 63.8(c)(2)–(3)	Monitoring System Installation.	Must install to get representative emission and parameter measurements.	Yes.
§ 63.8(c)(4)	CMS Requirements	Requirements for CMS	No, § 63.8450 specifies requirements.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures.	COMS minimum procedures	No, not applicable.
§ 63.8(c)(6)	CMS Requirements	Zero and high level calibration check requirements	Yes.
§ 63.8(c)(7)–(8)	CMS Requirements	Out-of-control periods	Yes.
§ 63.8(d)(1) and (2)	CMS Quality Control	Requirements for CMS quality control	Yes.
§ 63.8(d)(3)	CMS Quality Control	Written procedures for CMS	No, § 63.8425(b)(9) specifies requirements
§ 63.8(e)	CMS Performance Evaluation.	Requirements for CMS performance evaluation	Yes.
§ 63.8(f)(1)–(5)	Alternative Monitoring Method.	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test.	Procedures for Administrator to approve alternative relative accuracy test for continuous emissions monitoring systems (CEMS).	No, not applicable.
§ 63.8(g)	Data Reduction	COMS and CEMS data reduction requirements	No, not applicable.
§ 63.9(a)	Notification Requirements	Applicability; State delegation	Yes.
§ 63.9(b)	Initial Notifications	Requirements for initial notifications.	
§ 63.9(c)	Request for Compliance Extension.	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test.	Notify Administrator 60 calendar days prior	Yes.
§ 63.9(f)	Notification of VE/Opacity Test.	Notify Administrator 30 calendar days prior	No, not applicable.
§ 63.9(g)(1)	Additional Notifications When Using CMS.	Notification of performance evaluation	Yes.
§ 63.9(g)(2)–(3)	Additional Notifications When Using CMS.	Notification of COMS data use; notification that relative accuracy alternative criterion were exceeded.	No, not applicable.
§ 63.9(h)	Notification of Compliance Status.	Contents; submittal requirements	Yes.
§ 63.9(i)	Adjustment of Submittal Deadlines.	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information.	Must submit within 15 calendar days after the change	Yes.
§ 63.10(a)	Recordkeeping/Reporting	Applicability; general information	Yes.
§ 63.10(b)(1)	General Recordkeeping Requirements.	General requirements	Yes.
§ 63.10(b)(2)(i)	Records Related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns.	No.

TABLE 10 TO SUBPART JJJJJ OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART JJJJJ—Continued

Citation	Subject	Brief description	Applies to subpart JJJJJ?
§ 63.10(b)(2)(ii)	Records Related to SSM	Recordkeeping of failures to meet a standard	No. See § 63.8490(c)(2) for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the volume of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Records Related to SSM	Maintenance records.	
§ 63.10(b)(2)(iv)–(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(vi)–(xii) and (xiv).	CMS Records	Records when CMS is malfunctioning, inoperative or out-of-control.	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	
§ 63.10(b)(3)	Records	Applicability Determinations	Yes.
§ 63.10(c)(1)–(15)	Records	Additional records for CMS	No, §§ 63.8425 and 63.8490 specify requirements
§ 63.10(d)(1) and (2)	General Reporting Requirements.	Requirements for reporting; performance test results reporting.	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations.	Requirements for reporting opacity and VE	No, not applicable.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	SSM Reports	Contents and submission.	No. See § 63.8485(c)(9) for malfunction reporting requirements.
§ 63.10(e)(1)–(3)	Additional CMS Reports	Requirements for CMS reporting	No, §§ 63.8425 and 63.8485 specify requirements.
§ 63.10(e)(4)	Reporting COMS data	Requirements for reporting COMS data with performance test data.	No, not applicable.
§ 63.10(f)	Waiver for Recordkeeping/ Reporting.	Procedures for Administrator to waive	Yes.
§ 63.11	Flares	Requirement for flares	No, not applicable.
§ 63.12	Delegation	State authority to enforce standards.	
§ 63.13	Addresses	Addresses for reports, notifications, requests	Yes.
§ 63.14	Incorporation by Reference	Materials incorporated by reference	Yes.
§ 63.15	Availability of Information	Information availability; confidential information	Yes.
§ 63.16	Performance Track Provisions.	Requirements for Performance Track member facilities	Yes.

■ 4. Part 63 is amended by revising subpart KKKKK to read as follows:

Subpart KKKKK—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing

Sec.

What This Subpart Covers

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Tables to Subpart KKKKK of Part 63

Table 1 to Subpart KKKKK of Part 63—Emission Limits

Subpart KKKKK—National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing

What This Subpart Covers

§ 63.8530 What is the purpose of this subpart?

This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from clay ceramics manufacturing facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§ 63.8535 Am I subject to this subpart?

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

(a) A clay ceramics manufacturing facility is a plant site that manufactures pressed floor tile, pressed wall tile, other pressed tile, or sanitaryware (*e.g.,* sinks and toilets). Clay ceramics manufacturing facilities typically process clay, shale, and various additives; form the processed materials into tile or sanitaryware shapes; and dry and fire the ceramic products. Glazes are applied to many tile and sanitaryware products. A plant site that manufactures refractory products, as defined in § 63.9824, or brick and structural clay products (BSCP), as defined in § 63.8515, is not a clay ceramics manufacturing facility.

(b) A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

§ 63.8540 What parts of my plant does this subpart cover?

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

(b) Each existing, new, or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, sanitaryware shuttle kiln, ceramic tile glaze line using glaze spraying, sanitaryware glaze spray booth, ceramic tile spray dryer, and floor tile press dryer is an affected source.

(c) Process units not subject to the requirements of this subpart are listed in paragraphs (c)(1) through (9) of this section.

(1) Tunnel, roller or shuttle kilns that are used exclusively for refiring.

(2) Tunnel, roller or shuttle kilns that are used exclusively for setting glazes on previously fired products.

(3) Glaze spray operations that are used exclusively with those kilns listed in paragraphs (c)(1) and (2) of this section.

(4) Process units listed in paragraphs (c)(1) through (3) of this section that are permitted to, but do not, process first-fire ware, until such time as they begin to process first-fire ware.

(5) Glaze spray operations that on average use wet glazes containing less than 0.1 (weight) percent metal HAP (dry weight basis) per spray booth over an entire calendar year.

(6) Raw material processing and handling.

(7) Wall tile press dryers.

(8) Sanitaryware ware dryers.

(9) Sources covered by subparts JJJJJ and SSSSS of this part.

(d) A source is a new affected source if construction of the affected source began after December 18, 2014, and you met the applicability criteria at the time you began construction.

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

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

§ 63.8545 When do I have to comply with this subpart?

(a) You must comply with this subpart no later than the compliance dates in Table 8 to this subpart.

(b) You must meet the notification requirements in § 63.8630 according to the schedule in § 63.8630 and in subpart A of this part. 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

§ 63.8555 What emission limitations 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.

§ 63.8560 What are my options for meeting the emission limitations and work practice standards?

(a) To meet the emission limitations in Tables 1 and 2 to this subpart, you must use one or more of the options listed in paragraphs (a)(1) and (2) of this section.

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

(2) *Process changes.* Use low-HAP raw materials or implement manufacturing process changes and demonstrate that the resulting emissions or emissions reductions meet the emission limits in Table 1 to this subpart.

(b) To meet the work practice standards for affected sanitaryware shuttle kilns, you must comply with the requirements listed in Table 3 to this subpart.

(c) To meet the work practice standards for affected sources during periods of startup and shutdown, you must comply with the requirements listed in Table 3 to this subpart.

General Compliance Requirements

§ 63.8570 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations (including operating limits) in this subpart at all times, except during periods that you are approved for and in compliance with the alternative standard for routine control device maintenance as specified in paragraph (d) of this section, and except during periods of start-up and shutdown, at which time you must comply with the applicable work practice standard specified in Table 3 to this subpart.

(b) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. During the period between the compliance date specified for your affected source in § 63.8545 and the date upon which continuous monitoring systems (CMS) (*e.g.,* continuous parameter monitoring systems) have been installed and verified and any applicable operating limits have been set, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must prepare and implement a written operation, maintenance, and monitoring (OM&M) plan according to the requirements in § 63.8575.

(d) If you own or operate an affected source that is subject to the emission limits specified in Table 1 to this subpart and must perform routine maintenance on the control device for that affected source, you may bypass the source control device and continue operating the affected source subject to the alternative standard established in this paragraph upon approval by the Administrator and provided you satisfy the conditions listed in paragraphs (d)(1) through (5) of this section.

(1) You must request to use the routine control device maintenance alternative standard from the Administrator no later than 120 calendar days before the compliance date specified in § 63.8545. Your request must justify the need for the routine maintenance on the control device and the time required to accomplish the maintenance activities, describe the maintenance activities and the frequency of the maintenance activities, explain why the maintenance cannot be accomplished during source shutdowns, provide information stating whether the continued operation of the affected source will result in fewer emissions than shutting the source down while the maintenance is performed, describe how you plan to comply with paragraph (b) of this section during the maintenance, and provide any other documentation required by the Administrator.

(2) The routine control device maintenance must not exceed 4 percent of the annual operating uptime for each affected source.

(3) The request for the routine control device maintenance alternative standard, if approved by the Administrator, must be incorporated by reference in and attached to the affected source's title V permit.

(4) You must minimize HAP emissions during the period when the affected source is operating and the control device is offline by complying with the applicable standard in Table 3 to this subpart.

(5) You must minimize the time period during which the affected source is operating and the control device is offline.

(e) If you own or operate an affected kiln that is subject to the work practice standard specified in Table 3 to this subpart, you must be in compliance with that work practice standard at all times, except during periods of natural gas curtailment or other periods when natural gas is not available.

(f) You must be in compliance with the provisions of subpart A of this part, except as noted in Table 9 to this subpart.

§ 63.8575 What do I need to know about operation, maintenance, and monitoring plans?

(a) For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must prepare, implement, and revise as necessary an OM&M plan that includes the information in paragraph (b) of this section. Your OM&M plan must be available for inspection by the delegated authority upon request.

(b) Your OM&M plan must include, as a minimum, the information in paragraphs (b)(1) through (13) of this section.

(1) Each process and APCD to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.

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

(3) The limits for each parameter that represent continuous compliance with the emission limitations in § 63.8555. The limits must be based on values of the monitored parameters recorded during performance tests.

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

(5) Procedures for installing the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.,* on or downstream of the last APCD).

(6) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction system.

(7) Continuous monitoring system performance evaluation procedures and acceptance criteria (*e.g.,* calibrations).

(8) Procedures for the proper operation and maintenance of monitoring equipment consistent with the requirements in §§ 63.8600 and 63.8(c)(1), (3), (7), and (8).

(9) Continuous monitoring system data quality assurance procedures consistent with the requirements in § 63.8(d)(1) and (2). The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in § 63.8(d)(2) is revised, the owner or operator shall keep previous (*i.e.,* superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under § 63.8(d)(2).

(10) Continuous monitoring system recordkeeping and reporting procedures consistent with the requirements in §§ 63.8635 and 63.8640.

(11) Procedures for responding to operating parameter deviations, including the procedures in paragraphs (b)(11)(i) through (iii) of this section.

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

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

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

(12) Procedures for keeping records to document compliance.

(13) If you operate an affected source and you plan to take the source control device out of service for routine maintenance, as specified in § 63.8570(d), the procedures specified in paragraphs (b)(13)(i) and (ii) of this section.

(i) Procedures for minimizing HAP emissions from the affected source during periods of routine maintenance of the source control device when the affected source is operating and the control device is offline.

(ii) Procedures for minimizing the duration of any period of routine maintenance on the source control device when the affected source is operating and the control device is offline.

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

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

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

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

Testing and Initial Compliance Requirements

§ 63.8585 By what date must I conduct performance tests?

For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must conduct performance tests within 180 calendar days after the compliance date that is specified for your source in § 63.8545 and according to the provisions in § 63.7(a)(2).

§ 63.8590 When must I conduct subsequent performance tests?

(a) For each affected source that is subject to the emission limits specified in Table 1 to this subpart, you must conduct a performance test before renewing your 40 CFR part 70 operating permit or at least every 5 years following the initial performance test.

(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.

§ 63.8595 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 calibrate 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. Stacks to be tested at sanitaryware manufacturing facilities shall be limited to products of combustion (POC) stacks and those cooling stacks with an oxygen content at or below 20.5 percent.

(d) Performance tests shall be conducted under such conditions as the Administrator specifies to you based on representative performance of the affected source for the period being tested. Representative conditions exclude periods of startup and shutdown. You may not conduct performance tests during periods of malfunction. You must record the process information that is necessary to document operating conditions during the test and include in such record an explanation to support that such conditions represent normal operation. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

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

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

(1) To determine compliance with the production-based particulate matter (PM) and mercury (Hg) emission limits for ceramic tile roller kilns and sanitaryware tunnel kilns in Table 1 to this subpart, you must calculate your mass emissions per unit of production for each test run using Equation 1:

$$MP = \frac{ER}{P} \qquad \text{(Eq. 1)}$$

Where:

MP = mass per unit of production, kilograms (pounds) of pollutant per megagram (ton) of throughput

ER = mass emission rate of pollutant (PM or Hg) during each performance test run, kilograms (pounds) per hour

P = production rate during each performance test run, megagrams (tons) of throughput per hour.

(2) To determine compliance with the PM emission limits for ceramic tile glaze lines with glaze spraying and sanitaryware glaze spray booths in Table 1 to this subpart, you must calculate your mass emissions per unit of first-fire glaze sprayed (dry weight basis) for each test run using Equation 2:

$$MG = \frac{ER}{G} \qquad \text{(Eq. 2)}$$

Where:

MG = mass per unit of glaze application, kilograms (pounds) of PM per megagram (ton) of first-fire glaze sprayed (dry weight basis)

ER = mass emission rate of PM during each performance test run, kilograms (pounds) per hour

G = glaze application rate during each performance test run, megagrams (tons) of first-fire glaze sprayed per hour (dry weight basis).

(3) To determine compliance with the dioxin/furan emission limits for tunnel and roller kilns, ceramic tile spray dryers, and floor tile press dryers in Table 1 to this subpart, you must calculate the sum of the 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8–TCDD) toxic equivalents (TEQs) for each test run using Equation 3:

$$TEQ = \frac{\sum_{i=1}^{n} \left(M_i \times TEF_i\right)}{T_r \times P} \qquad \text{(Eq. 3)}$$

Where:

TEQ = sum of the 2,3,7,8–TCDD TEQs, nanograms per kilogram of throughput processed.

M_i = mass of dioxin or furan congener i during performance test run, nanograms

TEF_i = 2,3,7,8–TCDD toxic equivalency factor (TEF) for congener i, as provided in Table 5 to this subpart

n = number of congeners included in TEQ

T_r = time of performance test run, hours

P = production rate during performance test run, kilograms of throughput processed per hour.

(4) To determine compliance with the health-based standard for acid gas HAP for clay ceramics manufacturing facilities in Table 1 to this subpart, you must:

(i) Calculate the HCl-equivalent emissions for HF and HCl for each tunnel or roller kiln at your facility using Equation 4:

$$E_i = E_{HCl} + \left[E_{HF}\left(\frac{RfC_{HCl}}{RfC_{HF}}\right)\right] \qquad \text{(Eq. 4)}$$

Where:

E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour

E_{HCl} = emissions of HCl, kilograms (pounds) per hour

E_{HF} = emissions of HF, kilograms (pounds) per hour

RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter

RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter

(ii) If you have multiple tunnel or roller kilns at your facility, sum the HCl-equivalent values for all tunnel or roller kilns at the facility using Equation 5:

$$E_{total} = \sum_{i=1}^{n} E_i \qquad \text{(Eq. 5)}$$

Where:

E_{total} = HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour

E_i = HCl-equivalent emissions for kiln i, kilograms (pounds) per hour

n = number of tunnel kilns at facility

(iii) Compare this value to the health-based standard in Table 1 to this subpart.

(g) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you as specified in paragraph (g)(1) of this section and in Table 4 to this subpart.

(1)(i) If you do not have an APCD installed on your tunnel or roller kiln, you must calculate the maximum potential HCl-equivalent emissions for HF and HCl for each tunnel or roller kiln at your facility using Equation 6:

$$E_{\max i} = \left(Cap_i\right)\left[\left(MP_{iHCl}\right) + \left(MP_{iHF}\right)\left(\frac{RfC_{HCl}}{RfC_{HF}}\right)\right] \qquad \text{(Eq. 6)}$$

Where:

$E_{\max i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour

Cap_i = design capacity for kiln i, megagrams (tons) of throughput per hour

MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of throughput

MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of throughput

RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter

RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter

(ii) If you have multiple tunnel or roller kilns at your facility, sum the maximum potential HCl-equivalent values for all tunnel or roller kilns at the facility using Equation 7:

$$E_{\max total} = \sum_{i=1}^{n} E_{\max i} \qquad \text{(Eq. 7)}$$

Where:

$E_{\max total}$ = maximum potential HCl-equivalent emissions for total of all kilns at facility, kilograms (pounds) per hour

$E_{\max i}$ = maximum potential HCl-equivalent emissions for kiln i, kilograms (pounds) per hour

n = number of kilns at facility

(iii) If you have a single tunnel or roller kiln at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{\max total}$) are greater than the HCl-equivalent limit in

Table 1 to this subpart, you must determine the maximum process rate for the kiln using Equation 8 that would ensure the total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit. The maximum process rate would become your operating limit for process rate and must be included in your OM&M plan.

$$P_{\max i} = \frac{HCl\text{-}eq}{\left[\left(MP_{iHCl} \right) + \left(MP_{iHF} \right) \left(\frac{RfC_{HCl}}{RfC_{HF}} \right) \right]} \qquad \text{(Eq. 8)}$$

Where:

$P_{\max i}$ = maximum process rate for kiln i, megagrams (tons) per hour

HCl-eq = HCl-equivalent limit in Table 1 to this subpart, 62 kilograms (140 pounds) per hour

MP_{iHCl} = mass of HCl per unit of production for kiln i, kilograms (pounds) of HCl per megagram (ton) of throughput

MP_{iHF} = mass of HF per unit of production for kiln i, kilograms (pounds) of HF per megagram (ton) of throughput

RfC_{HCl} = reference concentration for HCl, 20 micrograms per cubic meter

RfC_{HF} = reference concentration for HF, 14 micrograms per cubic meter

(iv) If you have multiple tunnel or roller kilns at your facility and the total facility maximum potential HCl-equivalent emissions ($E_{\max\ total}$) are greater than the HCl-equivalent limit in Table 1 to this subpart, you must determine the combination of maximum process rates that would ensure that total facility maximum potential HCl-equivalent remains at or below the HCl-equivalent limit. The maximum process rates would become your operating limits for process rate and must be included in your OM&M plan.

(2) [Reserved]

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

(1) Submit a request for approval of alternative monitoring procedures to the Administrator no later than the notification of intent to conduct a performance test. The request must contain the information specified in paragraphs (h)(1)(i) through (iv) of this section.

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

(ii) The type of monitoring device or procedure that will be used.

(iii) The operating parameters that will be monitored.

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

(2) Establish site-specific operating limits during the performance test based on the information included in the approved alternative monitoring procedures request and, as applicable, as specified in Table 4 to this subpart.

§ 63.8600 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain each CMS according to your OM&M plan and the requirements in paragraphs (a)(1) through (5) of this section.

(1) Conduct a performance evaluation of each CMS according to your OM&M plan.

(2) The CMS must complete a minimum of one cycle of operation for each successive 15-minute period. To have a valid hour of data, you must have at least three of four equally spaced data values (or at least 75 percent if you collect more than four data values per hour) for that hour (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8570(d)).

(3) Determine and record the 3-hour block averages of all recorded readings, calculated after every 3 hours of operation as the average of the previous 3 operating hours. To calculate the average for each 3-hour average period, you must have at least 75 percent of the recorded readings for that period (not including startup, shutdown, malfunction, out-of-control periods, or periods of routine control device maintenance covered by the routine control device maintenance alternative standard as specified in § 63.8570(d)).

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

(5) At all times, maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) For each liquid flow measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (b)(1) through (3) of this section.

(1) Locate the flow sensor in a position that provides a representative flowrate.

(2) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the liquid flowrate.

(3) At least semiannually, conduct a flow sensor calibration check.

(c) For each pressure measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (c)(1) through (7) of this section.

(1) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(4) Check the pressure tap daily to ensure that it is not plugged.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Any time the sensor exceeds the manufacturer's specified maximum operating pressure range, conduct calibration checks or install a new pressure sensor.

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

(d) For each pH measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (d)(1) through (4) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration at one point daily.

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

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

(1) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to the EPA–454/R–98–015, ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). 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 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 audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard 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,'' (incorporated by reference, see § 63.14).

(10) Following initial adjustment of the system, the sensitivity or range, averaging period, alarm set points, or alarm delay time may not be adjusted except as detailed in your OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition, as defined in section 5.2 of the ''Fabric Filter Bag Leak Detection Guidance,'' (incorporated by reference, see § 63.14). Record each adjustment.

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

(f) For each lime, chemical, or carbon feed rate measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (f)(1) and (2) of this section.

(1) Locate the measurement device in a position that provides a representative feed rate measurement.

(2) At least semiannually, conduct a calibration check.

(g) For each temperature measurement device, you must meet the requirements in paragraphs (a)(1) through (5) and paragraphs (g)(1) through (3) of this section.

(1) Locate the measurement device in a position that provides a representative temperature.

(2) Use a measurement device with a minimum sensitivity of 1 percent of the temperature being measured.

(3) At least semiannually, conduct a calibration check.

(h) Requests for approval of alternate monitoring procedures must meet the requirements in §§ 63.8595(h) and 63.8(f).

§ 63.8605 How do I demonstrate initial compliance with the emission limitations and work practice standards?

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

(b) You must establish each site-specific operating limit in Table 2 to this subpart that applies to you according to the requirements in § 63.8595 and Table 4 to this subpart.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.8630(e).

Continuous Compliance Requirements

§ 63.8615 How do I monitor and collect data to demonstrate continuous compliance?

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

(b) Except for periods of monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating. This includes periods of startup, shutdown, malfunction, and routine control device maintenance as specified in § 63.8570(d) when the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities for purposes of calculating data averages. You must use all the valid data collected during all other periods in assessing compliance. Any averaging period for which you do not have valid monitoring data and such data are required constitutes a deviation from the monitoring requirements.

§ 63.8620 How do I demonstrate continuous compliance with the emission limitations and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1, 2, and 3 to this subpart that applies to you according to the methods specified in Table 7 to this subpart.

(b) For each affected source that is subject to the emission limits specified in Table 1 to this subpart and is equipped with an 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 § 63.8595(h)(2) according to the methods specified in your approved alternative monitoring procedures request, as described in §§ 63.8595(h)(1) and 63.8(f).

(c) You must report each instance in which you did not meet each emission limit and operating limit in this subpart that applies to you. These instances are deviations from the emission limitations in this subpart. These deviations must be reported according to the requirements in § 63.8635(c)(8).

(d) [Reserved]

(e) You must demonstrate continuous compliance with the operating limits in Table 2 to this subpart for visible emissions (VE) from tunnel or roller kilns that are uncontrolled or equipped with DIFF, DLS/FF, or other dry control device by monitoring VE at each kiln stack according to the requirements in paragraphs (e)(1) through (3) of this section.

(1) Perform daily VE observations of each kiln stack according to the procedures of Method 22 of 40 CFR part 60, appendix A–7. You must conduct

the Method 22 test while the affected source is operating under normal conditions. The duration of each Method 22 test must be at least 15 minutes.

(2) If VE are observed during any daily test conducted using Method 22 of 40 CFR part 60, appendix A–7, you must promptly initiate and complete corrective actions according to your OM&M plan. If no VE are observed in 30 consecutive daily Method 22 tests for any kiln stack, you may decrease the frequency of Method 22 testing from daily to weekly for that kiln stack. If VE are observed during any weekly test, you must promptly initiate and complete corrective actions according to your OM&M plan, resume Method 22 testing of that kiln stack on a daily basis, and maintain that schedule until no VE are observed in 30 consecutive daily tests, at which time you may again decrease the frequency of Method 22 testing to a weekly basis.

(3) If VE are observed during any test conducted using Method 22 of 40 CFR part 60, appendix A–7, you must report these deviations by following the requirements in § 63.8635.

Notifications, Reports, and Records

§ 63.8630 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), (g)(1), and (h) that apply to you, by the dates specified.

(b) You must submit all of the notifications specified in Table 9 to this subpart that apply to you, by the dates specified.

(c) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 6 to this subpart, your Notification of Compliance Status as specified in Table 9 to this subpart must include the information in paragraphs (c)(1) through (3) of this section.

(1) The requirements in § 63.9(h)(2)(i).

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

(3) For each APCD that includes a fabric filter, if a bag leak detection system is used, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 63.8600(e).

(d) If you own or operate an affected kiln that is subject to the work practice standard specified in Item 1 of Table 3 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected kiln, your notification of alternative fuel use must include the information specified in paragraphs (d)(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.

§ 63.8635 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 § 63.8545 and ending on either June 30 or December 31. This reporting period must be 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 the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information in paragraphs (c)(1) through (8) 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) A description of control device maintenance performed while the control device was offline and the affected source controlled by the control device was operating, including the information specified in paragraphs (c)(4)(i) through (iii) of this section.

(i) The date and time when the control device was shut down and restarted.

(ii) Identification of the affected source that was operating and the number of hours that the affected source operated while the control device was offline.

(iii) A statement of whether or not the control device maintenance was included in your approved routine control device maintenance request developed as specified in § 63.8570(d). If the control device maintenance was included in your approved routine control device maintenance request, then you must report the information in paragraphs (c)(4)(iii)(A) through (C) of this section.

(A) The total amount of time that the affected source controlled by the control device operated during the current semiannual compliance period and during the previous semiannual compliance period.

(B) The amount of time that each affected source controlled by the control device operated while the control device was offline for maintenance covered under the routine control device maintenance alternative standard during the current semiannual compliance period and during the previous semiannual compliance period.

(C) Based on the information recorded under paragraphs (c)(4)(iii)(A) and (B) of this section, compute the annual percent of affected source operating uptime during which the control device was offline for routine maintenance using Equation 9.

$$RM = \frac{DT_p + DT_c}{SU_p + SU_c}(100) \qquad \text{(Eq. 9)}$$

Where:

RM = Annual percentage of affected source uptime during which control device was offline for routine control device maintenance

DT_p = Control device downtime claimed under the routine control device maintenance alternative standard for the previous semiannual compliance period

DT_c = Control device downtime claimed under the routine control device maintenance alternative standard for the current semiannual compliance period

SU_p = Affected source uptime for the previous semiannual compliance period

SU_c = Affected source uptime for the current semiannual compliance period

(5) If there are no deviations from any emission limitations (emission limits or operating limits) or work practice standards that apply to you, the compliance report must contain a statement that there were no deviations from the emission limitations or work practice standards during the reporting period.

(6) If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, the compliance report must contain a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(7) The first compliance report must contain the startup production rate for each ceramic tile roller kiln, floor tile press dryer, ceramic tile spray dryer, and sanitaryware tunnel kiln; the minimum APCD inlet temperature for each APCD; and the temperature profile for each ceramic tile roller kiln, floor tile press dryer, ceramic tile spray dryer, and sanitaryware tunnel kiln without an APCD.

(8) For each deviation that occurs at an affected source, report such events in the compliance report by including the information in paragraphs (c)(8)(i) through (iii) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment for which the deviation occurred.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions.

(d) For each deviation from an emission limitation (emission limit or operating limit) occurring at an affected source where you are using a CMS to comply with the emission limitations in this subpart, you must include the information in paragraphs (c)(1) through (4) and (c)(8), and paragraphs (d)(1) through (11) of this section. This includes periods of startup, shutdown, and routine control device maintenance.

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

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

(3) The date, time, and duration that each CMS was out-of-control, including the pertinent information in your OM&M plan.

(4) Whether each deviation occurred during routine control device maintenance covered in your approved routine control device maintenance alternative standard or during another period, and the cause of each deviation (including unknown cause, if applicable).

(5) A description of any corrective action taken to return the affected unit to its normal or usual manner of operation.

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

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

(8) A brief description of the process units.

(9) A brief description of the CMS.

(10) The date of the latest CMS certification or audit.

(11) A description of any changes in CMS, processes, or control equipment since the last reporting period.

(e) If you have obtained a title V operating permit according 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 8 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 permitting authority.

(f) If you own or operate an affected kiln that is subject to the work practice standard specified in Item 1 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 (f)(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.

(g) Within 60 calendar days after the date of completing each performance test (as defined in § 63.2) required by this subpart, you must submit the results of the performance test following the procedure specified in either paragraph (g)(1) or (g)(2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (*http://www.epa.gov/ttn/chief/ert/index.html*) at the time of the test, you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (*http://cdx.epa.gov/*).) Performance test data must be submitted in a file format generated through the use of the EPA's ERT or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive, or other

commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, MD C404–02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site at the time of the test, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

§ 63.8640 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) Records of performance tests as required in § 63.10(b)(2)(viii).

(3) Records relating to control device maintenance and documentation of your approved routine control device maintenance request, if you request to use the alternative standard under § 63.8570(d).

(b) You must keep the records required in Table 7 to this subpart to show continuous compliance with each emission limitation and work practice standard that applies to you.

(c) You must also maintain the records listed in paragraphs (c)(1) through (10) of this section.

(1) 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.

(2) For each deviation, record the information in paragraphs (c)(2)(i) through (iv) of this section.

(i) The date, time, and duration of the deviation.

(ii) A list of the affected sources or equipment.

(iii) An estimate of the quantity of each regulated pollutant emitted over any emission limit and a description of the method used to estimate the emissions.

(iv) Actions taken to minimize emissions in accordance with § 63.8570(b) and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(3) For each affected source, records of production rates on a ton throughput processed basis.

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

(5) Records of maintenance and inspections performed on the APCD.

(6) Current copies of your OM&M plan, including any revisions, with records documenting conformance.

(7) Logs of the information required in paragraphs (c)(7)(i) through (iii) of this section to document proper operation of your sanitaryware shuttle kiln.

(i) Records of the firing time and temperature cycle for each sanitaryware shuttle kiln. If all shuttle kilns use the same time and temperature cycles, one copy may be maintained for each kiln. Reference numbers must be assigned to use in log sheets.

(ii) For each sanitaryware shuttle kiln, a log that details the time and temperature protocol reference number, and an indication of whether the appropriate time and temperature cycle was fired.

(iii) For each sanitaryware shuttle kiln, a log of the actual tonnage of greenware fired in the shuttle kiln and an indication of whether the tonnage was below the maximum tonnage for that specific kiln.

(8) Logs of the maintenance procedures used to demonstrate compliance with the maintenance requirements of the sanitaryware shuttle kiln work practice standards specified in Table 3 to this subpart.

(9) For periods of startup and shutdown, records of the following information:

(i) The date, time, and duration of each startup and/or shutdown period, recording the periods when the affected source was subject to the standard applicable to startup and shutdown.

(ii) For periods of startup, the production rate and exhaust temperature prior to the time the exhaust reaches the minimum APCD inlet temperature (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with an APCD) or the temperature profile is attained (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with no APCD).

(iii) For periods of shutdown, the production rate and exhaust temperature after the time the exhaust falls below the minimum APCD inlet temperature (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with an APCD) or the temperature profile is no longer maintained (for ceramic tile roller kilns, floor tile press dryers, ceramic tile spray dryers, and sanitaryware tunnel kilns with no APCD).

(10) All site-specific parameters, temperature profiles, and procedures required to be established or developed according to the applicable work practice standards in Table 3 to this subpart.

§ 63.8645 In what form and for 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

§ 63.8655 What parts of the General Provisions apply to me?

Table 11 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.8660 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the 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 of this subpart is delegated to your state, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a state, local, or tribal agency under subpart E of this part, 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 (6) of this section.

(1) Approval of alternatives to the applicability requirements in §§ 63.8535 and 63.8540, the compliance date requirements in § 63.8545, and the non-

opacity emission limitations in § 63.8555.

(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 in § 63.90.

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

(5) Approval of an alternative to any electronic reporting to the EPA required by this subpart.

(6) Approval of a routine control device maintenance request under § 63.8570(d).

§ 63.8665 What definitions apply to this subpart?

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

Air pollution control device (APCD) means any equipment that reduces the quantity of a pollutant that is emitted to the air.

Bag leak detection system means an instrument that is capable of monitoring PM 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.

Clay ceramics manufacturing facility means a plant site that manufactures pressed floor tile, pressed wall tile, other pressed tile, or sanitaryware (*e.g.,* sinks and toilets). Clay ceramics manufacturing facilities typically process clay, shale, and various additives, form the processed materials into tile or sanitaryware shapes, and dry and fire the ceramic products. Glazes are applied to many tile and sanitaryware products. A plant site that manufactures refractory products, as defined in § 63.9824, or brick and structural clay products (BSCP), as defined in § 63.8515, is not a clay ceramics manufacturing facility.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

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

(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.

Dioxin/furan means, for purposes of this subpart, the sum of the 2,3,7,8–TCDD toxic equivalents calculated using Equation 3 of this subpart.

Dry lime injection fabric filter (DIFF) means an APCD 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 APCD that includes continuous injection of humidified hydrated lime or other sorbent into a reaction chamber followed by a fabric filter. These systems typically include recirculation of some of the sorbent.

Emission limitation means any emission limit or operating limit.

Fabric filter means an APCD used to capture PM by filtering a gas stream through filter media; also known as a baghouse.

Fired product means clay ceramic or sanitaryware products that have gone through the firing process via kilns.

Glaze means a coating of colored, opaque, or transparent material applied to ceramic products before firing.

Glaze line means a production line for glazing ceramic products, which includes glaze spraying (typically comprised of one or more glaze spray booths) and other types of glazing operations (*e.g.,* dipping, flooding, centrifugal disc glazing, curtain coating).

Glaze spray booth means a type of equipment used for spraying glaze on ceramic products.

Glaze spray operation means any type of glaze application that uses glaze spraying, including glaze lines and glaze spray booths.

Greenware means clay ceramic or sanitaryware products that have not gone through the firing process via kilns.

Initial startup means the time at which the kiln first reaches a level of production that is equal to 75 percent of the kiln design capacity or 12 months after the affected source begins firing clay ceramics, whichever is earlier.

Kiln design capacity means the maximum amount of clay ceramics, in Mg (tons), that a kiln is designed to produce in one year divided by the number of hours in a year (8,760 hours), taking into account the void space in the product, the push rate for the kiln, and the stacking pattern, if applicable. If a kiln is modified to increase the capacity, the design capacity is considered to be the capacity following modifications.

Minimum APCD inlet temperature means the minimum temperature that kiln exhaust can be vented to the APCD that ensures the long-term integrity of the APCD.

Particulate matter (PM) means, for purposes of this subpart, emissions of filterable PM that serve as a measure of total particulate emissions, as measured by Method 5 (40 CFR part 60, appendix A–3) or Method 29 (40 CFR part 60, appendix A–8), and as a surrogate for non-mercury metal HAP contained in the particulates including, but not limited to, antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium.

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.

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.

Responsible official means responsible official as defined in 40 CFR 70.2.

Roller kiln means a continuous kiln similar to a tunnel kiln except that the unfired ceramic product travels through the kiln in a single layer on rollers. In the clay ceramics source category, roller kilns are used at ceramic tile manufacturing plants.

Shuttle kiln means a batch firing kiln that is designed with a removable superstructure that is tilted or raised using hydraulic struts to allow entrance and egress. In the clay ceramics source category, shuttle kilns are used at sanitaryware manufacturing plants.

Spray dryer means a drying chamber used to form a free-flowing powder from a slurry of ceramic mix and water, to improve handling and compaction. In the clay ceramics source category, spray dryers are used at ceramic tile manufacturing plants.

Startup means the setting in operation of an affected source and starting the production process.

Startup production rate means the kiln, press dryer or spray dryer production rate required to bring the process unit to the proper operating temperature during startup.

Tunnel kiln means any continuous kiln that is not a roller kiln that is used to fire clay ceramics. In the clay ceramics source category, tunnel kilns are used at sanitaryware manufacturing plants.

Wet scrubber (WS) means an APCD that uses water, which may include caustic additives or other chemicals, as the sorbent. Wet scrubbers may use any of various design mechanisms to increase the contact between exhaust gases and the sorbent.

Work practice standard means any design, equipment, work practice, operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Tables to Subpart KKKKK of Part 63

As stated in § 63.8555, you must meet each emission limit in the following table that applies to you:

Table 1 to Subpart KKKKK of Part 63—Emission Limits

For each . . .	You must meet the following emission limits . . .
1. Collection of all tunnel or roller kilns at facility.	HF and HCl emissions must not exceed 62 kilograms per hour (kg/hr) (140 pounds per hour (lb/hr)) HCl equivalent, under the health-based standard, as determined using Equations 4 and 5.
2. Existing floor tile roller kiln	a. PM emissions must not exceed 0.063 kilogram per megagram (kg/Mg) (0.13 pound per ton (lb/ton)) of fired product. b. Hg emissions must not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 2.8 nanograms per kilogram (ng/kg) of fired product.
3. Existing wall tile roller kiln	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product. b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.
4. Existing first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired. b. Hg emissions must not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired. c. Dioxin/furan emissions must not exceed 3.3 ng/kg of greenware fired.
5. Existing tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis). b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
6. Existing sanitaryware manual glaze application.	PM emissions must not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis).
7. Existing sanitaryware spray machine glaze application.	PM emissions must not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis).
8. Existing sanitaryware robot glaze application.	PM emissions must not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
9. Existing floor tile spray dryer	Dioxin/furan emissions must not exceed 19 ng/kg of throughput processed.
10. Existing wall tile spray dryer	Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.
11. Existing floor tile press dryer	Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.
12. New or reconstructed floor tile roller kiln.	a. PM emissions must not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product. b. Hg emissions must not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 1.3 ng/kg of fired product.
13. New or reconstructed wall tile roller kiln.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product. b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product. c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.
14. New or reconstructed first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired. b. Hg emissions must not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired. c. Dioxin/furan emissions must not exceed 0.99 ng/kg of greenware fired.
15. New or reconstructed tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis). b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
16. New or reconstructed sanitaryware manual glaze application.	PM emissions must not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
17. New or reconstructed sanitaryware spray machine glaze application.	PM emissions must not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis).
18. New or reconstructed sanitaryware robot glaze application.	PM emissions must not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis).
19. New or reconstructed floor tile spray dryer.	Dioxin/furan emissions must not exceed 0.071 ng/kg of throughput processed.
20. New or reconstructed wall tile spray dryer.	Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.
21. New or reconstructed floor tile press dryer.	Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.

As stated in § 63.8555, you must meet each operating limit in the following table that applies to you:

TABLE 2 TO SUBPART KKKKK OF PART 63—OPERATING LIMITS

For each . . .	You must . . .
1. Tunnel or roller kiln equipped with a DIFF or DLS/FF.	a. If you use a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with your OM&M plan; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; or maintain no VE from the DIFF or DLS/FF stack; and b. Maintain free-flowing lime in the feed hopper or silo and to the APCD at all times for continuous injection systems; maintain the feeder setting (on a per ton of throughput basis) at or above the level established during the performance test for continuous injection systems in which compliance was demonstrated.
2. Tunnel or roller kiln equipped with a WS.	a. Maintain the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl performance test in which compliance was demonstrated; and b. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl and PM performance tests in which compliance was demonstrated.
3. Tunnel or roller kiln equipped with an ACI system.	Maintain the average carbon flow rate for each 3-hour block period at or above the highest average carbon flow rate established during the Hg and dioxin/furan performance tests in which compliance was demonstrated.
4. Tunnel or roller kiln intending to comply with dioxin/furan emission limit without an ACI system.	If you intend to comply with the dioxin/furan emission limit without an ACI system, maintain the stack temperature at or below the highest 4-hour average stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
5. Tunnel or roller kiln with no add-on control.	a. Maintain no VE from the stack; and b. Maintain the kiln process rate at or below the kiln process rate determined according to § 63.8595(g)(1) if your total facility maximum potential HCl-equivalent emissions are greater than the HCl-equivalent limit in Table 1 to this subpart; and c. Maintain the stack temperature at or below the highest 4-hour average stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
6. Glaze spray operation equipped with a FF.	If you use a bag leak detection system, initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions in accordance with your OM&M plan; operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month block reporting period; or maintain no VE from the FF stack; and
7. Glaze spray operation equipped with a WS.	a. Maintain the average scrubber pressure drop for each 3-hour block period at or above the average pressure drop established during the PM performance test in which compliance was demonstrated; and b. Maintain the average scrubber liquid flow rate for each 3-hour block period at or above the average scrubber liquid flow rate established during the PM performance test in which compliance was demonstrated.
8. Glaze spray operation equipped with a water curtain.	Conduct daily inspections to verify the presence of water flow to the wet control system; and Conduct weekly visual inspections of the system ductwork and control equipment for leaks; and Conduct annual inspections of the interior of the control equipment (if applicable) to determine the structural integrity and condition of the control equipment.
9. Glaze spray operation equipped with baffles.	Conduct an annual visual inspection of the baffles to confirm the baffles are in place.
10. Spray dryer	Maintain the average operating temperature for each 3-hour block period at or above the average temperature established during the dioxin/furan performance test in which compliance was demonstrated.
11. Floor tile press dryer	Maintain the average operating temperature for each 3-hour block period at or below the average temperature established during the dioxin/furan performance test in which compliance was demonstrated.

As stated in § 63.8555, you must comply with each work practice standard in the following table that applies to you:

TABLE 3 TO SUBPART KKKKK OF PART 63—WORK PRACTICE STANDARDS

For each . . .	You must . . .	According to one of the following requirements . . .
1. Existing, new, or reconstructed sanitaryware shuttle kiln.	a. Minimize HAP emissions	i. Use natural gas, or equivalent, as the kiln fuel, except during periods of natural gas curtailment or supply interruption, as defined in § 63.8665; and ii. Develop and use a designed firing time and temperature cycle for each sanitaryware shuttle kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and iii. Label each sanitaryware shuttle kiln with the maximum load (in tons) of greenware that can be fired in the kiln during a single firing cycle; and iv. For each firing load, document the total tonnage of greenware placed in the kiln to ensure that it is not greater than the maximum load identified in item 1.a.iii; and v. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and

TABLE 3 TO SUBPART KKKKK OF PART 63—WORK PRACTICE STANDARDS—Continued

For each . . .	You must . . .	According to one of the following requirements . . .
		vi. Develop and maintain records for each sanitaryware shuttle kiln, as specified in § 63.8640.
2. Existing, new or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, floor tile press dryer or ceramic tile spray dryer during periods of startup.	a. Minimize HAP emissions	i. Establish the startup production rate for each kiln or dryer; the minimum APCD inlet temperature for each APCD; and temperature profile for each kiln or dryer with no APCD and include them in your first compliance report, as specified in § 63.8635(c)(7); and ii. After initial loading of the kiln or dryer, remain at or below the startup production rate for the kiln or dryer until the kiln or dryer exhaust reaches the minimum APCD inlet temperature for a kiln or dryer with an APCD or until the kiln or dryer temperature profile is attained for a kiln or dryer with no APCD; and iii. If your kiln or dryer has an APCD, begin venting the exhaust from the kiln or dryer through the APCD by the time the kiln or dryer exhaust temperature reaches the minimum APCD inlet temperature.
3. Existing, new or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, floor tile press dryer or ceramic tile spray dryer during periods of shutdown.	a. Minimize HAP emissions	i. Do not load the kiln or dryer once the kiln or dryer exhaust temperature falls below the minimum APCD inlet temperature if the kiln or dryer is controlled by an APCD or when the kiln or dryer temperature profile is no longer maintained for an uncontrolled kiln or dryer; and ii. If your kiln or dryer has an APCD, continue to vent the exhaust from the kiln or dryer through the APCD until the kiln or dryer exhaust temperature falls below the minimum inlet temperature for the APCD.
4. Existing, new or reconstructed ceramic tile roller kiln, sanitaryware tunnel kiln, floor tile press dryer or ceramic tile spray dryer during periods of routine control device maintenance.	a. Minimize HAP emissions	i. Develop and use a temperature profile for each kiln or dryer; and ii. Develop and follow maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices and controls that regulate air-to-fuel ratios; and iii. Develop and maintain records for each kiln or dryer, as specified in § 63.8640(a)(3).

As stated in § 63.8595, you must conduct each performance test in the following table that applies to you:

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
1. Tunnel or roller kiln	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure HF and HCl emissions.	i. Method 26A of 40 CFR part 60, appendix A–8; or.	You may use Method 26 of 40 CFR part 60, appendix A–8, as an alternative to using Method 26A of 40 CFR part 60, appendix A–8, when no acid PM (*e.g.,* HF or HCl dissolved in water droplets emitted by sources controlled by a WS) is present. ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14) may be used as an alternative to Methods 26 and 26A.

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Method 320 of appendix A of this part.	When using Method 320 of appendix A of this part, you must follow the analyte spiking procedures of section 13 of Method 320 of appendix A of this part, unless you can demonstrate that the complete spiking procedure has been conducted at a similar source. ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14) may be used as an alternative to Method 320 if the test plan preparation and implementation in Annexes A1–A8 are mandatory and the %R in Annex A5 is determined for each target analyte.
	f. Measure PM emissions ..	i. Method 5 of 40 CFR part 60, appendix A–3; or. ii. Method 29 of 40 CFR part 60, appendix A–8.	
	g. Measure Hg emissions	Method 29 of 40 CFR part 60, appendix A–8.	ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14) may be used as an alternative to Method 29 (portion for Hg only).
	h. Measure dioxin/furan emissions.	Method 23 of 40 CFR part 60, appendix A–7.	
2. Glaze spray operation	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure PM emissions	Method 5 of 40 CFR part 60, appendix A–3.	
	f. Measure Hg emissions (tile glaze spray operations only).	Method 29 of 40 CFR part 60, appendix A–8.	ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14) may be used as an alternative to Method 29 (portion for Hg only).
3. Spray dryer or floor tile press dryer.	a. Select locations of sampling ports and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A–1.	Sampling sites must be located at the outlet of the APCD and prior to any releases to the atmosphere for all affected sources.
	b. Determine velocities and volumetric flow rate.	Method 2 of 40 CFR part 60, appendix A–1.	You may use Method 2A, 2C, 2D, or 2F of 40 CFR part 60, appendix A–1, or Method 2G of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 2 of 40 CFR part 60, appendix A–1.
	c. Conduct gas molecular weight analysis.	Method 3 of 40 CFR part 60, appendix A–2.	You may use Method 3A or 3B of 40 CFR part 60, appendix A–2, as appropriate, as an alternative to using Method 3 of 40 CFR part 60, appendix A–2. ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 63.14) may be used as an alternative to the manual procedures (but not the instrumental procedures) in Methods 3A and 3B.
	d. Measure moisture content of the stack gas.	Method 4 of 40 CFR part 60, appendix A–3.	
	e. Measure dioxin/furan emissions.	Method 23 of 40 CFR part 60, appendix A–7.	
4. Tunnel or roller kiln with no add-on control.	a. Establish the operating limit(s) for kiln process rate if the total facility maximum potential HCl-equivalent emissions are greater than the HCl-equivalent limit in Table 1 to this subpart.	HCl-equivalent limit in Table 1 to this subpart and emissions and production data from the HF/HCl/Cl_2 performance test.	Using the procedures in § 63.8595(g)(1), you must determine the maximum process rate(s) for your kiln(s) that would ensure total facility maximum potential HCl-equivalent emissions remain at or below the HCl-equivalent limit in Table 1 to this subpart. The maximum process rate(s) would become your site-specific process rate operating limit(s).

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Establish the stack temperature operating limit.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the stack temperature and determine and record the temperature values for the three test runs. The highest 4-hour average stack temperature of the three test runs establishes your maximum site-specific stack temperature operating limit.
5. Tunnel or roller kiln that is complying with PM and/or Hg production-based emission limits.	Determine the production rate during each PM/Hg test run in order to determine compliance with PM and/or Hg production-based emission limits.	Production data collected during the PM/Hg performance tests (*e.g.,* the number of ceramic pieces and weight per piece in the kiln during a test run divided by the amount of time to fire a piece).	You must measure and record the production rate, on a ton of throughput processed basis, of the affected kiln for each of the three test runs.
6. Tunnel or roller kiln equipped with a DIFF or DLS/FF.	Establish the operating limit for the lime feeder setting.	Data from the lime feeder during the HF/HCl performance test.	For continuous lime injection systems, you must ensure that lime in the feed hopper or silo and to the APCD is free-flowing at all times during the performance test and record the feeder setting, on a per ton of throughput basis, for the three test runs. If the feed rate setting varies during the three test runs, determine and record the average feed rate from the three test runs. The average of the three test runs establishes your minimum site-specific feed rate operating limit.
7. Tunnel or roller kiln equipped with a WS.	a. Establish the operating limit for the average scrubber liquid pH.	Data from the pH measurement device during the HF/HCl performance test.	You must continuously measure the scrubber liquid pH, determine and record the block average pH values for the three test runs, and determine and record the 3-hour block average of the recorded pH measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid pH operating limit.
	b. Establish the operating limit for the average scrubber liquid flow rate.	Data from the flow rate measurement device during the HF/HCl and PM performance tests.	You must continuously measure the scrubber liquid flow rate, determine and record the block average flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid flow rate operating level. If different average wet scrubber liquid flow rate values are measured during the HF/HCl and PM tests, the highest of the average values become your site-specific operating limit.
8. Tunnel or roller kiln equipped with an ACI system.	Establish the operating limit for the average carbon flow rate.	Data from the carbon flow rate measurement conducted during the Hg performance test.	You must measure the carbon flow rate during each test run, determine and record the block average carbon flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded carbon flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific activated carbon flow rate operating limit.
9. Tunnel or roller kiln intending to comply with dioxin/furan emission limit without an ACI system.	Establish the stack temperature operating limit.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the stack temperature and determine and record the temperature values for the three test runs. The highest 4-hour average stack temperature of the three test runs establishes your maximum site-specific stack temperature operating limit.
10. Glaze spray operation equipped with a WS.	a. Establish the operating limit for the average scrubber pressure drop.	Data from the pressure drop measurement device during the PM performance test.	You must continuously measure the scrubber pressure drop, determine and record the block average pressure drop values for the three test runs, and determine and record the 3-hour block average of the recorded pressure drop measurements for the three test runs. The average of the three test runs establishes your minimum site-specific pressure drop operating limit.

TABLE 4 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For each . . .	You must . . .	Using . . .	According to the following requirements . . .
	b. Establish the operating limit for the average scrubber liquid flow rate.	Data from the flow rate measurement device during the PM performance test.	You must continuously measure the scrubber liquid flow rate, determine and record the block average flow rate values for the three test runs, and determine and record the 3-hour block average of the recorded flow rate measurements for the three test runs. The average of the three test runs establishes your minimum site-specific liquid flow rate operating limit.
11. Spray dryer	Establish the operating limit for operating temperature.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the operating temperature, determine and record the block average temperature values for the three test runs, and determine and record the 3-hour block average of the recorded temperature measurements for the three test runs. The average of the three test runs establishes your minimum site-specific operating limit.
12. Floor tile press dryer	Establish the operating limit for operating temperature.	Data from the temperature measurement device during the dioxin/furan performance test.	You must continuously measure the operating temperature, determine and record the block average temperature values for the three test runs, and determine and record the 3-hour block average of the recorded temperature measurements for the three test runs. The average of the three test runs establishes your maximum site-specific operating limit.

As stated in § 63.8595(f)(3), you must demonstrate initial compliance with each dioxin/furan emission limit that applies to you by calculating the sum of the 2,3,7,8-TCDD TEQs using the TEFs in the following table:

TABLE 5 TO SUBPART KKKKK OF PART 63—TOXIC EQUIVALENCY FACTORS

For each dioxin/furan congener . . .	You must calculate its 2,3,7,8-TCDD TEQ using the following TEF . . .
2,3,7,8-tetrachlorodibenzo-p-dioxin	1
1,2,3,7,8-pentachlorodibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	0.01
Octachlorodibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorodibenzofuran	0.1
1,2,3,7,8-pentachlorodibenzofuran	0.03
2,3,4,7,8-pentachlorodibenzofuran	0.3
1,2,3,4,7,8-hexachlorodibenzofuran	0.1
1,2,3,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,7,8,9-hexachlorodibenzofuran	0.1
2,3,4,6,7,8-hexachlorodibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorodibenzofuran	0.01
Octachlorodibenzofuran	0.0003

As stated in § 63.8605, you must demonstrate initial compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
1. Collection of all tunnel or roller kilns at the facility.	a. HF, HCl, and Cl_2 emissions must not exceed 62 kg/hr (140 lb/hr) HCl equivalent.	i. You measure HF and HCl emissions for each kiln using Method 26 or 26A of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6735–01 (Reapproved 2009) (incorporated by reference, see § 63.14); or Method 320 of appendix A of this part or its alternative, ASTM D6348–03 (Reapproved 2010) (incorporated by reference, see § 63.14); and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You calculate the HCl-equivalent emissions for HF for each kiln using Equation 4 to this subpart; and iii. You sum the HCl-equivalent values for all kilns at the facility using Equation 5 to this subpart; and iv. The facility total HCl-equivalent does not exceed 62 kg/hr (140 lb/hr).
2. Existing floor tile roller kiln	a. PM emissions must not exceed 0.063 kg/Mg (0.13 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.063 kg/Mg (0.13 lb/ton) of fired product; and ii. You establish and have a record of the applicable operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.063 kg/Mg (0.13 lb/ton) of fired product.
	b. Hg emissions must not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 6.3 E–05 kg/Mg (1.3 E–04 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 2.8 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 2.8 ng/kg of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 2.8 ng/kg of fired product.
3. Existing wall tile roller kiln	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.
	b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.22 ng/kg of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.22 ng/kg of fired product.
4. Existing first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.17 kg/Mg (0.34 lb/ton) of greenware fired.
	b. Hg emissions must not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.3 E–04 kg/Mg (2.6 E–04 lb/ton) of greenware fired.
	c. Dioxin/furan emissions must not exceed 3.3 ng/kg of greenware fired.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 3.3 ng/kg of greenware fired; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 3.3 ng/kg of greenware fired.
5. Existing tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.93 kg/Mg (1.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
	b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
6. Existing sanitaryware manual glaze application.	a. PM emissions must not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 18 kg/Mg (35 lb/ton) of first-fire glaze sprayed (dry weight basis).
7. Existing sanitaryware spray machine glaze application.	a. PM emissions must not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 6.2 kg/Mg (13 lb/ton) of first-fire glaze sprayed (dry weight basis).
8. Existing sanitaryware robot glaze application.	a. PM emissions must not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 4.5 kg/Mg (8.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
9. Existing floor tile spray dryer	a. Dioxin/furan emissions must not exceed 19 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 19 ng/kg of throughput processed; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 19 ng/kg of throughput processed.
10. Existing wall tile spray dryer	a. Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.058 ng/kg of throughput processed; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.058 ng/kg of throughput processed.
11. Existing floor tile press dryer	a. Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.024 ng/kg of throughput processed; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.024 ng/kg of throughput processed.
12. New or reconstructed floor tile roller kiln.	a. PM emissions must not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.019 kg/Mg (0.037 lb/ton) of fired product.
	b. Hg emissions must not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 2.0 E–05 kg/Mg (3.9 E–05 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 1.3 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 1.3 ng/kg of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 1.3 ng/kg of fired product.
13. New or reconstructed wall tile roller kiln.	a. PM emissions must not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.19 kg/Mg (0.37 lb/ton) of fired product.
	b. Hg emissions must not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 1.1 E–04 kg/Mg (2.1 E–04 lb/ton) of fired product.
	c. Dioxin/furan emissions must not exceed 0.22 ng/kg of fired product.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.22 ng/kg of fired product; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.22 ng/kg of fired product.
14. New or reconstructed first-fire sanitaryware tunnel kiln.	a. PM emissions must not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired.	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3 or Method 29 of 40 CFR part 60, appendix A–8, over the period of the initial performance test, according to the calculations in § 63.8595(f)(1), do not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.048 kg/Mg (0.095 lb/ton) of greenware fired.
	b. Hg emissions must not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired.	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 6.1 E–05 kg/Mg (1.3 E–04 lb/ton) of greenware fired.
	c. Dioxin/furan emissions must not exceed 0.99 ng/kg of greenware fired.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.99 ng/kg of greenware fired; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.99 ng/kg of greenware fired.
15. New or reconstructed tile glaze line with glaze spraying.	a. PM emissions must not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 0.31 kg/Mg (0.61 lb/ton) of first-fire glaze sprayed (dry weight basis).
	b. Hg emissions must not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The Hg emissions measured using Method 29 of 40 CFR part 60, appendix A–8 or its alternative, ASTM D6784–02 (Reapproved 2008) (incorporated by reference, see § 63.14), over the period of the initial performance test, do not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which Hg emissions did not exceed 8.0 E–05 kg/Mg (1.6 E–04 lb/ton) of first-fire glaze sprayed (dry weight basis).
16. New or reconstructed sanitaryware manual glaze application.	a. PM emissions must not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 2.0 kg/Mg (3.9 lb/ton) of first-fire glaze sprayed (dry weight basis).
17. New or reconstructed sanitaryware spray machine glaze application.	a. PM emissions must not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 1.6 kg/Mg (3.2 lb/ton) of first-fire glaze sprayed (dry weight basis).
18. New or reconstructed sanitaryware robot glaze application.	a. PM emissions must not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis).	i. The PM emissions measured using Method 5 of 40 CFR part 60, appendix A–3, over the period of the initial performance test, according to the calculations in § 63.8595(f)(2), do not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis); and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which PM emissions did not exceed 1.2 kg/Mg (2.3 lb/ton) of first-fire glaze sprayed (dry weight basis).
19. New or reconstructed floor tile spray dryer.	a. Dioxin/furan emissions must not exceed 0.071 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.071 ng/kg of throughput processed; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.071 ng/kg of throughput processed.
20. New or reconstructed wall tile spray dryer.	a. Dioxin/furan emissions must not exceed 0.058 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.058 ng/kg of throughput processed; and ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.058 ng/kg of throughput processed.
21. New or reconstructed floor tile press dryer.	a. Dioxin/furan emissions must not exceed 0.024 ng/kg of throughput processed.	i. The dioxin/furan emissions measured using Method 23 of 40 CFR part 60, appendix A–7, over the period of the initial performance test, do not exceed 0.024 ng/kg of throughput processed; and

TABLE 6 TO SUBPART KKKKK OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You have demonstrated initial compliance if . . .
		ii. You establish and have a record of the operating limits listed in Table 2 to this subpart over the 3-hour performance test during which dioxin/furan emissions did not exceed 0.024 ng/kg of throughput processed.
22. Existing, new, or reconstructed sanitaryware shuttle kiln.	a. Minimize HAP emissions	i. Use natural gas, or equivalent, as the kiln fuel; and ii. Develop a designed firing time and temperature cycle for the sanitaryware shuttle kiln. You must either program the time and temperature cycle into your kiln or track each step on a log sheet; and iii. Label each sanitaryware shuttle kiln with the maximum load (in tons) of greenware that can be fired in the kiln during a single firing cycle; and iv. Develop maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles.

As stated in § 63.8620, you must demonstrate continuous compliance with each emission limitation and work practice standard that applies to you according to the following table:

TABLE 7 TO SUBPART KKKKK OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
1. Tunnel or roller kiln equipped with a DIFF or DLS/FF.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 1 of Table 2 to this subpart for kilns equipped with DIFF or DLS/FF.	i. If you use a bag leak detection system, as prescribed in 63.8450(e), initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with your OM&M plan; operating and maintaining the fabric filter such that the alarm is not engaged 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 is counted as a minimum of 1 hour; if you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken by you to initiate corrective action; or performing VE observations of the DIFF or DLS/FF stack at the frequency specified in § 63.8620(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the DIFF or DLS/FF stack; and ii. Verifying 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 in accordance with your OM&M plan; recording the feeder setting once each shift of operation to verify that the feeder setting is being maintained at or above the level established during the HF/HCl performance test in which compliance was demonstrated.
2. Tunnel or roller kiln equipped with a WS.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 2 of Table 2 to this subpart for kilns equipped with WS.	i. Collecting the scrubber liquid pH data according to § 63.8600(a); reducing the scrubber liquid pH data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber liquid pH for each 3-hour block period at or above the average scrubber liquid pH established during the HF/HCl performance test in which compliance was demonstrated; and ii Collecting the scrubber liquid flow rate data according to § 63.8600(a); reducing the scrubber liquid flow rate data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the highest average scrubber liquid flow rate established during the HF/HCl and PM performance tests in which compliance was demonstrated.

TABLE 7 TO SUBPART KKKKK OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
3. Tunnel or roller kiln equipped with an ACI system.	Each emission limit in Table 1 to this subpart and each operating limit in Item 3 of Table 2 to this subpart for kilns equipped with ACI system.	Collecting the carbon flow rate data according to § 63.8600(a); reducing the carbon flow rate data to 3-hour block averages according to § 63.8600(a); maintaining the average carbon flow rate for each 3-hour block period at or above the highest average carbon flow rate established during the Hg and dioxin/furan performance tests in which compliance was demonstrated.
4. Tunnel or roller kiln intending to comply with dioxin/furan emission limit without an ACI system.	Each emission limit in Table 1 to this subpart and each operating limit in Item 4 of Table 2 to this subpart for kilns intending to comply with dioxin/furan emission limit without an ACI system.	Collecting the stack temperature data according to § 63.8600(a); and maintaining the stack temperature at or below the highest stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
5. Tunnel or roller kiln with no add-on control.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 5 of Table 2 to this subpart for tunnel or roller kilns with no add-on control.	i. Performing VE observations of the stack at the frequency specified in § 63.8620(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the stack. ii. If your last calculated total facility maximum potential HCl-equivalent was not at or below the health-based standard in Table 1 to this subpart, collecting the kiln process rate data according to § 63.8600(a); reducing the kiln process rate data to 3-hour block averages according to § 63.8600(a); maintaining the average kiln process rate for each 3-hour block period at or below the kiln process rate determined according to § 63.8595(g)(1). iii. Collecting the stack temperature data according to § 63.8600(a); and maintaining the stack temperature at or below the highest stack temperature established during the dioxin/furan performance test in which compliance was demonstrated.
6. Glaze spray operation equipped with a FF.	Each emission limit in Table 1 to this subpart and each operating limit in Item 6 of Table 2 to this subpart for glaze spray operations equipped with a FF.	If you use a bag leak detection system, initiating corrective action within 1 hour of a bag leak detection system alarm and completing corrective actions in accordance with your OM&M plan; operating and maintaining the fabric filter such that the alarm is not engaged 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 is counted as a minimum of 1 hour; if you take longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken by you to initiate corrective action; or performing VE observations of the FF stack at the frequency specified in § 63.8620(e) using Method 22 of 40 CFR part 60, appendix A–7; and maintaining no VE from the FF stack.
7. Glaze spray operation equipped with a WS.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 7 of Table 2 to this subpart for kilns equipped with WS.	i. Collecting the scrubber pressure drop data according to § 63.8600(a); reducing the scrubber pressure drop data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber pressure drop for each 3-hour block period at or above the average pressure drop established during the PM performance test in which compliance was demonstrated; and ii. Collecting the scrubber liquid flow rate data according to § 63.8600(a); reducing the scrubber liquid flow rate data to 3-hour block averages according to § 63.8600(a); maintaining the average scrubber liquid flow rate for each 3-hour block period at or above the average scrubber liquid flow rate established during the PM performance test in which compliance was demonstrated.
8. Glaze spray operation equipped with a water curtain.	a. Each emission limit in Table 1 to this subpart and each operating limit in Item 8 of Table 2 to this subpart for kilns equipped with a water curtain.	i. Conducting daily inspections to verify the presence of water flow to the wet control system; and ii. Conducting weekly visual inspections of the system ductwork and control equipment for leaks; and iii. Conducting annual inspections of the interior of the control equipment (if applicable) to determine the structural integrity and condition of the control equipment.
9. Glaze spray operation equipped with baffles.	Each emission limit in Table 1 to this subpart and each operating limit in Item 9 of Table 2 to this subpart for kilns equipped with baffles.	Conducting an annual visual inspection of the baffles to confirm the baffles are in place.
10. Spray dryer	Each emission limit in Table 1 to this subpart and each operating limit in Item 10 of Table 2 to this subpart for spray dryers.	Collecting the operating temperature data according to § 63.8600(a); reducing the operating temperature data to 3-hour block averages according to § 63.8600(a); maintaining the average operating temperature for each 3-hour block period at or above the average operating temperature established during the dioxin/furan performance test in which compliance was demonstrated.

TABLE 7 TO SUBPART KKKKK OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND WORK PRACTICE STANDARDS—Continued

For each . . .	For the following . . .	You must demonstrate continuous compliance by . . .
11. Floor tile press dryer	Each emission limit in Table 1 to this subpart and each operating limit in Item 11 of Table 2 to this subpart for floor tile press dryers..	Collecting the operating temperature data according to § 63.8600(a); reducing the operating temperature data to 3-hour block averages according to § 63.8600(a); maintaining the average operating temperature for each 3-hour block period at or below the average operating temperature established during the dioxin/furan performance test in which compliance was demonstrated.
12. Sanitaryware shuttle kiln	a. Minimize HAP emissions	i. Maintaining records documenting your use of natural gas, or an equivalent fuel, 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 § 63.8665; and iii. Submitting a report of alternative fuel use within 10 working days after terminating the use of the alternative fuel, as specified in § 63.8635(g); and iv. Using a designed firing time and temperature cycle for each sanitaryware shuttle kiln; and v. For each firing load, documenting the total tonnage of greenware placed in the kiln to ensure that it is not greater than the maximum load identified in Item 1.a.iii of Table 3 to this subpart; and vi. Following maintenance procedures for each kiln that, at a minimum, specify the frequency of inspection and maintenance of temperature monitoring devices, controls that regulate air-to-fuel ratios, and controls that regulate firing cycles; and vii. Developing and maintaining records for each sanitaryware shuttle kiln, as specified in § 63.8640.

As stated in § 63.8545, you must meet each compliance date in the following table that applies to you:

TABLE 8 TO SUBPART KKKKK OF PART 63—COMPLIANCE DATES

If you have a(n) . . .	Then you must . . .	No later than . . .
1. New or reconstructed affected source and the initial startup of your affected source is after December 18, 2014, but before December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 28, 2015.
2. New or reconstructed affected source and the initial startup of your affected source is after December 28, 2015.	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	Initial startup of your affected source.
3. Existing affected source	Comply with the applicable emission limitations and work practice standards in Tables 1, 2, and 3 to this subpart.	December 26, 2018.
4. Existing area source that increases its emissions or its potential to emit such that it becomes a major source of HAP by adding a new affected source or by reconstructing.	Be in compliance with this subpart	Initial startup of your affected source as a major source.
5. New area source (*i.e.,* an area source for which construction or reconstruction commenced after December 18, 2014) that increases its emissions or its potential to emit such that it becomes a major source of HAP.	Be in compliance with this subpart	Initial startup of your affected source as a major source.

As stated in § 63.8630, you must submit each notification that applies to you according to the following table:

TABLE 9 TO SUBPART KKKKK OF PART 63—DEADLINES FOR SUBMITTING NOTIFICATIONS

If you . . .	You must . . .	No later than . . .	As specified in . . .
1. Start up your affected source before December 28, 2015.	Submit an Initial Notification	June 22, 2016	§ 63.9(b)(2).

TABLE 9 TO SUBPART KKKKK OF PART 63—DEADLINES FOR SUBMITTING NOTIFICATIONS—Continued

If you . . .	You must . . .	No later than . . .	As specified in . . .
2. Start up your new or reconstructed affected source on or after December 28, 2015.	Submit an Initial Notification	120 calendar days after you become subject to this subpart.	§ 63.9(b)(2).
3. Are required to conduct a performance test.	Submit a notification of intent to conduct a performance test.	60 calendar days before the performance test is scheduled to begin.	§ 63.7(b)(1).
4. Are required to conduct a compliance demonstration that includes a performance test according to the requirements in Table 4 to this subpart.	Submit a Notification of Compliance Status, including the performance test results.	60 calendar days following the completion of the performance test, by the close of business.	§ 63.9(h) and § 63.10(d)(2).
5. Are required to conduct a compliance demonstration required in Table 6 to this subpart that does not include a performance test (*i.e.,* compliance demonstrations for the work practice standards).	Submit a Notification of Compliance Status.	30 calendar days following the completion of the compliance demonstrations, by the close of business.	§ 63.9(h).
6. Request to use the routine control device maintenance alternative standard according to § 63.8570(d).	Submit your request	120 calendar days before the compliance date specified in § 63.8545.	
7. Own or operate an affected kiln that is subject to the work practice standard specified in Item 1 of Table 3 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected kiln.	Submit a notification of alternative fuel use.	48 hours following the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.8665.	

As stated in § 63.8635, you must submit each report that applies to you according to the following table:

TABLE 10 TO SUBPART KKKKK OF PART 63—REQUIREMENTS FOR REPORTS

You must submit . . .	The report must contain . . .	You must submit the report . . .
1. A compliance report	a. If there are no deviations from any emission limitations or work practice standards that apply to you, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period. If there were no periods during which the CMS was out-of-control as specified in your OM&M plan, a statement that there were no periods during which the CMS was out-of-control during the reporting period.	Semiannually according to the requirements in § 63.8635(b).
	b. If you have a deviation from any emission limitation (emission limit, operating limit) during the reporting period, the report must contain the information in § 63.8635(c)(8). If there were periods during which the CMS was out-of-control, as specified in your OM&M plan, the report must contain the information in § 63.8635(d).	Semiannually according to the requirements in § 63.8635(b).
2. A report of alternative fuel use	The information in § 63.8635(g)	If you are subject to the work practice standards specified in Table 3 to this subpart, and you use an alternative fuel to fire an affected kiln, by letter within 10 working days after terminating the use of the alternative fuel.

As stated in § 63.8655, you must comply with the General Provisions in §§ 63.1 through 63.16 that apply to you according to the following table:

TABLE 11 TO SUBPART KKKKK OF PART 63—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART KKKKK

Citation	Subject	Brief description	Applies to subpart KKKKK?
§ 63.1	Applicability	Initial applicability determination; applicability after standard established; permit requirements; extensions, notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§ 63.4	Prohibited Activities	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	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved].		
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were 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]		No.
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§ 63.6(d)	[Reserved]		No.
§ 63.6(e)(1)(i)	Operation & Maintenance	General Duty to minimize emissions	No. See § 63.8570(b) for general duty requirement.
§ 63.6(e)(1)(ii)	Operation & Maintenance	Requirement to correct malfunctions ASAP	No.
§ 63.6(e)(1)(iii)	Operation & Maintenance	Operation and maintenance requirements enforceable independent of emissions limitations.	Yes.
§ 63.6(e)(2)	[Reserved]		No.
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for startup, shutdown, and malfunction (SSM) and SSMP; content of SSMP.	No.
§ 63.6(f)(1)	Compliance Except During SSM.	You must comply with emission standards at all times except during SSM.	No.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance.	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§ 63.6(h)	Opacity/VE Standards	Requirements for opacity and VE standards	No, not applicable.
§ 63.6(i)	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 for emission limits and work practice standards; 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(a)(4)	Notification of Delay in Performance Testing Due To Force Majeure.	Must notify Administrator of delay in performance testing due to force majeure.	Yes.
§ 63.7(b)(1)	Notification of Performance Test.	Must notify Administrator 60 days before the test	Yes.
§ 63.7(b)(2)	Notification of Rescheduling.	Must notify Administrator 5 days before scheduled date of rescheduled date.	Yes.
§ 63.7(c)	Quality Assurance (QA)/ Test Plan.	Requirements; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	Performance tests must be conducted under representative conditions.	No, § 63.8595 specifies requirements.
		Cannot conduct performance tests during SSM; not a violation to exceed standard during SSM.	Yes.

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

Citation	Subject	Brief description	Applies to subpart KKKKK?
§ 63.7(e)(2)–(3)	Conditions for Conducting Performance Tests.	Must conduct according to subpart and EPA test methods unless Administrator approves alternative; must have at least 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.
§ 63.7(e)(4)	Testing under Section 114	Administrator's authority to require testing under section 114 of the Act.	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§ 63.7(g)	Performance Test Data Analysis.	Must include raw data in performance test report; must submit performance test data 60 days after end of test with the notification of compliance status.	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements.	Subject to all monitoring requirements in subpart	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved]		No.
§ 63.8(a)(4)	Monitoring with Flares	Requirements for flares in § 63.11 apply	No, 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.	No.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Reporting requirements for SSM when action is not described in SSMP.	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	How Administrator determines if source complying with operation and maintenance requirements.	No.
§ 63.8(c)(2)–(3)	Monitoring System Installation.	Must install to get representative emission and parameter measurements.	Yes.
§ 63.8(c)(4)	CMS Requirements	Requirements for CMS	No, § 63.8600 specifies requirements.
§ 63.8(c)(5)	Continuous Opacity Monitoring System (COMS) Minimum Procedures.	COMS minimum procedures	No, not applicable.
§ 63.8(c)(6)	CMS Requirements	Zero and high level calibration check requirements	Yes.
§ 63.8(c)(7)–(8)	CMS Requirements	Out-of-control periods	Yes.
§ 63.8(d)(1) and (2)	CMS Quality Control	Requirements for CMS quality control	Yes.
§ 63.8(d)(3)	CMS Quality Control	Written procedures for CMS	No, § 63.8575(b)(9) specifies requirements.
§ 63.8(e)	CMS Performance Evaluation.	Requirements for CMS performance evaluation	Yes.
§ 63.8(f)(1)–(5)	Alternative Monitoring Method.	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test.	Procedures for Administrator to approve alternative relative accuracy test for continuous emission monitoring systems (CEMS).	No, not applicable.
§ 63.8(g)	Data Reduction	COMS and CEMS data reduction requirements	No, not applicable.
§ 63.9(a)	Notification Requirements	Applicability; State delegation	Yes.
§ 63.9(b)	Initial Notifications	Requirements for initial notifications	Yes.
§ 63.9(c)	Request for Compliance Extension.	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test.	Notify Administrator 60 days prior	Yes.
§ 63.9(f)	Notification of VE/Opacity Test.	Notify Administrator 30 days prior	No, not applicable.
§ 63.9(g)(1)	Additional Notifications When Using CMS.	Notification of performance evaluation	Yes.
§ 63.9(g)(2)–(3)	Additional Notifications When Using CMS.	Notification of COMS data use; notification that relative accuracy alternative criterion were exceeded.	No, not applicable.
§ 63.9(h)	Notification of Compliance Status.	Contents; submittal requirements	Yes.

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

Citation	Subject	Brief description	Applies to subpart KKKKK?
§ 63.9(i)	Adjustment of Submittal Deadlines.	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information.	Must submit within 15 days after the change	Yes.
§ 63.10(a)	Recordkeeping/Reporting	Applicability; general information	Yes.
§ 63.10(b)(1)	General Recordkeeping Requirements.	General requirements	Yes.
§ 63.10(b)(2)(i)	Records Related to SSM	Recordkeeping of occurrence and duration of startups and shutdowns.	No.
§ 63.10(b)(2)(ii)	Records Related to SSM	Recordkeeping of failures to meet a standard	No. See § 63.8640(c)(2) for recordkeeping of (1) date, time and duration; (2) listing of affected source or equipment, and an estimate of the volume of each regulated pollutant emitted over the standard; and (3) actions to minimize emissions and correct the failure.
§ 63.10(b)(2)(iii)	Records Related to SSM	Maintenance records	Yes.
§ 63.10(b)(2)(iv)–(v)	Records Related to SSM	Actions taken to minimize emissions during SSM	No.
§ 63.10(b)(2)(vi)–(xii) and (xiv).	CMS Records	Records when CMS is malfunctioning, inoperative or out-of-control.	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	No, not applicable.
§ 63.10(b)(3)	Records	Applicability Determinations	Yes.
§ 63.10(c)(1)–(15)	Records	Additional records for CMS	No, §§ 63.8575 and 63.8640 specify requirements.
§ 63.10(d)(1) and (2)	General Reporting Requirements.	Requirements for reporting; performance test results reporting.	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations.	Requirements for reporting opacity and VE	No, not applicable.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	SSM Reports	Contents and submission	No. See § 63.8635(c)(8) for malfunction reporting requirements.
§ 63.10(e)(1)–(3)	Additional CMS Reports	Requirements for CMS reporting	No, §§ 63.8575 and 63.8635 specify requirements.
§ 63.10(e)(4)	Reporting COMS data	Requirements for reporting COMS data with performance test data.	No, not applicable.
§ 63.10(f)	Waiver for Recordkeeping/Reporting.	Procedures for Administrator to waive	Yes.
§ 63.11	Flares	Requirement for flares	No, not applicable.
§ 63.12	Delegation	State authority to enforce standards	Yes.
§ 63.13	Addresses	Addresses for reports, notifications, requests	Yes.
§ 63.14	Incorporation by Reference	Materials incorporated by reference	Yes.
§ 63.15	Availability of Information	Information availability; confidential information	Yes.
§ 63.16	Performance Track Provisions.	Requirements for Performance Track member facilities	Yes.

[FR Doc. 2015–25724 Filed 10–23–15; 8:45 am]

BILLING CODE 6560–50–P