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Environmental Protection Agency

40 CFR Part 60

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units; Proposed Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA–HQ–OAR–2009–0559; FRL–9210–8]

RIN 2060–AP90

Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes how EPA will address Clean Air Act requirements to establish new source performance standards for new units and emission guidelines for existing units for specific categories of solid waste incineration units. In previous actions, EPA has promulgated new source performance standards and emission guidelines for large municipal waste combustion units, small municipal waste combustion units, commercial and industrial solid waste incineration units, and other solid waste incineration units. These actions did not establish emission standards for sewage sludge incineration units. In this action, EPA is proposing new source performance standards and emission guidelines for sewage sludge incineration units.

DATES: *Comments.* Comments must be received on or before November 15, 2010, unless a public hearing is held. If a public hearing is held, then comments must be received on or before November 29, 2010. Under the Paperwork Reduction Act, since the Office of Management and Budget is required to make a decision concerning the information collection request between 30 and 60 days after October 14, 2010, a comment to the Office of Management and Budget is best assured of having its full effect if the Office of Management and Budget receives it by November 15, 2010.

Public Hearing. If anyone contacts EPA by October 25, 2010 requesting to speak at a public hearing, EPA will hold a public hearing on October 29, 2010.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OAR–2009–0559, by one of the following methods:

http://www.regulations.gov: Follow the on-line instructions for submitting comments.

E-mail: Send your comments via electronic mail to *a-and-r-Docket@epa.gov,* Attention Docket ID No. EPA–HQ–OAR–2009–0559.

Facsimile: Fax your comments to (202) 566–9744, Attention Docket ID No. EPA–HQ–OAR–2009–0559.

Mail: Send your comments to: EPA Docket Center (EPA/DC), Environmental Protection Agency, Mailcode 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. EPA–HQ–OAR–2009–0559. Please include a total of two copies. We request that a separate copy also be sent to the contact person identified below (see **FOR FURTHER INFORMATION CONTACT**).

Hand Delivery: Deliver your comments to: EPA Docket Center (EPA/DC), EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC, 20460, Attention Docket ID No. EPA–HQ–OAR–2009–0559. Such deliveries are accepted only during the normal hours of operation (8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays) and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OAR–2009–0559. The EPA's policy is that all comments received will be included in the public docket and may be made available on-line at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information or other information whose disclosure is restricted by statute. Do not submit information that you consider to be Confidential Business Information or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov,* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Public Hearing: If a public hearing is held, it will be held at EPA's Campus located at 109 T.W. Alexander Drive in Research Triangle Park, NC, or an alternate site nearby. Contact Ms. Joan Rogers at (919) 541–4487 to request a hearing, to request to speak at a public hearing, to determine if a hearing will be held, or to determine the hearing location. If no one contacts EPA requesting to speak at a public hearing concerning this proposed rule by October 25, 2010, the hearing will be cancelled, and a notification of cancellation will be posted on the following Web site: *http://www.epa.gov/ttn/atw/eparules.html.*

Docket: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2009–0559. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at *http://www.regulations.gov* or in hard copy at the EPA Docket Center EPA/DC, EPA West, 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: Ms. Amy Hambrick, Natural Resource and Commerce Group, Sector Policies and Programs Division (E143–03), Environmental Protection Agency, Research Triangle Park, North Carolina 27711; *telephone number:* (919) 541–0964; *fax number:* (919) 541–3470; *e-mail address: hambrick.amy@epa.gov.*

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. Several acronyms and terms are used in this preamble. While this may not be an exhaustive list, to ease the reading of this preamble and for reference purposes, the following terms and acronyms are defined here:

7–PAH 7-polycyclic Aromatic Hydrocarbons
ANSI American National Standards Institute
AsvArsenic
ASME American Society of Mechanical Engineers
ASTM American Society of Testing and Materials

CAA Clean Air Act
CASS Continuous Automated Sampling System
CBI Confidential Business Information
Cd Cadmium
CDD/CDF Dioxins and Dibenzofurans
CDX Central Data Exchange
CEMS Continuous Emissions Monitoring Systems
COMS Continuous Opacity Monitoring System
CPMS Continuous Parametric Monitoring System
CFR Code of Federal Regulations
CISWI Commercial and Industrial Solid Waste Incineration
CO Carbon Monoxide
Cr Chromium
CWA Clean Water Act
EG Emission Guidelines
EJ Environmental Justice
ERT Electronic Reporting Tool
ESP Electrostatic Precipitators
FF Fabric Filter
FB Fluidized Bed
FGR Flue Gas Recirculation
HAP Hazardous Air Pollutants
HCl Hydrogen Chloride
Hg Mercury
HMIWI Hospital, Medical and Infectious Waste Incineration
ICR Information Collection Request
ISTDMS Integrated Sorbent Trap Dioxin Monitoring System
ISTMMS Integrated Sorbent Trap Mercury Monitoring System
LML Lowest Measured Level
MACT Maximum Achievable Control Technology
Mg/dscm Milligrams per Dry Standard Cubic Meter
MH Multiple Hearth
Mn Manganese
MWC Municipal Waste Combustion
NAAQS National Ambient Air Quality Standards
NAICS North American Industrial Classification System
Ng/dscm Nanograms per Dry Standard Cubic Meter
Ni Nickel
NO_X Nitrogen Oxides
NSPS New Source Performance Standards
NTTAA National Technology Transfer and Advancement Act of 1995
OAQPS Office of Air Quality Planning and Standards
O&M Operation and Maintenance
OMB Office of Management and Budget
OPEI Office of Policy, Economics, and Innovation
OSWI Other Solid Waste Incineration
OTM Other Test Method
OW Office of Water
Pb Lead
PCB Polychlorinated Biphenyls
PM Particulate Matter
POTW Publicly Owned Treatment Works
PPM Parts Per Million
PPMV Parts per Million by Volume
PPMVD Parts per Million of Dry Volume
PRA Paperwork Reduction Act
PS Performance Specifications
RCRA Resource Conservation and Recovery Act
RFA Regulatory Flexibility Act
RIA Regulatory Impact Analysis
RTO Regenerative Thermal Oxidizer
SBA Small Business Administration
SCR Selective Catalytic Reduction
SNCR Selective Non-Catalytic Reduction
SO_2 Sulfur Dioxide
SSI Sewage Sludge Incineration
SSM Startup, Shutdown, and Malfunction
TEF Toxic Equivalency Factor
TEQ Toxic Equivalency
THC Total Hydrocarbons
TMB Total Mass Basis
TPD Tons per Day
TPY Tons per Year
TTN Technology Transfer Network
UMRA Unfunded Mandates Reform Act of 1995
UPL Upper Prediction Limit
VCS Voluntary Consensus Standards
WWW Worldwide Web

Organization of This Document. The following outline is provided to aid in locating information in this preamble.

I. General Information

A. Does the proposed action apply to me?

Regulated Entities. Although there is not a specific NAICS code for SSI, these units may be operated by municipalities or other entities. The following NAICS codes could apply:

Category	NAICS code	Examples of potentially regulated entities
Solid waste combustors and incinerators	562213	Municipalities with SSI units.
Sewage treatment facilities	221320	

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by the proposed action. To determine whether your facility would be affected by the proposed action, you should examine the applicability criteria in proposed 40 CFR 60.4770 of subpart LLLL and proposed 40 CFR

60.5005 of subpart MMMM. If you have any questions regarding the applicability of the proposed action to a particular entity, contact the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. What should I consider as I prepare my comments?

1. Submitting CBI

Do not submit information that you consider to be CBI electronically through *http://www.regulations.gov* or e-mail. Send or deliver information identified as CBI to only the following address: Ms. Amy Hambrick, c/o OAQPS Document Control Officer (Room C404–02), U.S. EPA, Research Triangle Park, NC 27711, Attention Docket ID No. EPA–HQ–OAR–2009–0559. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD–ROM that you mail to EPA, mark the outside of the disk or CD–ROM as CBI and then identify electronically within the disk or CD–ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

2. Tips for Preparing Your Comments

When submitting comments, remember to:

Identify the rulemaking by docket number and other identifying information (*e.g.,* subject heading, **Federal Register** date and page number).

Follow directions. EPA may ask you to respond to specific questions or organize comments by referencing a CFR part or section number.

Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.

Describe any assumptions and provide any technical information and/or data that you used.

If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.

Provide specific examples to illustrate your concerns and suggest alternatives.

Explain your views as clearly as possible, avoiding the use of profanity or personal threats.

Make sure to submit your comments by the comment period deadline identified in the preceding section titled **DATES**.

3. Docket

The docket number for the proposed action regarding the SSI NSPS (40 CFR part 60, subpart LLLL) and EG (40 CFR part 60, subpart MMMM) is Docket ID No. EPA–HQ–OAR–2009–0559.

4. Worldwide Web

In addition to being available in the docket, an electronic copy of the proposed action is available on the WWW through the TTN Web site. Following signature, EPA posted a copy of the proposed action on the TTN Web site's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg.* The TTN Web site provides information and technology exchange in various areas of air pollution control.

II. Background

A. What information is included in this preamble and how is it organized?

In this preamble, EPA summarizes the important features of these proposed standards and guidelines that apply to SSI units. This preamble describes the environmental, energy, and economic impacts of these standards and guidelines; describes the basis for each of the decisions made regarding the proposed standards and guidelines; requests public comments on certain issues; and discusses administrative requirements relative to this action.

B. Where in the CFR will these standards and guidelines be codified?

The CFR is a codification of the general and permanent rules published in the **Federal Register** by the executive departments and agencies of the Federal government. The code is divided into 50 titles that represent broad areas subject to Federal regulation. These proposed rules for solid waste incineration units would be published in Title 40, Protection of the Environment. Part 60 of title 40 includes standards of performance for new stationary sources and EG and compliance times for existing sources. The table below lists the subparts in which the standards and guidelines will be codified.

Title of the regulation	Subpart in Title 40, part 60
Standards of Performance for New Stationary Sources: Sewage Sludge Incineration Units.	Subpart LLLL
Emission Guidelines and Compliance Times for Sewage Sludge Incineration Units.	Subpart MMMM

C. What is the statutory background?

Section 129 of the CAA, titled, "Solid Waste Combustion," requires EPA to develop and adopt NSPS and EG for solid waste incineration units pursuant to CAA sections 111 and 129. A SSI unit is an incinerator that combusts sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter.

Sections 111(b) and 129(a) of the CAA address emissions from new SSI units, and CAA sections 111(d) and 129 (b) address emissions from existing SSI units. The NSPS are directly enforceable Federal regulations, and under CAA section 129(f)(1), become effective 6 months after promulgation. Under CAA section 129(f)(2), the EG become effective and enforceable 3 years after EPA approves a State plan implementing the EG or 5 years after the date they are promulgated, whichever is sooner. Clean Air Act section 129(a)(1) identifies 5 categories of solid waste incineration units:

- Units that combust municipal waste at a capacity greater than 250 TPD.
- Units that combust municipal waste at a capacity equal to or less than 250 TPD.
- Units that combust hospital, medical, and infectious waste.
- Units that combust commercial or industrial waste.
- Units that combust waste and which are not specifically identified in section 129(a)(1)(A) through (D) are referred to in section 129(a)(1)(E) as "other categories" of solid waste incineration units.

Sewage sludge incinerators, by virtue of having not been specifically identified in section 129(a)(1)(A) through (D), have been interpreted to be part of the broader category of "other categories" of solid waste. EPA has issued emission standards for large and small MWC, HMIWI, CISWI, and OSWI units. However, as explained further in this section of the preamble, none of those emission standards apply to SSI units.

Section 129(g)(1) of the CAA defines "solid waste incineration unit" as "a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public." Section 129(g)(6) provides that "solid waste" shall have the meaning established by EPA pursuant to its authority under the RCRA.

EPA issued emission standards for OSWI units on December 16, 2005 (70 FR 74870). The OSWI standards did not include emission standards for SSI units. EPA received a petition for reconsideration of the OSWI standards on February 14, 2006, regarding the exclusion of certain categories, including SSI.[1] While EPA granted the petition for reconsideration on June 28, 2006, EPA's final review, which became effective January 22, 2007, concluded that no additional changes were necessary to the 2005 OSWI rule (71 FR 36726). That litigation is currently being held in abeyance. However, EPA currently intends to revise the emission standards for OSWI units in the future, and that rulemaking would address all OSWI units except SSI units.

In the OSWI rule issued on December 16, 2005, EPA stated that we were not issuing emission standards under CAA section 129 for SSI units (70 FR 74870). We explained that we would instead regulate SSI units under CAA section 112 because we interpreted CAA section 129(h)(2) as giving EPA the discretion to choose the section of the CAA (*i.e.,* section 112 or section 129) under which to regulate these sources. We reiterated that decision in the response to the petition for reconsideration on this issue. In addition, we stated in the final action, on January 22, 2007, that the 4 specific statutory exemptions from the definition of "solid waste incineration unit" in CAA section 129 (g)(1) were not exclusive, and that section 129(a)(1)(E) does not require EPA to establish emission standards for all other types of incineration units in addition to those identified in section 129(a)(1)(A) through (D) (72 FR 2620). However, since the January 2007 action responding to the petition for reconsideration, the U.S. Court of Appeals for the District of Columbia Circuit (the Court) [2], in June 2007, in a separate decision related to EPA's December 1, 2000, emission standards for CISWI units, held that any unit combusting any solid waste must be regulated under section 129 of the CAA, as explained below.

As part of EPA's December 1, 2000, CISWI rulemaking, EPA defined the term "commercial and industrial waste" to mean solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility. On August 17, 2001, EPA granted a request for reconsideration, pursuant to CAA section 307(d)(7)(B), submitted on behalf of the National Wildlife Federation and the Louisiana Environmental Action Network, related to the definition of "commercial and industrial solid waste incineration unit" and "commercial or industrial waste" in EPA's CISWI rulemaking. In granting the petition for reconsideration, EPA agreed to undertake further notice and comment proceedings related to these definitions. In addition, on January 30, 2001, the Sierra Club filed a petition for review in the Court challenging EPA's final CISWI rule. On September 6, 2001, the Court entered an order granting EPA's motion for a voluntary remand of the CISWI rule, without vacatur. On remand, EPA solicited comments on the CISWI Rule's definitions of "solid waste," "commercial and industrial waste" and "CISWI unit." On September 22, 2005, EPA issued the CISWI Definitions Rule, which contained definitions that were substantively the same as those issued before reconsideration. In particular, the 2005 CISWI Definitions Rule defined "commercial or industrial waste" to include only waste that is combusted at a facility that cannot or does not use a process that recovers thermal energy from the combustion for a useful purpose.

EPA received a petition for judicial review of the CISWI Definitions Rule from several environmental organizations. The petitioners challenged the CISWI Definitions Rule on the grounds that its definition of "commercial or industrial waste" was inconsistent with the plain language of CAA section 129, and, therefore, impermissibly constricted the class of "solid waste incineration unit[s]" that were subject to the emission standards of the CISWI Rule. The Court agreed with petitioners and vacated the CISWI Definitions Rule.

In its decision, the Court held that EPA's definition of "commercial or industrial waste," as incorporated in the definition of CISWI units, conflicted with the plain language of CAA section 129(g)(1). That provision defines "solid waste incineration unit" to mean "any facility which combusts any solid waste material" from certain types of establishments, with 4 specific exclusions. The Court stated that, based on the use of the term "any" and the specific exclusions for only certain types of facilities from the definition of "solid waste incineration unit," CAA section 129 unambiguously includes among the incineration units subject to its standards, any facility that combusts any commercial or industrial solid waste material at all—subject only to the 4 statutory exclusions. The Court held that the definitions EPA promulgated in the CISWI Definitions Rule constricted the plain language of CAA section 129(g)(1), because the CISWI Definitions Rule excluded from its universe operating units that combusted solid waste and were designed for or operated with energy recovery.

The rationale EPA provided in 2007 for not regulating SSI units under section 129 is squarely in conflict with the Court's 2007 holding in *NRDC* v. *EPA.* Specifically, the Court stated that the 4 enumerated exemptions in section 129(g)(1) are in fact exclusive, and EPA lacked authority to create additional exemptions. The Court also rejected EPA's interpretation of section 129(h)(2), as articulated in the 2007 notice. The Court found that section 129(h)(2) "simply directs EPA in plain terms to subject a solid waste combustion facility exclusively to section 129 standards, and not to section 112," and that the provision confers no discretion in this respect [3].

Further, EPA has historically taken the position that sewage sludge is solid waste under the RCRA. EPA has taken this position in an EPA letter dated February 12, 1988, to Thomas A. Corbett, Environmental Chemist I, New York State Department of Environmental Quality addressing the regulatory status of certain sewage sludge, as well as in its 1980 Identification and Listing of Hazardous Waste rulemaking (45 FR 33097, May 19, 1980) (included in the docket for this proposed rulemaking).

Finally, on June 4, 2010, EPA proposed a definition of non-hazardous solid waste (75 FR 31844) under the RCRA which is consistent with this historical interpretation. In that proposal, EPA explained its interpretation for purposes of that definition that sewage sludge is solid waste, and, therefore, unit(s) combusting sewage sludge should be regulated under CAA section 129. Although EPA has not taken final action on that proposed rule and will consider all public comments received before taking final action, the proposed rule represents EPA's most recent interpretation regarding this issue and is consistent with its historical interpretation under the RCRA. Therefore, EPA is proposing emission standards for SSI units under CAA section 129.

On September 9, 2009, EPA received a letter from the National Association of Clean Water Agencies stating that SSI units should be regulated under section

[1] *Sierra Club* v. *EPA;* DC Cir. Nos. 06–1066, 07–1063.

[2] *NRDC* v. *EPA;* 489 F. 3d. at 1257–8.

[3] *NRDC* v. *EPA;* 489 F. 3d. at 1260.

112(d) of the Act (included in the docket of today's proposed rulemaking). The National Association of Clean Water Agencies claimed that SSI units are within the scope of the Clean Water Act's definition of "publicly owned treatment works," and that section 112(e)(5) directs EPA to issue emissions standards under section 112(d) for publicly owned treatment works as defined by the CWA. However, EPA issued emissions standards for POTW in 1999 and did not include standards for SSI units in those regulations [4]. In fact, in the proposed emissions standards for POTW, EPA stated that "[s]ewage sludge incineration will be regulated under section 129 of the CAA, and will be included in the source category Other Solid Waste Incinerators[.]" [5] Therefore, EPA has taken the position in its regulation of POTW under the Clean Air Act that section 112(e)(5) does not apply to SSI units and for this reason did not regulate them in its POTW section 112(d) emissions standards. EPA solicits comment on National Association of Clean Water Agencies' claim.

EPA considers SSI units to be "other solid waste incineration units," since that category is intended to encompass all solid waste incineration units that are not included in the first 4 categories identified in CAA section 129 (a) through (d). EPA is proposing, and intends to take final action on, emission standards for SSI units in advance of its re-issuance of emission standards for the remaining OSWI units because these emission standards are needed as part of EPA's fulfillment of its obligations under CAA sections 112(c)(3) and (k)(3)(B)(ii). Clean Air Act section 112(k)(3)(B)(ii) calls for EPA to identify at least 30 HAP which, as the result of emissions from area sources, pose the greatest threat to public health in the largest number of urban areas. EPA must then ensure that sources representing 90 percent of the aggregate area source emissions of each of the 30 identified HAP are subject to standards pursuant to section 112(d) [6]. Sewage Sludge Incineration units are one of the source categories identified for regulation to meet the 90 percent requirement for 7–PAH, Cd, Cr, CDD/CDF, Pb, Mn, Hg, Ni and PCB. EPA is ordered by the Court to satisfy its obligation under section 112(c)(3) and (k)(3)(B)(ii) by January 16, 2011 [7]. Therefore, EPA is proposing and intends to finalize the SSI standards prior to taking action on the remaining source categories that will be regulated under section 129(a)(1)(E).

D. What are the primary sources of emissions and what are the emissions?

Sewage sludge incineration units may be operated by municipalities or other entities. Incineration continues to be used to dispose of sewage sludge, but is increasingly becoming less common. Combustion of solid waste, and specifically sewage sludge, causes the release of a wide array of air pollutants, some of which exist in the waste feed material and are released unchanged during combustion, and some of which are generated as a result of the combustion process itself. The pollutants for which numerical limits must be established, as specified in section 129 of the CAA, include Cd, CO, CDD/CDF, HCl, Hg, NO_X, opacity (where appropriate), PM, Pb, and SO_2. Emissions of the CAA section 129 pollutants from SSI units come from the SSI unit's stack. Fugitive opacity and PM emissions also occur from ash handling. Additional pollution controls will increase costs for facilities that continue to use the incineration disposal method. If the additional costs are high enough, many entities may choose to adopt alternative disposal methods (*e.g.,* surface disposal in landfills or other beneficial land applications).

E. How are the EG implemented?

Standards of performance for solid waste incineration units promulgated under CAA sections 111 and 129 consist of both NSPS applicable to new units, and EG applicable to existing units. Unlike the NSPS, the EG are not themselves directly enforceable. Rather, the EG are implemented and enforced through either an EPA-approved State plan or a promulgated Federal plan. States are required to submit a plan to implement and enforce the EG to EPA for approval not later than 1 year after EPA promulgates the EG (CAA section 129(b)(2)). The State plan must be "at least as protective as" the EG and must ensure compliance with all applicable requirements not later than 3 years after the State plan is approved by EPA, but not later than 5 years after the relevant EG are promulgated. Likewise, the requirements of the State plan are to be effective as expeditiously as possible following EPA approval of the plan, but must be effective no later than 3 years after the State plan is approved or 5 years after the EG are promulgated, whichever is earlier (CAA section 129(f)(2)). EPA's procedures for submitting and approving State plans are set forth in 40 CFR part 60, subpart B. When a State plan is approved by EPA, the plan requirements become federally enforceable, but the State has primary responsibility for implementing and enforcing the plan.

EPA is required to develop, implement, and enforce a Federal plan for solid waste incineration units located in any State which has not submitted an approvable State plan within 2 years after the date of promulgation of the relevant EG (CAA section 129(b)(3)). The Federal plan must assure that each solid waste incineration unit subject to the Federal plan is in compliance with all provisions of the EG not later than 5 years after the date the relevant guidelines are promulgated. EPA views the Federal plan as a "place-holder" that remains in effect only until such time as a State without an approved plan submits and receives EPA approval of its State plan. Once an applicable State plan has been approved, the requirements of the Federal plan no longer apply to solid waste incineration units covered by that State plan.

III. Summary of the Proposed Rules

This preamble discusses the proposed standards and guidelines as they apply to the owner or operator of a new or existing SSI unit. This preamble also describes the major requirements of the SSI regulations. For a full description of the proposed requirements and compliance times, see the attached regulations.

A. Applicability of the Proposed Standards

The proposed standards and guidelines apply to owners or operators of an incineration unit burning solid waste at wastewater treatment facilities (as defined in 40 CFR 60.4780 and 40 CFR 60.5065). A SSI unit is an enclosed device using controlled flame combustion that burns sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter. The affected facility is each individual SSI unit. The SSI standards in subparts LLLL and MMMM apply to new and existing SSI units that burn sewage sludge as defined in the subparts.

B. Summary of the Proposed EG

EPA is proposing 2 subcategories for existing sources based on their incinerator design: (1) MH incinerators and (2) FB incinerators. Table 1 of this preamble summarizes the proposed

[4] *See* 64 FR 57572 (Oct. 26, 1999).

[5] *See* 63 FR 66084, 66087 (Dec. 1, 1998).

[6] CAA section 112(c)(3) and section 112(k)(3)(B)(ii).

[7] *Sierra Club* v. *Jackson;* D.D.C. No. 1:01CV01537.

emission limits for existing SSI units for each subcategory. These standards would apply at all times.

TABLE 1—PROPOSED EMISSION LIMITS FOR EXISTING SSI UNITS

Pollutant	Units	Emission limit for MH incinerators	Emission limit for FB incinerators
Cd	mg/dscm @ 7% 0_2	0.095	0.0019
CDD/CDF, TEQ	ng/dscm @ 7% 0_2	0.32	0.056
CDD/CDF, TMB	ng/dscm @ 7% 0_2	5.0	0.61
CO	Ppmvd @ 7% 0_2	3,900	56
HCl	Ppmvd @ 7% 0_2	1.0	0.49
Hg	mg/dscm @ 7% 0_2	0.02	0.0033
NO_X	Ppmvd @ 7% 0_2	210	63
Opacity	%	10	0
Pb	mg/dscm @ 7% 0_2	0.30	0.0098
PM	mg/dscm @ 7% 0_2	80	12
SO_2	Ppmvd @ 7% 0_2	26	22

C. Summary of the Proposed NSPS

As explained in IV.C.2, EPA is proposing to require all new sources, regardless of incinerator design, meet the emission limits based on the best-performing FB incinerator. Table 2 of this preamble summarizes the proposed emission limits for SSI units subject to the NSPS. These standards would apply at all times.

TABLE 2—PROPOSED EMISSION LIMITS FOR NEW SSI UNITS

Pollutant	Units	Emission limit for MH incinerators	Emission limit for FB incinerators
Cd	mg/dscm @ 7% 0_2	0.00051	0.00051
CDD/CDF, TMB	ng/dscm @ 7% 0_2	0.024	0.024
CDD/CDF, TEQ	ng/dscm @ 7% 0_2	0.0022	0.0022
CO	ppmvd @ 7% 0_2	7.4	7.4
HCl	ppmvd @ 7% 0_2	0.12	0.12
Hg	mg/dscm @ 7% 0_2	0.0010	0.0010
NO_X	ppmvd @ 7% 0_2	26	26
Opacity	%	0	0
Pb	mg/dscm @ 7% 0_2	0.00053	0.00053
PM	mg/dscm @ 7% 0_2	4.1	4.1
SO_2	ppmvd @ 7% 0_2	2.0	2.0

D. Summary of Performance Testing and Monitoring Requirements

The proposed rule would require all new and existing SSI units to demonstrate initial and annual compliance with the emission limits and combustion stack opacity limits using EPA-approved emission test methods.

For existing SSI units, the proposed rule would require initial and annual emissions performance tests (or continuous emissions monitoring as an alternative), continuous parameter monitoring, and annual inspections of air pollution control devices that may be used to meet the emission limits. Additionally, existing units would also be required to conduct initial and annual opacity tests for the combustion stack and a one-time Method 22 (*see* 40 CFR part 60, appendix A–7) visible emissions test of the ash handling operations to be conducted during the next compliance test.

For new SSI units, the proposed rule would require initial and annual emissions performance tests (or continuous emissions monitoring as an alternative), bag leak detection systems for FF controlled units, as well as continuous parameter monitoring and annual inspections of air pollution control devices that may be used to meet the emission limits. The proposal would require all new SSI units to install a CO CEMS. New units would also be required to conduct initial and annual opacity tests for the combustion stack and Method 22 visible emissions testing of the ash handling operations would be required during each compliance test.

For existing SSI units, use of Cd, CO, HCl, NO_X, PM, Pb or SO_2 CEMS; ISTMMS; and ISTDMS (continuous sampling with periodic sample analysis) would be approved alternatives to parametric monitoring and annual compliance testing. For new SSI units, CO CEMS would be required, and use of Cd, HCl, NO_X, PM, Pb or SO_2 CEMS; ISTMMS; and ISTDMS (continuous sampling, with periodic sample analysis) would be approved alternatives to parametric monitoring and annual compliance testing.

E. Other Requirements for New and Existing SSI Units

Owners or operators of new or existing SSI units would be required to meet operator training and qualification requirements, which include: Ensuring that at least 1 operator or supervisor per facility complete the operator training course, that qualified operator(s) or supervisor(s) complete an annual review or refresher course specified in the regulation, and that they maintain plant-specific information, updated annually, regarding training.

Owners or operators of new SSI units would be required to conduct a siting analysis, which includes submitting a report that evaluates site-specific air

pollution control alternatives that minimize potential risks to public health or the environment, considering costs, energy impacts, nonair environmental impacts and any other factors related to the practicability of the alternatives.

F. Recordkeeping and Reporting Requirements

Records of the initial and all subsequent stack or PS tests, deviation reports, operating parameter data, continuous monitoring data, maintenance and inspections on the air pollution control devices, the siting analysis (for new units only), monitoring plan and operator training and qualification must be maintained for 5 years. The results of the stack tests and PS tests and values for operating parameters would be required to be included in initial and subsequent compliance reports.

G. Electronic Data Submittal

Electronic data collection is commonly employed to collect and analyze data for a variety of applications, such as the CAA Acid Rain Program. Both industry and the public benefit from electronic data collection in that it increases the ease of submitting the data as well as increasing the accessibility and transparency of these data.

EPA must have performance test data to conduct effective reviews of CAA sections 112 and 129 standards, as well as for many other purposes including compliance determinations, emission factor development and annual emission rate determinations. In conducting these required reviews, EPA has found it ineffective and time consuming, not only for us, but also for regulatory agencies and source owners and operators to locate, collect, and submit emissions test data because of varied locations for data storage and varied data storage methods. One improvement that has occurred in recent years is the availability of stack test reports in electronic format as a replacement for cumbersome paper copies.

In this action, EPA is proposing a step to improve data accessibility and increase the ease and efficiency of reporting for sources. Specifically, we are proposing that owners and operators of SSI facilities be required to submit to EPA's ERT database the electronic copies of reports of certain performance tests required under this rule. Data will be entered through an electronic emissions test report structure called the ERT that will be used whenever emissions testing is conducted. The ERT was developed with input from stack testing companies who generally collect and compile performance test data electronically and offices within State and local agencies that perform field test assessments. The ERT is currently available, and access to direct data submittal to EPA's electronic emissions database (WebFIRE) will become available by December 31, 2011.

The requirement to submit source test data electronically to EPA would not require any additional performance testing and would apply to those performance tests conducted using test methods that are supported by the ERT. The ERT contains a specific electronic data entry form for most of the commonly used EPA reference methods. The Web site listed below contains a listing of the pollutants and test methods supported by the ERT. In addition, when a facility submits performance test data to WebFIRE, there will be no additional requirements for emissions test data compilation. Moreover, we believe industry will benefit from development of improved emission factors, fewer follow-up information requests, and better regulation development as discussed below. The information to be reported is already required for the existing test methods and is necessary to evaluate the conformance to the test method.

One major advantage of submitting source test data through the ERT is that it would provide a standardized method to compile and store much of the documentation required to be reported by this rule while clearly stating what testing information would be required. Another important benefit of submitting these data to EPA at the time the source test is conducted is that it should substantially reduce the effort involved in data collection activities in the future. If EPA had source category data, there would likely be fewer or less substantial data collection requests in conjunction with prospective residual risk assessments or technology reviews. This results in a reduced burden on both affected facilities (in terms of reduced manpower to respond to data collection requests) and EPA (in terms of preparing and distributing data collection requests).

State/local/tribal agencies may also benefit from the reduced burden associated with receipt of electronic information opposed to having to process paper forms. Finally, another benefit of submitting these data to WebFIRE electronically is that these data would improve greatly the overall quality of the existing and new emission factors by supplementing the pool of emissions test data upon which the emission factor is based and by ensuring that data are more representative of current industry operational procedures. A common complaint heard from industry and regulators is that emission factors are outdated or not representative of a particular source category. Receiving and incorporating data for most performance tests would ensure that emission factors, when updated, represent accurately the most current operational practices. In summary, receiving test data already collected for other purposes and using them in the emission factors development program would save industry, State/local/tribal agencies and EPA, time and money and work to improve the quality of emission inventories and related regulatory decisions.

As mentioned earlier, the electronic database that would be used is EPA's WebFIRE, which is a Web site accessible through EPA's TTN Web. The WebFIRE Web site was constructed to store emissions test data for use in developing emission factors. A description of the WebFIRE database can be found at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main*.

The ERT would be able to transmit the electronic report through EPA's CDX network for storage in the WebFIRE database. Although ERT is not the only electronic interface that can be used to submit source test data to the CDX for entry into WebFIRE, it makes submittal of data very straightforward and easy. A description of the ERT can be found at *http://www.epa.gov/ttn/chief/ert/ert_tool.html*.

H. Title V Permit Requirements

All new and existing SSI units regulated by the final SSI rule would be required to apply for and obtain a Title V permit. These Title V operating permits would assure compliance with all applicable requirements for regulated SSI units, including all applicable CAA section 129 requirements.[8]

The permit application deadline for a CAA section 129 source applying for a Title V operating permit depends on when the source first becomes subject to the relevant Title V permits program. If a regulated SSI unit is a new unit and is not subject to an earlier permit application deadline, a complete Title V permit application must be submitted on or before the relevant date below.

- For a SSI unit that commenced operation as a new source on or before the promulgation date of 40 CFR part 60, subpart LLLL, the source must submit a complete Title V permit application no later than 12

[8] 40 CFR 70.6(a)(1), 70.2, 71.6(a)(1) and 71.2.

months after the promulgation date of 40 CFR part 60, subpart LLLL; or

- For a SSI unit that commences operation as a new source after the promulgation of 40 CFR part 60, subpart LLLL, the source must submit a complete Title V permit application no later than 12 months after the date the SSI unit commences operation as a new source.[9]

If the SSI unit is an existing unit and is not subject to an earlier permit application deadline, then the source must submit a complete Title V permit application by the earlier of the following dates:

- Twelve months after the effective date of any applicable EPA-approved CAA section 111(d)/129 plan (i.e., an EPA approved State or tribal plan that implements the SSI EG); or
- Twelve months after the effective date of any applicable Federal plan; or
- Thirty-six months after promulgation of 40 CFR part 60, subpart MMMM.

For any existing SSI unit not subject to an earlier permit application deadline, the application deadline of 36 months after the promulgation of 40 CFR part 60, subpart MMMM, applies regardless of whether or when any applicable Federal plan is effective, or whether or when any applicable CAA section 111(d)/129 plan is approved by EPA and becomes effective. (*See* CAA sections 129(e), 503(c), 503(d), and 502(a) and 40 CFR 70.5(a)(1)(i) and 71.5(a)(1)(i).)

If the SSI unit is subject to Title V as a result of some triggering requirement(s) other than those mentioned above, for example, a SSI unit may be a major source (or part of a major source), then you may be required to apply for a Title V permit prior to the deadlines specified above. If more than 1 requirement triggers a source's obligation to apply for a Title V permit, the 12-month time frame for filing a Title V permit application is triggered by the requirement which first causes the source to be subject to Title V.[10]

For additional background information on the interface between CAA section 129 and Title V, including EPA's interpretation of section 129(e), information on updating existing Title V permit applications and reopening existing Title V permits, see the final "Federal Plan for Commercial and Industrial Solid Waste Incineration," October 3, 2003 (68 FR 57518), as well as the "Summary of Public Comments and Responses" document in the OSWI docket (EPA–HQ–OAR–2003–0156).

[9] CAA section 503(c) and 40 CFR 70.5(a)(1)(i) and 71.5(a)(1)(i).

[10] CAA section 503(c) and 40 CFR 70.3(a) and (b), 70.5(a)(1)(i), 71.3(a) and (b) and 71.5(a)(1)(i).

I. Proposed Applicability Dates of the NSPS and EG

Under these proposed standards, new SSI units that commence construction on or after October 14, 2010 or that are modified 6 months or more after the date of promulgation, would have to meet the NSPS emission limits of 40 CFR part 60, subpart LLLL within 6 months after the promulgation date of the standards or upon startup, whichever is later.

Under the proposed EG, and consistent with CAA section 129(b)(2) and 40 CFR part 60, subpart B, states are required to submit State plans containing the existing source emission limits of subpart MMMM of this part, and other requirements to implement and enforce the EG within 1 year after promulgation of the EG. State plans apply to existing SSI in the State (including SSI that are modified prior to the date 6 months after promulgation) and must be at least as protective as the EG.

The proposed EG would require existing SSI to demonstrate compliance with the standards as expeditiously as practicable after approval of a State plan, but no later than 3 years from the date of approval of a State plan or 5 years after promulgation of the EG, whichever is earlier. Consistent with CAA section 129, EPA expects states to require compliance as expeditiously as practicable. However, because we believe that many SSI units will find it necessary to retrofit existing emissions control equipment and/or install additional emissions control equipment in order to meet the proposed limits, EPA anticipates that states may choose to provide the 3 year compliance period allowed by CAA section 129(f)(2). If EPA does not approve a State plan or issue a Federal plan, then the compliance date is 5 years from the date of the final rule.

EPA intends to develop a Federal plan that will apply to existing SSI units in any State that has not submitted an approved State plan within 2 years after promulgation of the EG. The proposed EG would allow existing SSI units subject to the Federal plan up to 5 years after promulgation of the EG to demonstrate compliance with the standards, as allowed by CAA section 129(b)(3).

IV. Rationale

All standards established pursuant to CAA section 129(a)(2) must reflect MACT, the maximum degree of reduction in emissions of certain listed air pollutants that the Administrator, taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impacts and energy requirements, determines is achievable for each category. This level of control is referred to as a MACT standard.

The minimum level of stringency is called the "MACT floor," and CAA section 129(a)(2) sets forth differing levels of minimum stringency that EPA's standards must achieve, depending on whether they regulate new or existing sources. For new units, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar unit. Emission standards for existing units may be less stringent than standards for new units, but cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of units in the category. These requirements constitute the MACT floor for new and existing sources; however, EPA may not consider costs or other impacts in determining the MACT floors. EPA must consider cost, nonair quality health and environmental impacts and energy requirements in connection with any standards that are more stringent than the MACT floor (beyond-the-floor controls).

In general, MACT analyses involve an assessment of the emissions from the best-performing units in a source category. The assessment can be based on actual emissions data, on knowledge of the air pollution control in place in combination with actual emissions data, or on State regulatory requirements that may enable EPA to estimate the actual performance of the regulated units and other relevant emissions information. For each source category, the assessment involves a review of actual emissions data with an appropriate accounting for emissions variability. Other methods of estimating emissions can be used provided that the methods can be shown to provide reasonable estimates of the actual emissions performance of a source or sources.

As stated earlier, the CAA requires that MACT for new sources be no less stringent than the emission control achieved in practice by the best-controlled similar unit. Under CAA section 129(a)(2), EPA determines the best control currently in use for a given pollutant and establishes the MACT floor at the emission level achieved by that control with an appropriate accounting for emissions variability. Once the MACT floor determinations are done for new sources, we consider regulatory options more stringent than the MACT floor level of control that could result in reduced emissions. More

stringent potential regulatory options might reflect controls used on other sources that could be applied to the source category in question.

For existing sources, the CAA requires that MACT be no less stringent than the average emission limitation achieved by the best-performing 12 percent of units in a source category. EPA must determine some measure of the average emission limitation achieved by the best-performing 12 percent of units in each subcategory to establish the MACT floor for existing units. Once the MACT floor determinations are done for each subcategory of existing units, we consider various regulatory options more stringent than the MACT floor level of control that could result in lower emissions. More stringent beyond-the-floor regulatory options reflect other or additional controls capable of achieving better performance.

A. Subcategories

The CAA allows EPA to subcategorize a source category based on differences in class, type, or size. EPA is proposing to subcategorize SSI units into 2 subcategories, based on differences in the design type of the incineration units.

To EPA's knowledge, there are 2 types of incinerators currently used to combust sewage sludge: MH and FB incinerators. Of the 218 SSI units in operation, 55 use the FB design, while 163 use the MH design. These two types use significantly different combustor designs. A. MH incinerator consists of a vertical cylinder containing from 6 to 12 horizontal hearths and a rotating center shaft with rabble arms. Biosolids (*i.e.,* sewage sludge) enter the top hearth and flow downward while combustion air flows from the bottom to the top. The MH is divided into 3 zones. The upper hearths comprise the drying zone in which water and some organic compounds are evaporated from the biosolids. The middle hearths comprise the combustion zone. The exposure to the combustion gas and biosolids to high temperature is only in this section and residence time of the gas is short. The lower hearths form the cooling zone, where ash is cooled as its heat is transferred to the incoming combustion air. Some MH incinerators have an additional zone above the drying hearths which can be used as an afterburner to combust the organics and CO generated in the lower hearths. Multiple hearth units are sensitive to any change in the feed, such as feed moisture and feed rate. Since the emissions of CO and organic compounds are dependent on the temperature of the top hearth, any changes occurring in the biosolids input can cause operational upset with momentary drop in top hearth temperature and an increase in emissions. In order to assure proper startup, shutdown, and modulation of combustion temperatures, fuels (*e.g.,* natural gas and distillate oil) may be added to the combustion chamber.

In a FB incinerator, the reactor is a vertical steel shell comprised of 4 sections. The lower section is called the windbox and acts as a plenum in which combustion air is received. Above the windbox is a refractory arch. The section above the refractory arch is filled with sand and is called the bed area or combustion zone. Hot air is distributed homogeneously throughout the FB. The intensive mixing of the solid and gas in the fluidized State results in a high heat transfer resulting in rapid combustion of the biosolids. The section above the bed is the freeboard or disengagement zone. The freeboard provides 6 to 7 seconds of gas residence time, which completes the combustion of any volatile hydrocarbons escaping from the bed.

The differences between the 2 combustor designs result in significant differences in emissions, size of the flue gas stream, ability to handle variability in the feeds, control of temperature and other process variables, auxiliary fuel use and other characteristics. Generally, FB incinerators have lower emissions of NO_X, organic compounds, CDD/CDF and CO than MH incinerators due to the combustion temperature, mixing, and residence time differences. Intermittent operations, involving frequent shutdown and startup, are generally easier and more rapid for FB incinerators than MH incinerators. Additionally, FB incinerators have better capability of handling feeds with varying moisture and volatile contents. Lower excess air and auxiliary fuel is required to operate FB incinerators resulting in smaller flue gas flow rates and consequently smaller sized downstream control devices.

To reflect the differences in their combustion mechanisms, 2 subcategories, FB and MH, were developed for new and existing SSI sources.

We are requesting comment on whether other combustor designs are used at SSI units, and, if so, we are requesting emissions information from stack tests conducted on those units.

We are also aware that sewage sludge may be incinerated in certain commercial or industrial units and energy recovery units that are subject to the recently proposed CISWI rules (40 CFR part 60, subparts CCCC and DDDD of this part). Therefore, we are proposing that sewage sludge that is incinerated in combustion units located at commercial and industrial facilities be subject to the CISWI standards rather than the SSI standards. We are requesting comment on the appropriateness of this proposed decision. While we are not aware of other combustion units that incinerate sewage sludge, we are requesting comment on whether such other units exist, and, if so, what the content of the combusted materials is (i.e., constituents in the sewage sludge), the amount of sewage sludge incinerated, and whether these units should be subject to SSI standards or subject to other section 129 standards.

B. Format for the Proposed Standards and Guidelines

The EPA selected emission limitations as the format for the proposed SSI standards and guidelines. As required by section 129 of the CAA, the proposed standards and guidelines would establish numerical emission limitations for Cd, CO, CDD/CDF, HCl, Pb, Hg, opacity, NO_X, PM, and SO_2. For regulating Cd, Pb, Hg, and total PM, the EPA is proposing numerical concentration limits in milligrams per dry standard cubic meter (mg/dscm). Emission limits of CDD/CDF are in units of total ng/dscm, based on measuring emissions of each tetra through octa-chlorinated dibenzo-pdioxin and dibenzofuran and summing them. For CO, HCl, NO_X, and SO_2, the proposed standards and guidelines are volume concentrations, ppmvd. Standards and guidelines for opacity are proposed on a percentage basis. All measurements are corrected to 7 percent oxygen to provide a common basis.

The EPA selected an outlet concentration format because outlet data are available for SSI units and characterize the best performing SSI units. In addition to numerical emission limits, the SSI standards include operator training and qualification provisions and siting requirements (for new sources only) as required by section 129.

EPA understands that the metal emissions from SSI units are influenced by the metals content in the sludge burned. It is not clear from the data available to EPA whether the sludge burned during the emissions tests (that were used to establish the MACT floor) represent typical sludge composition/concentrations or are closer to minimum or maximum levels. We are also requesting additional sludge metals content information from the best performing sources collected during emissions stack tests so that we can

appropriately account for any differences in metal content of the sludge in the final standards.

C. MACT Floor Determination Methodology

Section 129 (a)(2) of the CAA requires that EPA determine the emissions control that is achieved in practice by the best-controlled similar unit when establishing the MACT floor for new units, and the average emission limitation achieved by the best-performing 12 percent of units when establishing the MACT floor for existing units. Section 129(a)(4) states that the standards promulgated under section 129 shall specify a numerical emissions limitation for each pollutant enumerated in that provision. Section 129(a)(2) requires EPA to establish standards requiring the "maximum degree of reduction of emissions." "Maximum degree of reduction of emissions," in turn is defined in section 129(a)(2) as including a minimum level of control (known as the MACT floor). EPA's long-standing interpretation is that the combination of section 129(a)(4), requiring numerical standards for each enumerated pollutant, and section 129(a)(2), requiring that each such standard be at least as stringent as the MACT floor, supports that floors be derived for each pollutant based on the emissions levels achieved for each pollutant.

The emission limits proposed also account for variability. EPA must exercise its judgment, based on an evaluation of the relevant factors and available data, to determine the level of emissions control that has been achieved by the best performing SSI units under variable conditions. The Court has recognized that EPA may consider variability in estimating the degree of emission reduction achieved by the best-performing sources and in setting MACT floors that the best performing sources can expect to meet "every day and under all operating conditions.[11]

Maximum Achievable Control Technology and other technology-based standards are necessarily derived from short-term emissions test data, but such data are not representative of the range of operating conditions that the best-performing facilities face on a day-to-day basis. In statistical terms, each test produces a limited data sample, and not a complete enumeration of the available data for performance of the unit over a long period of time[12]. EPA, therefore, often needs to adjust the short-term data to account for these varying conditions. The types of variability that EPA attempts to account for include operational distinctions between and within tests at the same unit.

"*Between-test variability*" can occur even where conditions appear to be the same when 2 or more tests are conducted. Variations in emissions may be caused by different settings for emissions testing equipment, different field teams conducting the testing, differences in sample handling or different laboratories analyzing the results. Identifying an achieved emissions level for best-performing sources needs to account for these differences between tests, in order for "a uniform standard [to] be capable of being met under most adverse conditions which can reasonably be expected to recur[.]"[13]

The same types of differences leading to between-test variability also cause variations in results between various runs comprising a single test, or "within-test variability." A single test at a unit usually includes at least 3 separate test runs. (*See* 40 CFR 63.7(e)(3) for MACT standards under CAA section 112 and 40 CFR 60.8(f) for NSPS under CAA section 111). Each data point should be viewed as a snapshot of actual performance. Along with an understanding of the factors that may affect performance, each of these snapshots gives information about the normal and unavoidable variation in emissions that would be expected to recur over time.

One approach to estimating future variability that may be used is the UPL. The UPL is an appropriate statistical tool to use in determining variability when there is a limited sampling of the source category. An UPL (*i.e.,* sample mean plus a multiplier times the standard deviation) for a future observation is the upper end of a range of values that will, with a specified degree of confidence, contain the next (or some other pre-specified) randomly selected observation from a population. In other words, UPL estimates the high end of the range in which future values will fall, with a certain probability, based on present or past background samples taken. Given this definition, the UPL is the value below which the average result of a future emissions test consisting of 3 test run observations (3-run average) from the source to be tested is expected to fall below with a stated level of confidence (*e.g.,* 99 percent). Therefore, should a future test condition be selected randomly from any of these sources, we can be 99 percent confident that the reported level will fall below a MACT floor emissions limit calculated using an UPL. Since a source must demonstrate compliance with the MACT floor using the average of a 3-run test, the appropriate test condition to use to assess variability is 3 runs. If a source had to demonstrate compliance by showing that each individual test run was below the MACT floor emission limit, it would be appropriate to use a future test condition of 1 run. (*See* further discussion in section IV.C.2 of this preamble.) We are soliciting comment on all aspects of our variability analysis.

EPA understands that the metal emissions from a SSI unit may vary due to the metals content in the sludge burned. We are requesting additional sludge metals content information collected during emissions stack tests so that we can appropriately account for any differences in metal content of the sludge in the final standards.

1. MACT Floor Analyses Data Set

As stated earlier, the CAA requires that MACT for new sources be no less stringent than the emissions control achieved in practice by the best-controlled similar unit. For existing sources, the CAA requires that MACT be no less stringent than the average emission limitation achieved by the best-performing 12 percent of units in a source category. Because the number of units in different subcategories may be different, the number of units that represent the best-performing 12 percent of sources in different subcategories may be different. Also, mathematically, the number of units that represent the best-performing 12 percent of the units in a subcategory will not always be an integer. To ensure that each MACT standard is based on at least 12 percent of the units in a subcategory, EPA has determined that it is appropriate to always round up to the nearest integer when 12 percent of a given subcategory is not an integer. For example, if 12 percent of a subcategory is 4.1, the standards will be based on the best-performing 5 units even though rounding conventions would normally lead to rounding down to 4 units. As discussed earlier, there are 218 SSI units, composed of 163 MH incinerators and 55 FB incinerators. This procedure results in a top 12 percent comprised of

[11] *Mossville Environmental Action Now* v. *EPA;* 370 F.3d at 1232, 1241–42 DC Cir 2004.

[12] *Natrella, Experimental Statistics,* National Bureau of Standards Handbook 91, chapter 1 revised ed., 1966.)

[13] National Lime Association I, 627 F.2d at 431, n. 46 and Portland Cement Association, 486 F.2d at 396, "a single test offered a weak basis" for inferring that plants could meet the standards.

20 MH incinerators and 7 FB incinerators.

Information collection request surveys were sent to 9 municipalities operating SSI units to collect emissions information. To select the surveyed owners, EPA reviewed the inventory of SSI units for the control devices being operated, and identified a subset of units expected to have the lowest emissions based on the type of unit and the installed air pollution controls. EPA believes these controls achieve the most reductions possible for the CAA section 129 pollutants, and thereby allow EPA to identify for each pollutant the units with the lowest emissions. For example, units were selected that operated more than one of the following technologies: activated carbon injection to reduce Hg and CDD/CDF; regenerative thermal oxidizer or afterburners to reduce CO and organics; wet ESP to reduce fine particulate; high efficiency scrubbers such as packed bed scrubbers and impingement tray scrubbers to reduce PM, Cd, Pb, particulate Hg and acid gases such as HCl and SO_2; and units with multiple control devices that could reduce PM, Cd, Pb, particulate Hg, such as a venturi scrubber in combination with an impingement scrubber and a wet ESP or another particulate control device. See the memorandum "MACT Floor Analysis for the Sewage Sludge Incinerator Source Category," which is in the SSI docket for a list of municipalities that were sent an ICR and their controls.

In contrast to MWC units or CISWI units, SSI units receive a homogenous type of waste to burn. There are variations in the amount of each of the CAA section 129 pollutants present, but because all SSI units are required to meet the CWA SSI discharge and emission requirements (40 CFR part 503), the variations are not as significant as variations that would occur if different types of materials were combusted (*e.g.,* sewage sludge, coal, wood). Part 503 establishes daily average concentration limits for Pb, Cd, and other metals in sewage sludge that is disposed of by incineration. Part 503 also requires that SSI meet the National Emission Standards for Beryllium and Hg in subparts C and E, respectively, of 40 CFR part 61. In order to meet the 40 CFR part 503 standards, facilities are already incorporating management practices and measures to reduce waste and limit the concentration of pollutants in the sludge sent to SSI units, such as segregating contaminated and uncontaminated wastes and establishing discharge limits or pre-treatment standards for non-domestic users discharging wastewater to POTW. Thus, SSI units burn a relatively homogenous waste, and non-technology measures to reduce emissions are already being taken. As a result, the data used to develop the MACT emission limits reflect the control technologies used at each facility, and the other HAP emission reduction approaches, such as management practices each facility is following to comply with the CWA part 503 standards. For this reason, we believe that the sources identified for testing and the resulting emissions information received from the surveyed SSI units represent the best-performing SSI units.

From the 9 surveyed municipalities, EPA collected data from 16 units that were in operation (11 MH incinerators and 5 FB incinerators). The surveyed information was supplemented with test information for 9 MH SSI units collected from State environmental agencies public databases. In total, emissions information was collected from 5 FB incinerators and 20 MH incinerators from facilities responding to the ICR and additional test reports provided by State environmental agencies. However, not every test report contained information on all pollutants. Except for CDD/CDF and SO_2, test information for most of the 9 CAA section 129 pollutants was available from 5 FB incinerators. For CDD/CDF and SO_2, data from only 3 FB incinerators were available. Depending on the pollutant, the number of MH incinerators with emissions information ranges from 5 to 19. The MACT floor analysis was then conducted using all the emissions information for each pollutant in each subcategory (*i.e.,* all 5 FB incinerators for Cd and all 14 MH incinerators for Cd), as this information includes emissions data from the population of best-performing units.

Test results from each of these units are based on the results of at least 3 individual runs per test, meaning that one would expect MACT floor calculations based on a population of 21 FB runs (7 FB multiplied by 3 runs per FB) and on a population of 60 MH runs (20 MH FB multiplied by 3 runs per MH). While EPA does not have actual emissions test data for the population of units that represent the best-performing 12 percent, the statistical technique described below is the approach we used to establish the existing source MACT floor. The MACT floor calculations are based on all the actual data received, for example, a population of 15 MH runs from 5 MH incinerators for CDD/CDF. Because the emissions data are normally distributed, or can be transformed to be normally distributed (using the log-normal transformation of the data), EPA is able to employ statistical techniques to determine the minimum number of observations needed to accurately characterize the distribution of the best performing 12 percent of units in each subcategory. This technique is necessary to assure that the characteristics of the sampled data set mirror those of the best-performing 12 percent of units in the source category.

EPA used this statistical technique because of the lack of data from the full set of the best-performing 12 percent of sources. While Congress adopted identical language describing the MACT floor calculation in section 129(a)(2) as it did in section 112(d)(3), the latter section includes a provision stating that the MACT floor for existing sources cannot be less stringent than "the average emission limitation achieved by the best-performing 12 percent of the existing sources (for which the Administrator has emissions information)." Section 129, however, simply states that the existing source MACT floor cannot be less stringent than the average emission limitation achieved by the best-performing 12 percent of the existing sources in the category. Therefore, while we believe Congress intended for the MACT floor calculation under each section of the CAA to be the same, this difference in the text of the 2 sections requires us to establish the MACT floor for section 129 source categories based on the best-performing 12 percent of sources in the category. Because we do not have that data at this time, the statistical technique described below is the only manner in which we can establish the existing source MACT floor on that basis. We request that commenters provide additional emissions stack test data and supporting documentation, as that may enable us to establish a final MACT floor based on a more complete data set.

In order to assess whether or not the minimum number of samples collected adequately characterizes the population, a statistical equation was applied for each subcategory. If the number of observations collected equals or exceeds the required minimum number of observations calculated using the statistical equation, then the MACT floor calculations of the sampled data set are consistent with what the MACT floor calculations would have been had they been performed on the complete data set from the best-performing 12 percent of the population. The sample size calculation is discussed in more detail in the memorandum "MACT Floor Analysis for the Sewage Sludge Incinerator Source Category," which is

in the SSI docket. The results of the calculation show that for the population of 7 FB incinerators, which comprises 12 percent of the source category, the minimum number of test runs that need to be collected is 10, and the actual number collected, for the pollutant with the least amount of test data, including late arriving data, is 12. Similarly, the calculation shows that for the population of 20 MH incinerators which comprise 12 percent of the source category, the minimum number of test runs that need to be collected is 14, and the actual number collected, for the pollutant with the least amount of test data, is 15. Based on EPA's assessment, the data set meets the minimum size needed to characterize the population of 12 percent of the best-performing units for all pollutants, when late-arriving data are included. EPA determined that the number of observations of data collected accurately represent the 12 percent of the best-performing sources in each subcategory. Data received too late to incorporate in the analysis for the proposed rule will be included in the analysis for the final rule along with any relevant data received during the comment period. However, EPA conducted a preliminary review of the late data received subsequent to the final analyses, *e.g.,* MACT floor ranking, impacts, etc., and determined that based on this preliminary review, the data would have minimal impact on the proposed standards. For more information on the outcome of this review, please refer to the "MACT Floor Analysis for the Sewage Sludge Incinerator Source Category," memorandum, which is in the SSI docket.

2. Variability Calculation

To conduct the existing source MACT floor analysis for each pollutant, individual SSI units in each subcategory for which we had emissions test data were ranked based on their average emission levels of the pollutant from lowest to highest. The MACT floor was calculated as the average of the test runs from the best-performing (*i.e.,* lowest emitting) 12 percent of sources. For the SSI source category, all the quality-assured emissions information from the ICR responses and additional test reports collected were used in the MACT floor calculation. That is, for each pollutant, the MACT floor emission level was calculated as the average emission limit for all the test runs from the quality assured emissions data collected.

The first step in the statistical analysis includes a determination of whether the data used for each MACT floor calculation were normally or log-normally distributed. If the data were normally distributed (*e.g.,* similar to a typical bell curve), then further variability analyses could be conducted on the data set. If the data were not normally distributed (for example, if the data were asymmetric or skewed to the right or left), then the type of distribution (*e.g.,* log-normal) was determined and a data transformation was performed (*e.g.,* taking the natural log of the data) to normalize the data prior to conducting the variability analysis. Two statistical measures, skewness and kurtosis, were examined to determine if the data were normally or log-normally distributed. For details on the statistical analysis, see the memorandum "MACT Floor Analysis for the Sewage Sludge Incinerator Source Category," which is in the SSI docket.

For the existing source variability analysis, all the emissions test runs reported for the best-performing 12 percent of units in each subcategory were identified. By including multiple emissions tests from units with a test average in the top 12 percent, EPA can evaluate intra-unit variability of emissions tests over time, considering variability in control device performance, unit operations, and fuels fired during the test. As discussed previously, the UPL was used for the SSI MACT floor variability analysis.

For the existing source analysis, the 99 percent UPL values were calculated for each pollutant and for each subcategory using the test run data for those units in the best-performing 12 percent. Since compliance with the MACT floor emission limit is based on the average of a 3-run test, Equation 1 shows the UPL is calculated as follows:

$$UPL = \bar{x} + t(0.99, n-1) \times \sqrt{s^2 \times \left(\frac{1}{n} + \frac{1}{m}\right)} \qquad \text{(Eq. 1)}$$

Where:

n = Number of test runs (i.e., sample size)
m = Number of test runs in the compliance average
s = Standard deviation of the emissions test data
x = Mean, i.e., average of the emissions test data
$t0.99, (n-1)$ = t-statistic for 99 percent significance and a sample size of n.

This calculation was performed using the following 2 Microsoft Excel spreadsheet functions:

Normal distribution: 99 percent UPL = AVERAGE (Test Runs in Top 12 percent) + [STDEV(Test Runs in Top 12 percent) × TINV(2 * 0.99, n − 1 degrees of freedom)*SQRT((1/n)+1/3))], for a one-tailed t-value (with 2 × probability), probability of 0.01, and sample size of n.

Lognormal distribution: 99 percent UPL = EXP{AVERAGE(Natural Log Values of Test Runs in Top 12 percent) + [STDEV(Natural Log Values of Test Runs in Top 12 percent) × TINV(2 * 0.99, n − 1 degrees of freedom) * SQRT((1/n)+1/3))]}, for a one-tailed t-value (with 2 × probability), probability of 0.01, and sample size of n.

The 99 percent UPL represents the value which one can expect the mean of future 3-run performance tests from the best-performing 12 percent of sources to fall below, with 99 percent confidence, based upon the results of the independent sample of observations from the same best-performing sources. In establishing the limits, the UPL values were rounded up to 2 significant figures. For example, a value of 1.42 would be rounded to 1.5 because a limit of 1.4 would be lower than the calculated MACT floor value.

The summary statistics and analyses are presented in the docket and further described in sections IV.C.4 and IV.C.5 of this preamble. The calculated UPL values for existing sources (which are based on emissions data from the sources representing the best-performing 12 percent of sources and evaluate variability) were selected as the proposed MACT floor emission limits for the 9 regulated pollutants in each subcategory.

To determine the MACT floor for new sources, we used an UPL calculation similar to that for existing sources, except the best-performing similar source's data were used to calculate the MACT floor emission limit for each pollutant instead of the average of the best-performing 12 percent of units. In summary, the approach ranks individual SSI units based on actual performance and establishes MACT floors based on the best-performing similar source for each pollutant and

subcategory, with an appropriate accounting of emissions variability. In other words, the UPL was determined for the data set of individual test runs for the single best-performing source for each regulated pollutant from each subcategory.

For the FB new source subcategory, we considered the best-performing FB incinerator to be the best-performing similar source. For the MH new source subcategory, we also considered the best-performing FB incinerator to be the best-performing similar source because these types of units are both operated for the same purpose (*e.g.* to incinerate sewage sludge and similar control technologies can be used on both). We chose not to treat the best-performing MH incinerator as the best-performing similar source for the MH new source subcategory because we are not aware of any new MH sources that have been constructed in the last 20 years. During that period, however, over 40 new FB incinerators have been installed, with at least 11 replacing MH incinerators. Information provided by the industry indicates that future units that will be constructed are likely to be FB incinerators. Information provided by the industry also indicates that new FB units have more efficient combustion characteristics resulting in lower emissions. Therefore, we believe it is appropriate to consider the best-performing FB incinerator as the best-performing similar source for the MH new source subcategory. We are aware that owners and operators with modified MH units may have concerns regarding meeting the new source limits. We request comment on this proposed approach. To assist commenters with their evaluation of the proposal, we have calculated what the MACT floor emission limits would be based on the best-performing MH incinerator, and the emission limits for FB and MH incinerators are shown in Table 3. These potential limits were developed by analyzing the MH test data using the same new source MACT floor methodology as discussed earlier in this section of this preamble. See the MACT floor memorandum in the docket for additional details.

TABLE 3—POTENTIAL EMISSION LIMITS FOR NEW MH UNITS BASED ON BEST-PERFORMING MH INCINERATOR

Pollutant	Units	Potential emission limit for new MH incinerators
Cd	mg/dscm @ 7% O_2	0.0011
CDD/CDF, TEQ	ng/dscm @ 7% O_2	0.0022
CDD/CDF, TMB	ng/dscm @ 7% O_2	0.024
CO	ppmvd @ 7% O_2	45
HCl	ppmvd @ 7% O_2	0.36
Hg[a]	mg/dscm @ 7% O_2	0.02
NO_X	ppmvd @ 7% O_2	150
Opacity	%	0
Pb	mg/dscm @ 7% O_2	0.0020
PM	mg/dscm @ 7% O_2	5.8
SO_2	ppmvd @ 7% O_2	6.9

[a] Calculation results in a limit of 0.069 which is greater than the existing source beyond the floor limit.

The MACT floor limits for opacity from combustion stacks were determined slightly differently from other pollutants. The opacity data available for FB and MH SSI units were obtained using EPA Method 9 at 40 CFR part 60, appendix A–4, for 3 FB incinerators (providing 10 observations or test runs) and 10 MH incinerators (providing 29 observations). Similar to the amount of data collected for other regulated pollutants, this constitutes less than 12 percent of the sources, but meets or exceeds the minimum sample size needed to characterize the population of the best-performing 12 percent of units. Under Method 9, the opacity of emissions from stationary sources is determined visually by a qualified observer. Opacity observations are recorded to the nearest 5 percent at 15-second intervals on an observational record sheet and the average opacity of the observation period is calculated. For FB incinerators, all of the available average opacity measurements were reported as 0 percent. Consequently, the MACT floor for opacity from existing FB incinerators and all new units is 0 percent opacity. For MH incinerators, 60 percent of the available average opacity measurements were greater than 0 percent and 40 percent were reported as 0 percent. A review of the opacity data for MH incinerators indicated that they are not normally distributed. However, because the MH opacity data contain zero values, the log-normal transformation of the data could not be calculated to normalize the data set. Consequently, the procedures used to assess the variability of the data were modified. For MH incinerators, the variability analysis for existing sources was conducted on the opacity data set without transforming the data using the log normal calculation. Additionally, because the opacity readings are in 5 percent increments, the calculated UPL was rounded up to the nearest multiple of 5. The analysis results in an opacity limit of 10 percent for existing sources. We request comment on the methodology used to set the opacity limit. We are also requesting additional opacity information from SSI units.

3. Incorporation of Non-Detect Data

Non-detect values comprise more than 50 percent of the emissions data for HCl from FB incinerators and CDD/CDF from both MH and FB incinerators. For these pollutants, EPA developed a methodology to account for the imprecision introduced by incorporating non-detect data into the MACT floor calculation.

At very low emission levels where emissions tests result in non-detect values, the inherent imprecision in the pollutant measurement method has a large influence on the reliability of the data underlying the MACT floor emission limit. Because of sample and emission matrix effects, laboratory techniques, sample size, and other factors, method detection levels normally vary from test to test for any specific test method and pollutant measurement. The confidence level that a value, measured at the detection level is greater than zero, is about 99 percent. The expected measurement imprecision for an emissions value occurring at or near the method detection level is about 40 to 50 percent. Pollutant measurement

imprecision decreases to a consistent level of 10 to 15 percent for values measured at a level about 3 times the method detection level.[14]

One approach that we believe can be applied to account for measurement variability in this situation starts with defining a method detection level that is representative of the data used in the data pool. The first step in this approach would be to identify the highest test-specific method detection level reported in a data set that is also equal to or less than the average emission calculated for the data set. This approach has the advantage of relying on the data collected to develop the MACT floor emission limit, while to some degree, minimizing the effect of a test(s) with an inordinately high method detection level (e.g., the sample volume was too small, the laboratory technique was insufficiently sensitive or the procedure for determining the detection level was other than that specified).

The second step is to determine the value equal to 3 times the representative method detection level and compare it to the calculated MACT floor emission limit. If 3 times the representative method detection level were less than the calculated MACT floor emission limit, we would conclude that measurement variability is adequately addressed, and we would not adjust the calculated MACT floor emission limit. If, on the other hand, the value equal to 3 times the representative method detection level were greater than the calculated MACT floor emission limit, we would conclude that the calculated MACT floor emission limit does not account entirely for measurement variability. We would, therefore, use the value equal to 3 times the method detection level in place of the calculated MACT floor emission limit to ensure that the MACT floor emission limit accounts for measurement variability and imprecision.

The approach discussed above was used to calculate the proposed MACT floor limit for HCl. The following additional procedures were followed for CDD/CDF, TMB, and TEQ basis limits. To calculate a TMB limit, all the 17 congeners of interest were identified and non-detect values that are associated with each were indicated. The mean of the non-detect values was calculated and multiplied by 17 (for the total number of congeners of interest). The mean value was then used as the detection limit of the run. Then, each data set was reviewed to identify the highest test-specific method detection level reported that was also equal to or less than the average emission level (*i.e.,* unadjusted for probability confidence level) calculated for the data set. The second step discussed above and also used for HCl was used to set the limit.

To calculate a limit on a TEQ basis, first, the mean of the non-detect values was calculated. Then the TEF for each congener was multiplied by the mean to determine the TEQ for each congener. Toxic Equivalencies for each congener were summed to calculate a TEQ sum value. The TEQ sum was then used as the detection limit for the test run. The second step discussed above and also used for HCl was used to set the limit.

4. EG MACT Floor

Once the sources that represent the best 12 percent of units were identified for each subcategory and pollutant, the individual test run data for these units were compiled and a statistical analysis was conducted to calculate the average and account for variability and, thereby, determine the MACT floor emission limit.

The summary results of the UPL analysis and the MACT floor emission limits for existing units are presented in Table 4 of this preamble for each subcategory and each pollutant.[15]

TABLE 4—SUMMARY OF MACT FLOOR EMISSION LIMITS FOR EXISTING SSI UNITS

Pollutant	Units	FB Incinerators			MH Incinerators		
		Avg of top 12%	99% of UPL	MACT floor emission limit[a]	Avg of top 12%	99% of UPL	MACT floor emission limit[a]
Cd	mg/dscm@7% O_2	0.00055	0.00189	0.0019	0.030	0.0947	0.095
CDD/CDF TEQ	ng/dscm@7% O_2	0.027	0.0559	0.056	0.047	0.314	0.32
CDD/CDF TMB	ng/dscm@7% O_2	0.32	0.602	0.61	0.69	4.95	5.0
CO	ppmvd@7% O_2	28	55.1	56	1,013	3,885	3,900
HCl	ppmvd@7% O_2	0.17	0.489	0.49	0.53	0.982	1.0
Hg	mg/dscm@7% O_2	0.0019	0.00325	0.0033	0.10	0.162	0.17
NO_X	ppmvd@7% O_2	30	62.4	63	130	207	210
Opacity	%	0	0	0	2.0	6.4	10
Pb	mg/dscm@7% O_2	0.0030	0.0098	0.0098	0.082	0.295	0.30
PM	mg/dscm@7% O_2	2.6	11.9	12	42.6	79.8	80
SO_2	ppmvd@7% O_2	3.3	21.5	22	9.4	25.7	26

[a] Limits were rounded up to 2 significant figures except that opacity limits were rounded up to the nearest multiple of 5 for reasons explained in section IV.C.2 of this preamble.

Information gathered indicates that all of the units have some level of air pollution control and management practice in place either as a result of CWA part 503, State and local requirements, or previous Federal standards to address air emissions. MACT floor emissions reductions were calculated assuming that units needing to meet the limits for Cd and Pb would install a FF, units needing to meet the limits for Hg and CDD/CDF would apply activated carbon injection, and units needing to meet the limits for HCl and SO_2 would apply a packed bed scrubber. We are requesting comment on whether there are space constraints at wastewater treatment facilities that would affect the feasibility and cost of installing air pollution control devices. The results of the analysis indicate that all existing FB and MH units would meet the MACT floor levels of control for NO_X, CO, and PM without applying any additional control. (However, PM would be reduced from applying controls to meet the Cd and Pb emissions limits.) Additionally, all existing MH units would also meet the MACT floor levels of control for CDD/

[14] American Society of Mechanical Engineers, *Reference Method Accuracy and Precision (ReMAP): Phase 1, Precision of Manual Stack Emission Measurements,* CRTD Vol. 60, February 2001.

[15] EPA interprets CAA section 129 as supporting the pollutant-by-pollutant approach (74 FR 51380, Oct. 6, 2009).

CDF without applying any additional control. These results for NO_X, CO, PM, and CDD/CDF are attributable to the relatively high 99 percent UPL values computed from the submitted data. The small sample sizes and the high degree of variability observed in the data for these pollutants resulted in large 99 percent UPL values.

Given the smaller than desired data sets for these pollutants, we computed the 95 percent UPL values to account for the influence of the limited data set. The results are presented in Table 5 of this preamble. We are requesting comment on whether it is appropriate to use these alternative UPLs for this source category due to the limited availability of data.

TABLE 5—SUMMARY OF MACT FLOOR EMISSION LIMITS FOR EXISTING SSI UNITS USING ALTERNATIVE PERCENT UPL [a]

Pollutant	Units	FB Incinerators	MH Incinerators
		95% Of UPL	95% Of UPL
Cd	mg/dscm@7% O_2	0.0011	0.048
CDD/CDF TEQ	ng/dscm@7% O_2	0.046	0.12
CDD/CDF TMB	ng/dscm@7% O_2	0.51	1.8
CO	ppmvd@7% O_2	47	2,200
HCl	ppmvd@7% O_2	[b] 0.49	0.84
Hg	mg/dscm@7% O_2	0.0018	0.14
NO_X	ppmvd@7% O_2	48	190
Opacity	%	0	10
Pb	mg/dscm@7% O_2	0.0052	0.14
PM	mg/dscm@7% O_2	6.1	69
SO_2	ppmvd@7% O_2	8.6	17

[a] Limits were rounded up to 2 significant figures except that opacity limits were rounded up to the nearest multiple of 5 for reasons explained in section IV.C.2 of this preamble.

[b] Value shown is the result of the non-detect analysis, which results in using the limit that is based on 3 times the highest detection limit that is less than the average of the data. The calculated UPL values without the non-detect analysis are 0.25, 0.23, and 0.22 for percent UPLs of 95 percent, 90 percent, and 85 percent, respectively.

5. NSPS MACT Floor

New source MACT floors are based on the best-performing single source for each regulated pollutant, with an appropriate accounting for emissions variability. In other words, the best-performing unit was identified by ranking the units from lowest to highest for each subcategory and pollutant and selecting the unit with the lowest 3-run test average emissions test data for each pollutant. To determine the MACT floor for new sources, an UPL calculation similar to that for existing sources was conducted, except the best-performing unit's data within a subcategory were used to calculate the MACT floor emission limit for each pollutant. The best-performing unit was identified as the lowest emitting source with at least 3 test runs. In summary, the approach ranks individual SSI units based on actual performance and establishes MACT floors based on the best-performing source for each pollutant and subcategory, with an appropriate accounting of emissions variability. In other words, the UPL was determined for the data set of individual test runs for the single best-performing source for each regulated pollutant from each subcategory. As discussed in IV.C.2, EPA is proposing 2 subcategories for new sources. However, we are proposing to require that all new sources meet the emission limits for the best-performing FB incinerator. Table 6 of this preamble presents the analysis summaries and the new source MACT floor limits.

TABLE 6—SUMMARY OF MACT FLOOR EMISSION LIMITS FOR ALL NEW SSI UNITS (FB AND MH)

Pollutant	Units	All new SSI units (fluidized bed and multiple hearth)		
		Avg of top 12%	99% of UPL	MACT floor limit [1]
Cd	mg/dscm@7% O_2	0.00017	0.000510	0.00051
CDD/CDF TEQ	ng/dscm@7% O_2	0.00094	0.00213	0.0022
CDD/CDF TMB	ng/dscm@7% O_2	0.0095	0.0226	0.024
CO	ppmvd@7% O_2	2.6	7.31	7.4
HCl	ppmvd@7% O_2	0.044	0.111	0.12
Hg	mg/dscm@7% O_2	0.00036	0.000992	0.0010
NO_X	ppmvd@7% O_2	14.9	25.3	26
Opacity	%	0	0	0
Pb	mg/dscm@7% O_2	0.00031	0.000527	0.00053
PM	mg/dscm@7% O_2	1.4	4.06	4.1
SO_2	ppmvd@7% O_2	0.62	1.99	2.0

[1] Limits were rounded up to 2 significant figures.

6. Assessment of $PM_{2.5}$ Data

EPA's collection of emissions information also included filterable $PM_{2.5}$ measured using OTM 27 and condensable PM measured using OTM 28. Other Test Method 27 and OTM 28 are equivalent to the proposed revisions of Methods 201A and 202. Emissions information for $PM_{2.5}$ and condensable PM was obtained from 5 FB incinerators and 6 MH incinerators. Other Test Method 27/OTM 28 combination testing can be used to determine primary $PM_{2.5}$, which includes filterable PM from OTM 27 and condensibles from OTM 28. A

variability analysis was conducted on the data to calculate a MACT floor level of control, and the results are provided in Table 7 of this preamble.

TABLE 7—VARIABILITY CALCULATION FOR $PM_{2.5}$

[Mg/Dscm@7%O_2]

Subcategory	Avg of top 12%	99% of UPL	Limit
Existing FB Incinerators	4.2	11.7	12
Existing MH Incinerators	17	57.6	58
All New Units	1.5	2.29	2.3
Potential New MH Incinerators (See Discussion In IV.C.2)	2.6	10.7	11

There are potential concerns with the emissions data and whether it is appropriate to set $PM_{2.5}$ standards for SSI units. Other Test Method 27 is not an appropriate test method for sizing particulate at 2.5 μm when there are entrained water droplets in the stack gas, which will bias the measurements. All SSI units use wet scrubbers to control emissions, and water droplet entrainment may be an issue at some portion of these sources, resulting in them not being able to measure $PM_{2.5}$ using OTM 27. A review of the temperature and moisture data collected during the $PM_{2.5}$ emissions tests indicates that water droplet entrainment is not an issue with the emissions data collected from the sources tested. Other test reports, at sources with stack gas moisture levels in excess of the vapor capacity, and thus with entrained water droplets, did not provide $PM_{2.5}$ information. Additional information on the emission characteristics would be necessary to make a conclusion about general stack gas parameters in the SSI source category.

Because of this concern, we decided not to include $PM_{2.5}$ standards in this proposal. We are requesting comment on whether the $PM_{2.5}$ limits in Table 6 of this preamble should be set for the promulgated rule, and whether the combination of OTM 27 and 28 are appropriate measurement techniques. We are also requesting additional $PM_{2.5}$ emissions stack test data and supporting documentation for both MH and FB incinerators.

D. Rationale for Beyond-the-Floor Alternatives

As discussed above, EPA may adopt emission limitations and requirements that are more stringent than the MACT floor (*i.e.,* beyond-the-floor). Unlike the MACT floor methodology, EPA must consider costs, nonair quality health and environmental impacts and energy requirements when considering beyond-the-floor standards.

1. Beyond-the-Floor-Analysis for Existing Sources

In order to identify beyond-the-floor options, we first identified control requirements for each pollutant that would be more stringent than required to meet the MACT floor level of control and determined whether they were technically feasible. If the more stringent controls were technically feasible, a cost and emission impacts analysis was conducted for applying them. The cost, emission reduction, and cost-effectiveness of the technically feasible controls were reviewed, and controls that were relatively cost-effective in reducing emissions were selected as possible beyond-the-floor control options.

The control technologies that would be needed to achieve the MACT floor levels (*i.e.,* FF and packed bed scrubbers) are generally the most effective controls available for reducing PM, Cd, Pb, HCl and SO_2. Therefore, no beyond-the-floor technologies were identified for these pollutants. We analyzed options of applying FF and packed bed scrubbers to units that did not have these controls already or did not need them to meet the MACT floor emissions limits. A preliminary cost and emission reduction analysis was performed for these options. The results indicate that the application of FF (to control Cd and Pb), or application of a packed bed scrubber (to control HCl and SO_2), as a beyond-the-floor option results in high costs for the emission reduction achieved, and is not cost-effective. Consequently, the FF and packed bed beyond-the-floor options were not further analyzed. This analysis is documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units" found in the SSI docket. We identified and analyzed impacts of beyond-the-floor technologies for the other pollutants (CO, NO_X, Hg, and CDD/CDF). These analyses are summarized in the following paragraphs.

As discussed in section IV.C.4 of this preamble, our analysis indicates that all existing FB and MH units would meet the MACT floor levels of control for NO_X and CO without applying any additional control; therefore, no control technologies were costed for these pollutants at the MACT floor level. For the beyond-the-floor analysis, we analyzed applicable controls, as discussed below, to provide reductions of NO_X and CO from all SSI units.

For NO_X, we reviewed add-on control technologies that achieve NO_X reduction at other combustion sources, such as MWC units, CISWI units, and boilers. These include SCR, SNCR, and FGR. However, none of these technologies were determined to be appropriate for SSI units. To our knowledge, SSI units do not use SCR or SNCR. Additionally, we are not aware of any successful applications of SCR technology to waste combustion units. This may be due to the difficulties operating SCR where there is significant PM or sulfur loading in the gas stream. Application of SNCR also may not be technically feasible because the combustion mechanism of MH incinerators provides inadequate mixing of combustion gas and SNCR reagent. Additionally, SSI operating conditions (*e.g.,* low temperatures and residence times for MH incinerators and low uncontrolled NO_X emissions for FB incinerators) are not well suited for application of SNCR. Flue gas recirculation has been used on combustion devices to reduce NO_X emissions. Emissions information collected by EPA contains data from one MH incinerator with FGR. However, its emission levels are similar to units without FGR. Therefore, no conclusion could be made on FGR performance. Additionally, there are no FB incinerators that currently use any add-on NO_X control because, due to their design, FB incinerators achieve low NO_X emission levels without add-on controls.

With regard to Hg and CDD/CDF, the most effective control technology to reduce these emissions is activated

carbon injection. We estimate that this source category is currently the sixth highest Hg emitting source category in the United States, emitting about 3.1 TPY of Hg (or about 3 percent of the total Hg emissions from anthropogenic sources in the United States). This category emits about 0.0001 TPY of dioxin (or 0.0000081 tons of dioxin TEQ), which is about 1 percent of the total estimated dioxin emissions in the U.S.

Our analysis indicates that 53 SSI units would need to use activated carbon injection to meet the MACT floor level of control, so costs for activated carbon injection were included in the cost analysis for the MACT floor for such units. All of these units, except for two, are FB units. Control of the FB units at the MACT floor will result in estimated emissions reductions of about 0.06 tons of Hg and 0.0000065 tons dioxins TEQ. However, the other units (especially the MH units) would not need additional control to meet the "floor" level of control. Additional beyond-the-floor reductions for the MH units would be achieved by applying activated carbon injection. Data gathered by EPA indicate that activated carbon injection applied to combustion sources with particulate control can achieve 85–95 percent reduction of Hg, depending on the type of particulate control, with higher reductions achieved by units with FF and lower reductions achieved by units with electrostatic precipitators or venturi scrubbers. Based on these data, a beyond-the-floor reduction of 88 percent for Hg was used for carbon injection applied to existing MH unit controls, resulting in an emission level of 0.02 mg/dscm corrected to 7 percent oxygen. Previous EPA studies also show that CDD/CDF can be reduced by as much as 98 percent using activated carbon injection.

For CO, the MACT floor emission level for existing MH sources is 3,900 ppmvd corrected to 7 percent oxygen. An add-on combustion device, such as an afterburner, was analyzed as a more stringent control device that could be applied. Some units may use a RTO to comply with the CWA "503 Rule" (40 CFR part 503). We request comment on the use of an afterburner or RTO as a means to control CO from MH SSI units. Carbon monoxide emissions data collected show that MH incinerators using an add-on afterburner or RTO can achieve CO emission levels less than 100 ppmv. The CWA part 503 Rule limits SSI to 100 ppmv THC as propane, dry basis, corrected to 7 percent oxygen, averaged for 30 days. The CWA part 503 Rule allows substitution of 100 ppmv CO dry basis, corrected to 7 percent oxygen for the THC originally required. The 100 ppm CO level was selected because this level was determined to be a level that would be indicative of THC concentrations below 100 ppmv. This allows the use of a lower cost, easier to maintain CO monitor in place of the difficult to keep on-line THC monitor. Consistent with the CWA part 503 regulations for disposal of sewage sludge, for the beyond-the-floor analysis, a value of 100 ppmv was used as the emission level that a MH incinerator with an afterburner could achieve. Although we do not have data to quantify the impacts, the afterburner is also expected to reduce emissions of organic compounds, such as 7–PAH. We also evaluated whether there were any beyond-the-floor options for CO for existing FB incinerators. The proposed SSI MACT floor CO level for existing FB incinerators (56 ppmv) is well below the 100 ppmv emission level of the CWA part 503 Rule. We determined that application of an afterburner to FB units would not achieve appreciable CO reduction from the proposed limit for the cost incurred. This analysis is documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units." Therefore, no beyond-the-floor CO limit was analyzed for the FB subcategory.

Table 8 of this preamble summarizes the costs of the MACT floor emission level (referred to as option 1), and 2 beyond-the-floor options. Option 2 is the same as option 1 plus application of activated carbon injection with existing particulate control to reduce Hg emissions. Option 3 is the same as option 2 plus applying an afterburner to MH units to reduce CO emissions.

TABLE 8—COSTS EXPECTED FOR EXISTING SSI UNITS TO COMPLY WITH MACT CONTROL OPTIONS (2008$)

Option	Total capital costs ($)	Total annualized costs ($/Yr)[a]
1—MACT Floor	220,000,000	73,000,000
2—Option 1 + Activated carbon injection	225,000,000	105,000,000
3—Option 2 + CO Afterburner	370,000,000	148,000,000

[a] Calculated using a 7 percent discount factor.

Table 9 of this preamble summarizes the emission reductions of each pollutant for the MACT control options.

TABLE 9—SUMMARY OF EMISSION REDUCTIONS FOR EXISTING UNITS TO COMPLY WITH THE MACT CONTROL OPTIONS SOURCES

Pollutant	Emission reductions for each MACT option (TPY)		
	Option 1	Option 2	Option 3
Cd	1.41	1.41	1.41
CDD/CDF TEQ	0.0000065	0.0000078	0.0000078
CDD/CDF TMB	0.000079	0.000099	0.000099
CO	0	0	25,691
HCl	93	93	93
Hg	0.09	2.71	2.71
NO_X	4.3	4.3	4.3
Pb	2.63	2.63	2.63

TABLE 9—SUMMARY OF EMISSION REDUCTIONS FOR EXISTING UNITS TO COMPLY WITH THE MACT CONTROL OPTIONS SOURCES—Continued

Pollutant	Emission reductions for each MACT option (TPY)		
	Option 1	Option 2	Option 3
PM	318	318	318
SO_2	2,192	2,192	2,192

The results provided in Tables 8 and 9 of this preamble were calculated using data gathered for each source, as well as default emissions, sludge capacity, and vent gas flow rate information for sources where data were unavailable. We estimate that applying activated carbon injection to all MH units to control Hg and CDD/CDF would result in total annualized costs of $32 million dollars (using a discount rate of 7 percent) and would achieve Hg reductions of 2.62 TPY and CDD/CDF reductions of 0.000020 TPY. The incremental cost-effectiveness of adding activated carbon injection to all MH units is estimated to be $12 million per ton of pollutants (Hg and CDD/CDF) removed (or $6,000 per pound). More than 99.9 percent of these estimated reductions are for Hg, thus these cost estimates mainly reflect the costs of Hg removal (i.e., about $6,000 per pound of Hg removed). However, it is important to note that activated carbon injection cannot be applied alone. It requires particulate control devices to remove the carbon that is injected to adsorb the Hg. Based on our available data, all of these units have some type of PM control device in place so they would not need to install new PM control equipment. We believe this beyond-the-floor option is cost-effective for Hg, which is a persistent bio-accumulative toxic (PBT) pollutant. Thus, we are proposing this beyond-the-floor limit for Hg of 0.02 mg/dscm corrected to 7 percent oxygen. Because more than 99.9 percent of the emissions reduction is associated with Hg, a specific beyond-the-floor option of controlling CDD/CDF emissions using activated carbon injection was not further considered. However, co-control of CDD/CDF would occur from the option of applying activated carbon injection to meet the beyond-the-floor emission limit for Hg.

Information collected by EPA shows that several FB units, but no MH units, currently use activated carbon injection. We believe activated carbon injection is applicable to both types of SSI combustors and do not know of any technical reason that activated carbon injection could not be applied to reduce Hg emissions at MH units. We are requesting comment and additional information on the feasibility of using this technology on MH units.

Thus, given the factors discussed above, we are proposing limits for Hg based on the beyond-the-floor option described above. However, we are requesting comment on this approach and the beyond-the-floor limits for Hg at MH units and request information on other factors and any data available that we should consider in our final rulemaking.

We also considered whether we should set beyond-the-floor emission limits for CO. The emissions reductions and cost associated with this are referred to as option 3 in Tables 8 and 9 of this preamble. We estimate that to apply MACT control option 3, which would require either the use of an afterburner or thermal oxidizer, could require as much as 1,700 million cubic feet of natural gas a year to be burned, resulting in NO_X and CO emissions of 84 and 70 TPY, respectively. Therefore, given these factors, we are not recommending going beyond-the-floor with option 3. We are requesting comment on whether to require MH units to meet the 100 ppmv CO limit, considering the potential emissions of NO_X and the cost impacts on municipalities of applying this option.

The results of the beyond-the-floor analysis are documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units" found in the SSI docket (EPA–HQ–OAR–2009–0559). Table 1 in this preamble summarizes the proposed emissions limits for existing SSI units.

2. Beyond-the-Floor Analysis for New Sources

We did not identify any technologies or methods to achieve emission limits more stringent than the MACT floor limits for new units based on the lowest emitting FB incinerators. The control technologies necessary to achieve the MACT floor levels are generally the most effective controls available: FF for PM, Cd and Pb control; packed bed scrubbers for SO_2 and HCl control; afterburners for CO control; and activated carbon injection for CDD/CDF and Hg control. In addition, incremental additions of activated carbon have not been proven to achieve further reductions above the projected flue gas concentration estimated to achieve the limits for new sources. Data gathered do not indicate that any FB incinerators operate NO_X controls, such as SNCR, SCR, or FGR because the NO_X emissions are already low. In light of the technical feasibility, costs, energy, and nonair quality health and environmental impacts discussed in this section, we have determined it is not reasonable to establish beyond-the-floor limits for existing and new SSI units. Table 2 in this preamble summarizes the proposed emissions limits for new SSI units.

E. Rationale for Performance Testing and Monitoring Requirements

We are proposing that all new and existing SSI units meet the following requirements:

- Initial and annual emissions performance tests (or continuous emissions monitoring as an alternative).
- Annual inspections of scrubbers, FF, and other air pollution control devices that may be used to meet the emission limits.
- Annual visual emissions test of ash handling procedures.
- Control device parameter monitoring for wet scrubbers, FF, ESP, activated carbon injection, and afterburners, and other approved control devices.
- Monitoring of bypass stack use if installed at an affected unit.
- Periodic performance evaluations of continuous monitoring systems.

These proposed requirements were selected to provide additional assurance that sources continue to operate at the levels established during their initial performance test. The visual emissions test of ash handling procedures and annual control device inspections have been adopted for HMIWI, another CAA section 129 source category. Hospital, Medical, and Infectious Waste Incineration standards (74 FR 51367) contain these requirements to ensure that the ash which may contain metals, is not emitted to the atmosphere through fugitive emissions and that control devices are maintained properly.

The large and small MWC standards also have similar fugitive ash monitoring requirements. In addition, the CISWI rule requires a Method 22 (of appendix A–7) visible emissions test of the ash handling operations to be conducted during the annual compliance test for all subcategories except waste-burning kilns, which do not have ash handling systems. We propose to require the fugitive ash monitoring provisions that are contained in the HMIWI, CISWI, and MWC rules. The HMIWI, CISWI, and MWC units are incineration devices combusting waste and have ash handling similar to SSI units. Consequently, we believe that the requirements for fugitive ash handling in the HMIWI and MWC standards can be applied to SSI units. We request comment on whether the ash handling requirements for MWC and HMIWI are appropriate for SSI, and if not, what requirements should be imposed.

The proposed rules would allow sources to use the results of emissions tests conducted within the previous 2 years to demonstrate initial compliance with the proposed emission limits for all the CAA section 129 pollutants as long as the sources certify that the previous test results are representative of current operations. Such tests must have been conducted using the test methods specified in the SSI rules and must be the most recent tests performed on the unit. Those sources, whose previous emissions tests do not demonstrate compliance with 1 or more of the revised emission limits, would be required to conduct another emissions test for those pollutants. This allowance to use previous tests would minimize the burden to affected sources. Information collected by EPA shows tests have been conducted on SSI for Title V, State testing requirements, and OW 503 rule requirements for many of the CAA section 129 pollutants. We seek comment on the appropriateness of the use of previously-conducted performance tests.

The proposed rule also would allow for reduced testing of PM, Cd, Pb, Hg, SO_2, HCl, NO_X and CO (for existing sources only). We are proposing to allow facilities with test data for listed pollutants that show emissions are less than 75 percent of the applicable emission limits to be able to qualify for testing for these pollutants once every 3 years. The reduced testing allowance and compliance margin provides flexibility and incentive to sources that operate well within the emission standard, and timelier follow-through on assuring that sources that are marginally in compliance will remain in compliance.

The proposed rule would allow for the following optional CEMS use: CO CEMS for existing sources; and NO_X CEMS, SO_2 CEMS, PM CEMS, HCl CEMS, multi-metals CEMS, Hg CEMS, CDD/CDF CEMS, ISTMMS and ISTDMS for existing and new sources and COMS. Some existing SSI units may have CO CEMS, NO_X CEMS, or SO_2 CEMS already to meet other regulatory or permit requirements, and we propose to allow them to continue to use these monitors to demonstrate continuous compliance with the SSI standards. The optional use of HCl CEMS, multi-metals CEMS, CDD/CDF CEMS, ISTMMS, and ISTDMS would be available on the date a final PS for these monitoring systems is published in the **Federal Register**. The proposed monitoring provisions are discussed in more detail below.

Monitoring Provisions for All Control Devices. The proposed rules would require monitoring the dry sludge feed rate, combustion chamber temperature (or afterburner temperature), and sludge moisture content to ensure that the incinerator operation parameters measured during the compliance test are continually maintained.

Monitoring Provisions for Wet Scrubbers. The proposed rules would require monitoring the scrubber liquor flow rate and pH, and the minimum pressure drop across each scrubber (or amperage to each scrubber), to ensure that the scrubber operation parameters measured during the compliance test are continually maintained.

Monitoring Provisions for Activated Carbon Injection (Hg sorbent injection). The proposed rules would require monitoring of activated carbon (*i.e.,* Hg sorbent) injection rate and carrier gas flow rate (or carrier gas pressure drop) to ensure that the minimum sorbent injection rate, measured during the compliance test, is continually maintained.

Monitoring Provisions for FF. The proposed rules would require bag leak detection system monitoring to ensure that the FF is operating properly and that leaks in the filter media are quickly identified and corrected on a continuous basis.

Monitoring Provisions for Electrostatic Precipitators. The proposed rules would require monitoring of the secondary voltage and secondary amperage of the collection plates, calculating the secondary power input to the collection plates (voltage multiplied by amperage) per ESP section, and effluent water flow rate at the outlet of the ESP (for wet ESP) to ensure that the ESP operating parameters measured during the compliance test are maintained on a continuous basis.

Monitoring Provisions for Afterburners. The proposed rules would require monitoring of the temperature of afterburners.*CO CEMS.* The proposed rules would require the use of CO CEMS on new SSI units. The proposed rules would allow the use of CO CEMS on existing sources. Owners and operators that use CO CEMS would be able to discontinue their annual CO compliance test. The continuous monitoring of CO emissions is an effective way of ensuring that the combustion unit is operating properly. The proposed rules incorporate the use of PS–4B Specifications and Test Procedures for Carbon Monoxide and Oxygen Continuous Monitoring Systems in Stationary Sources) of appendix B of 40 CFR part 60.

The proposed CO emission limits are based on data from annual stack tests and compliance would be demonstrated by stack tests. The change to use continuously-operated CO CEMS for measurement and enforcement of the stack test-based emission limits must be carefully considered in relation to an appropriate averaging period for data reduction. In past EPA rulemakings for incineration units, EPA has selected averaging times between 4 hours and 24 hours based on statistical analysis of long-term CEMS data for a particular subcategory. Because CO CEMS data available for SSI to perform such an analysis are insufficient to determine an emission level that would correspond to a shorter averaging period, EPA is proposing the use of a 24-hour block average as appropriate to address potential changes in CO emissions. The 24-hour block average would be calculated using Equation 19–19 in section 12.4.1 of EPA Method 19 of appendix A–7 of 40 CFR part 60. Existing facilities electing to use CO CEMS as an optional method would be required to notify EPA 1 month before starting use of CO CEMS and 1 month before stopping use of the CO CEMS. In addition, EPA specifically requests comment on whether continuous monitoring of CO emissions should be required for all existing SSI.

PM CEMS. The proposed rules would allow the use of PM CEMS as an alternative testing and monitoring method. Owners or operators who choose to rely on PM CEMS would be able to discontinue their annual PM compliance test. In addition, because units that demonstrate compliance with the PM emission limits with a PM CEMS would also be meeting the opacity standard, compliance demonstration with PM CEMS would be

considered a substitute for opacity testing or opacity monitoring. Owners and operators who use PM CEMS also would be able to discontinue their monitoring of ESP and scrubbers used to comply with the PM emission limit for the following operating parameters: Wet scrubber pressure drop, scrubber liquor flow rate, scrubber liquor pH, secondary voltage of ESP collection plates, secondary amperage of ESP collection plates, effluent water flow rate at the outlet of the ESP, and opacity monitoring or testing to demonstrate continuous compliance with the opacity limits. These operating parameters may still need to be monitored to demonstrate compliance for other pollutants (*e.g.,* HCl). These parameter monitoring requirements were designed to ensure the scrubber continues to operate in a manner that reduces PM emissions and would not be necessary if PM is directly measured on a continuous basis. The proposed amendments incorporate the use of PS–11 (Specifications and Test Procedures for Particulate Matter Continuous Emissions Monitoring Systems at Stationary Sources) of appendix B of 40 CFR part 60 for PM CEMS and PS–11 QA Procedure 2 to ensure that PM CEMS are installed and operated properly and produce good quality monitoring data.

The proposed PM emission limits are based on data from (normally distributed or transferred to be normally distributed) annual stack tests and compliance would generally be demonstrated by stack tests. The use of PM CEMS for measurement and enforcement of the same stack test-based emission limits must be carefully considered in relation to an appropriate averaging period for data reduction. Because PM CEMS data are unavailable for SSI, EPA is proposing that the use of a 24-hour block average is appropriate to address potential changes in PM emissions that cannot be accounted for with short term stack test data. The 24-hour block average would be calculated using Equation 19–19 in section 12.4.1 of EPA Method 19 of appendix A–7 of 40 CFR part 60. An owner or operator of a SSI unit who wishes to use PM CEMS would be required to notify EPA 1 month before starting use of PM CEMS and 1 month before stopping use of the PM CEMS.

Other CEMS and Monitoring Systems. EPA also is proposing the optional use of NO_X CEMS, SO_2 CEMS, HCl CEMS, multi-metals CEMS, Hg CEMS, CDD/CDF CEMS, ISTMMS, and ISTDMS as alternatives to the existing monitoring methods for demonstrating compliance with the NO_X, SO_2, HCl, Pb, Cd and Hg, and CDD/CDF emission limits. Because CEMS data for SSI are unavailable for all subcategories for NO_X, SO_2, HCl and metals, EPA concluded that the use of a 24-hour block average was appropriate to address potential changes in emissions of NO_X, SO_2, HCl and metals that cannot be accounted for with short term stack test data. EPA has concluded that the use of 24-hour block averages would be appropriate to address emissions variability, and EPA has included the use of 24-hour block averages in the proposed rule. The 24-hour block averages would be calculated using Equation 19–19 in section 12.4.1 of EPA Method 19 of appendix A of 40 CFR part 60. The proposed amendments incorporate the use of PS–2 of appendix B of 40 CFR part 60 for NO_X and SO_2 CEMS. Although final PS are not yet available for HCl CEMS and multi-metals CEMS, EPA is considering development of PS. The proposed rule specifies that these options would be available to a facility on the date a final PS is published in the **Federal Register**.

The use of HCl CEMS would allow the discontinuation of monitoring of the following operating parameters associated with scrubbers used to comply with the HCl emission limits: scrubber liquor flow rate, scrubber liquor pH, pressure drop across the scrubber (or amperage to the scrubber), and the annual testing requirements for HCl. However, some of these monitoring parameters may still be necessary to demonstrate compliance with other pollutant emission limits. These parameter monitoring requirements were designed to ensure the scrubber continues to operate in a manner that reduces HCl emissions and would not be necessary if HCl emissions are directly measured on a continuous basis. EPA has proposed PS–13 (Specifications and Test Procedures for Hydrochloric Acid Continuous Monitoring Systems in Stationary Sources) of appendix B of 40 CFR part 60 and expects that PS–13 can serve as the basis for HCl CEMS use at SSI. The procedures used in proposed PS–13 for the initial accuracy determination use the relative accuracy test, a comparison against a reference method. EPA is taking comment on an alternate initial accuracy determination procedure, similar to the one in section 11 of PS–15 (Performance Specification for Extractive FTIR Continuous Emissions Monitor Systems in Stationary Sources) of appendix B of 40 CFR part 60 using the dynamic or analyte spiking procedure.

EPA believes multi-metals CEMS can be used in many applications, including SSI. EPA has monitored side-by-side evaluations of multi-metals CEMS with EPA Method 29 of appendix A–8 of 40 CFR part 60 at industrial waste incinerators and found good correlation. EPA also approved the use of multi-metals CEMS as an alternative monitoring method at hazardous waste combustors. EPA believes that proposed PS–10 (Specifications and Test Procedures for Multi-metals Continuous Monitoring Systems in Stationary Sources) of appendix B of 40 CFR part 60 or other EPA PS to allow the use of multi-metals CEMS at SSI is an appropriate alternative. We request comment on the appropriateness of using multi-metals CEMS as a substitute for Cd and Pb performance testing. The procedures used in proposed PS–10 for the initial accuracy determination use the relative accuracy test, a comparison against a reference method. EPA is taking comment on an alternate initial accuracy determination procedure, similar to the one in section 11 of PS–15 using the dynamic or analyte spiking procedure.

EPA proposes the optional use of Hg CEMS (Performance Specification 12A—Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Emissions Monitoring Systems in Stationary Sources) or ISTMMS (Performance Specification 12B—Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Emissions Monitoring Systems from Stationary Sources Using a Sorbent Trap Monitoring System or Appendix K of part 75).[16] An owner or operator of a SSI unit who wishes to use any CEMS or CASS would be required to notify EPA 1 month before starting use of the CEMS or CASS and 1 month before stopping use of the CEMS or CASS. The source would also have to perform the annual performance test within 60 days of ceasing to use the CEMS or CASS for compliance with the standard. Mercury sorbent flow rate and carrier gas flow rate (or carrier gas pressure drop) monitoring could be eliminated in favor of a multi-metals CEMS or Hg CEMS; however CDD/CDF sorbent flow rate and carrier gas monitoring would still be required as an indicator of CDD/CDF

[16] EPA originally added PS–12A and PS–12B to Part 75 as part of the Clean Air Mercury Rule (CAMR). The United States Court of Appeals for the District of Columbia Circuit vacated CAMR on grounds unrelated to the PS. *New Jersey* v. *EPA;* 517 F.3d 574 (DC Cir. 2008). The Court's decision did not, in any way, address the appropriateness of the procedures set forth in Appendix K. In 2009, as part of the Portland Cement MACT, EPA proposed amending part 75 to add PS–12A and PS–12B. EPA currently intends to finalize those specifications at the same time it takes final action on the Portland cement MACT rule.

control if ISTDMS or CDD/CDF CEMS are not used.

The ISTMMS would entail use of a CASS with analysis of the samples at set intervals using any suitable determinative technique that can meet appropriate criteria. The option to use a CASS would take effect on the date a final PS is published in the **Federal Register**. As with Hg and multi-metal CEMS, use of integrated sorbent trap monitoring would eliminate the requirement to monitor Hg sorbent injection rate but would not eliminate the requirement to monitor CDD/CDF sorbent injection rate because it also is an indicator of CDD/CDF control.

The ISTDMS would entail use of a CASS and analysis of the sample according to EPA Reference Method 23 of appendix A–7 of 40 CFR part 60. The option to use a CASS would take effect on the date a final PS is published in the **Federal Register**. Dioxin/furan sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) monitoring and CDD/CDF annual testing could be eliminated in favor of ISTDMS, but Hg sorbent injection rate monitoring would not be eliminated because it also is an indicator of Hg control.

If integrated sorbent trap monitoring of CDD/CDF as well as multi-metals CEMS, Hg CEMS, or ISTMMS are used, both Hg sorbent injection rate monitoring and CDD/CDF sorbent injection rate monitoring could be eliminated. These parameter monitoring requirements were designed to ensure that control devices continue to be operated in a manner to reduce CDD/CDF, metals and Hg emissions, and corresponding monitoring is not needed if all of these pollutants are directly measured on an ongoing basis. EPA requests comment on other parameter monitoring requirements that could be eliminated upon use of any or all of the optional CEMS and CASS discussed above. Table 10 of this preamble presents a summary of the SSI operating parameters, the pollutants influenced by each parameter and alternative monitoring options for each parameter.

TABLE 10—SUMMARY OF SSI OPERATING PARAMETERS AND CONTROL DEVICE INSPECTIONS, POLLUTANTS INFLUENCED BY EACH PARAMETER AND ALTERNATIVE MONITORING OPTIONS FOR EACH PARAMETER

Operating parameter (control device type associated with monitoring requirement)	Pollutants influenced by operating parameter/control device	Alternative monitoring options
Sludge feed rate (All)	All	None.
Sludge moisture level (All)	All	None.
Temperature of combustion chamber (or afterburner combustion chamber) (All).	All	None.
CDD/CDF sorbent flow rate (Activated carbon injection) Carrier gas flow rate or carrier gas pressure drop (Activated carbon injection using CDD/CDF sorbent).	CDD/CDF	ISTDMS or CDD/CDF CEMS.
Hg sorbent flow rate (Activated carbon injection) Carrier gas flow rate or carrier gas pressure drop (Activated carbon injection using Hg sorbent).	Hg	ISTMMS, Hg CEMS, or multi-metals CEMS.
Scrubber pressure drop from each scrubber (Wet scrubber)	PM, Cd, Pb	PM CEMS, Pb CEMS, or Cd CEMS.
Scrubber liquor flow rate from each scrubber (Wet scrubber)	PM, Cd, Pb	PM CEMS, multi-metals CEMS, Cd CEMS, or Pb CEMS.
Scrubber liquor flow rate from each scrubber (Wet scrubber)	HCl, SO_2	HCl CEMS or SO_2 CEMS.
Scrubber liquor pH from each scrubber (Wet scrubber) Secondary voltage and secondary amperage of collection plates (All ESP). Effluent flow rate (Wet ESP).	HCl, SO_2 PM, Cd, Pb, Hg	HCl CEMS or SO_2 CEMS. PM CEMS, Pb CEMS, or Cd CEMS.
Temperature of afterburner	CO	None.
Bag leak detection monitoring system alarm time (FF)	PM, Cd, Pb, Hg	None.
Air pollution control device inspections	All	None.
Time of visible emissions from ash handling	PM	None.
Opacity from combustion stacks	PM	PM CEMS or COMS (only if wet scrubber is not used).

Table 11 of this preamble presents a summary of the SSI test methods and approved alternative compliance methods.

TABLE 11—SUMMARY OF SSI TEST METHODS AND APPROVED ALTERNATIVE TEST METHODS

Pollutant/parameter	Test Methods [1]	Approved Alternative methods [1]	Comments
Cd	Method 29 at 40 CFR part 60, appendix A–8.	Cd CEMS or Multi-metals CEMS	Cd CEMS or multi-metal CEMS are optional for all sources in lieu of annual Cd test.
CDD/CDF	Method 23 at 40 CFR part 60, appendix A–7.	ISTDMS	ISTDMS are optional for all sources in lieu of annual CDD/CDF testing.
CO	CO CEMS (new sources) and Method 10, 10A, or 10B at 40 CFR part 60 appendix A–4.	CO CEMS (for existing sources)	CO CEMS are optional for existing sources in lieu of annual CO test; CO CEMS are required for new sources.
Flue and exhaust gas analysis.	Method 3A or 3B at 40 CFR part 60, appendix A–2.	ASME PTC 19.10–1981 part 10	
HCl	Method 26 or Method 26A at 40 CFR part 60, appendix A–8.	HCl CEMS	HCl CEMS are optional for all sources in lieu of annual HCl test.
Hg	Method 29 at 40 CFR part 60, appendix A–8.	Method 30B at 40 CFR part 60, appendix A (when published in the Federal Register); Multi-metals CEMS; Hg CEMS (PS–12A); ISTMMS (PS–12B of Appendix B of part 75); or ASTM D6784–02, Standard Test Method for Elemental Oxidized, Particle Bound and Total Mercury in Flue Gas Generated from Coal-fired Stationary Sources (Ontario Hydro Method).	Multi-metal CEMS, Hg CEMS, or ISTMMS are optional for all sources in lieu of annual Hg test.
NO_X	Method 7 or 7E at 40 CFR part 60, appendix A–4.	NO_X CEMS	NO_X CEMS are optional for all sources in lieu of annual NO_X test.
Opacity	Method 9 of 40 CFR part 60, appendix A–4.	PM CEMS, COMS	PM CEMS and COMS are optional for all sources in lieu of annual opacity testing.
Pb	Method 29 at 40 CFR part 60, appendix A–8.	Pb CEMS or Multi-metals CEMS	PB CEMS or multi-metal CEMS are optional for all sources in lieu of annual Pb test.
PM	Method 5, at 40 CFR part 60, appendix A–3; Method 26A or 29 at 40 CFR part 60, appendix A–8.	PM CEMS	PM CEMS are optional for all sources in lieu of annual PM test required.
PM, Pb, Cd, Hg	Bag leak detection system or PM CEMS.		Bag leak detection systems are required for units equipped with FF.
SO_2	Method 6 or Method 6C at 40 CFR part 60, appendix A–4.	HCl CEMS	SO_2 CEMS are optional for all sources in lieu of annual SO_2 test.
Visible emissions of fugitive ash.	Method 22 of appendix A–7 of this part.	None	

[1] EPA Reference Methods in appendix A of 40 CFR part 60.

This proposal contains no specific data availability requirements for continuous monitoring systems. Generally, monitoring must be conducted and emissions data must be collected at all times the SSI unit is operating, except for periods of monitoring system malfunction, repairs associated with monitoring system malfunction, and required monitoring system quality assurance or quality control activities. We seek comment on approaches to provide this data, *e.g.,* redundant CEMS, prescribed missing data procedures, owner- or operator-developed missing data procedures, or parametric monitoring. EPA is considering changing the averaging times for all CEMS and CASS from 24-hour block averages to 12-hour rolling averages to be consistent with the averaging times of the PS tests. We are requesting comment on the change. Additionally, we seek comment on the proposed 4-hour rolling averaging time for compliance with operating limits.

The proposed rules would require repeat performance tests and updates to the monitoring plan if any of the following process changes occur: (1) A change in the process employed at the wastewater treatment facility that affects the SSI unit, (2) a change in the air pollution control devices used to comply with the emission limits and (3) an increase in the allowable wastewater received from an industrial source to the wastewater treatment facility. We are requesting comment on these requirements and on the designation of what a process change is at a SSI unit.

The OW 503 standards allow compliance demonstration by analyzing the pollutant concentration in the sludge ensuring the concentrations are sufficiently low that emission limits may be met. We request comment on whether facilities should be allowed to comply with the EG and NSPS based on monitoring the content of the sludge entering the SSI unit.

In previous CAA section 129 standards, a waste management plan was required to identify both the feasibility and the approach to separating certain components of solid waste from the waste stream to reduce the amount of toxic emissions from incinerated waste. Elements of the waste management plan included identifying reasonably available additional waste management measures, the cost and emission reductions of the additional measures and other associated environmental or energy impacts.

As previously discussed, all SSI units are required to meet the EPA's OW part 503 standards. Part 503 establishes daily average concentration limits for Pb, Cd

and other metals in sewage sludge that is disposed of by incineration. Part 503 also requires that SSI units meet the National Emission Standards for Beryllium and Mercury in subparts C and E, respectively, of 40 CFR part 61. In order to meet the 40 CFR part 503 standards, facilities are already incorporating management practices and measures to reduce waste and limit the concentration of pollutants in the sludge sent to SSI units, such as segregating contaminated and uncontaminated wastes and establishing discharge limits or pre-treatment standards for non-domestic users discharging wastewater to POTW. We are requesting comment on the need for a waste management plan for SSI units in the promulgated rules.

F. Rationale for Recordkeeping and Reporting Requirements

Section 129 of the CAA requires the EPA to develop regulations that include requirements for reporting the results of testing and monitoring performed to determine compliance with the standards and guidelines. The requirements must specify the form and frequency of the reports demonstrating compliance. If there are no exceedances, compliance reports are submitted annually. However, if there is an exceedance, reports showing the exceedance of any standard or guideline must be submitted separately for review and potential enforcement action. Copies of testing and monitoring results must be maintained on file at the affected facility. Other types of records are necessary to ensure that all provisions of the standards or guidelines are being met. Examples include siting analyses and operator training and qualification records.

G. Rationale for Operator Training and Qualification Requirements

The proposed standards and guidelines include operator training and qualification requirements for SSI unit operators. These requirements provide flexibility by allowing State approved training and qualification programs. Where there are no State approved programs, the proposed regulations include minimum requirements for training and qualification. The minimum requirements include completion of a training course covering specified topics.

In developing these requirements, training and qualification programs currently proposed or promulgated for other types of solid waste incineration units were reviewed to develop requirements appropriate for the SSI source category.

H. Rationale for Siting Requirements

Section 129 of the CAA states that performance standards for new solid waste incineration units must incorporate siting requirements that minimize, on a site-specific basis and to the maximum extent practicable, potential risks to public health or the environment. In accordance with section 129, the EPA is proposing site selection criteria for SSI units that commence construction on or after the date of proposal of this rule (*i.e.,* "new" units). The siting requirements would not apply to existing SSI units.

The siting requirements in this proposal would require the owner or operator of a new unit to prepare an analysis of the impacts of the new unit. The owner or operator must consider air pollution control alternatives that minimize, on a site-specific basis, to the maximum extent practicable, potential risks to public health or the environment. In considering such alternatives, the owner or operator may consider costs, energy impacts, nonair environmental impacts, or any other factors related to the practicability of the alternatives. To avoid duplication, analyses of facility impacts prepared to comply with State, local, or other Federal regulatory requirements may be used to satisfy this requirement, provided they include the consideration of air pollution control alternatives specified previously. Such State, local, or Federal requirements may include, but are not limited to, State-specific criteria or national criteria established by the National Environmental Policy Act or new source review permitting requirements. The owner or operator must submit the siting information to EPA prior to commencing construction of the facility.

I. What are the SSM provisions?

The United States Court of Appeals for the District of Columbia Circuit vacated portions of 2 provisions in EPA's CAA section 112 regulations governing the emissions of HAP during periods of SSM. *Sierra Club* v. *EPA,* 551 F.3d 1019 (DC Cir. 2008), cert. denied, 130 S. Ct. 1735 (U.S. 2010). Specifically, the Court vacated the SSM exemption contained in 40 CFR 63.6(f)(1) and 40 CFR 63.6(h)(1), (the "General Provisions Rule,") that EPA promulgated under section 112 of the CAA. When incorporated into CAA section 112(d) regulations for specific source categories, these 2 provisions exempt sources from the requirement to comply with the otherwise applicable CAA section 112(d) emission standard during periods of SSM. The Court found that the definition of "emission standards," which appears at 42 U.S.C. 7602(k), and which applies equally to sections 112 and 129, requires EPA to apply MACT emissions standards on a continuous basis, thereby precluding exemptions applied for malfunctions or other singular events.[17] Thus, the legality of source category-specific SSM exemptions in rules promulgated pursuant to section 129 is questionable. Therefore, consistent with *Sierra Club* v. *EPA,* EPA is proposing that the standards in this rule apply at all times. EPA has attempted to ensure that we have not incorporated into proposed regulatory language any provisions that are inappropriate, unnecessary, or redundant in the absence of a SSM exemption. We are specifically seeking comment on whether there are any such provisions that we have inadvertently incorporated or overlooked. If we receive relevant data that would warrant different standards, we may set those standards in the final rule.

We note that the General Provisions of 40 CFR part 60 include provisions that are inconsistent with the proposed requirement that the SSI emissions standards apply at all times. For example, the General Provisions states that exceedances during periods of startup, shutdown, and malfunction are generally not considered violations of the standards.[18] To avoid confusion between the General Provisions and the SSI emissions regulations, we are proposing that, in circumstances where the requirements of the General Provisions are inconsistent with the requirements of the SSI emissions regulations, the provisions in the SSI regulations will control.

In establishing the standards in this rule, EPA has taken into account startup and shutdown periods and, for the reasons explained below, has not established different standards for those periods.

We are not proposing a separate emission standard for the source category that applies during periods of startup and shutdown. Based on the information available at this time, we believe that SSI units will be able to meet the emission limits during periods of startup. Units we have information on use natural gas, landfill gas, or distillate oil to start the unit and add waste once the unit has reached combustion temperatures. Emissions from burning natural gas, landfill gas or distillate fuel oil are expected to generally be lower than from burning solid wastes. Emissions during periods of shutdown

[17] 551 F.3d at 1027.

[18] *See* 40 CFR 60.8(c).

are also generally lower than emissions during normal operations because the materials in the incinerator would be almost fully combusted before shutdown occurs. Furthermore, the approach for establishing MACT floors for SSI units ranked individual SSI units based on actual performance for each pollutant and subcategory, with an appropriate accounting of emissions variability. Because we accounted for emissions variability, we believe we have adequately addressed any minor variability that may potentially occur during startup or shutdown.

Periods of startup, normal operations, and shutdown are all predictable and routine aspects of a source's operations. However, by contrast, malfunction is defined as a "sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment or a process to operate in a normal or usual manner * * *" (40 CFR 63.2). EPA has determined that malfunctions should not be viewed as a distinct operating mode and, therefore, any emissions that occur at such times do not need to be factored into development of CAA section 129 standards, which, once promulgated, apply at all times. It is reasonable to interpret section 129 as not requiring EPA to account for malfunctions in setting emissions standards. For example, we note that section 129 uses the concept of "best performing" sources in defining MACT, the level of stringency that major source standards must meet. Applying the concept of "best performing" to a source that is malfunctioning presents significant difficulties. The goal of best performing sources is to operate in such a way as to avoid malfunctions of their units.

Moreover, even if malfunctions were considered a distinct operating mode, we believe it would be impracticable to take malfunctions into account in setting CAA section 129 standards for SSI. As noted above, by definition, malfunctions are sudden and unexpected events, and it would be difficult to set a standard that takes into account the myriad different types of malfunctions that can occur across all sources in the category. Moreover, malfunctions can vary in frequency, degree, and duration, further complicating standard setting.

For the SSI standards, malfunctions are required to be reported in deviation reports. We will then review the deviation reports to determine if the deviation is a violation of the standards.

In the event that a source fails to comply with the applicable CAA section 129 standards as a result of a malfunction event, 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. EPA would also consider whether the source's failure to comply with the CAA section 129 standard was, in fact, "sudden, infrequent, not reasonably preventable" and was not instead "caused in part by poor maintenance or careless operation."[19]

Moreover, EPA recognizes that even equipment that is properly designed and maintained can fail and that such failure can sometimes cause an exceedance of the relevant emission standard.[20] EPA is therefore proposing to add to the final rule an affirmative defense to civil penalties for exceedances of emission limits that are caused by malfunctions.[21] We also added other regulatory provisions to specify the elements that are necessary to establish this affirmative defense; the source must prove by a preponderance of the evidence that it has met all of the elements set forth in 40 CFR 60.4860 and in 40 CFR 60.5180. The criteria ensure that the affirmative defense is available only where the event that causes an exceedance of the emission limit meets the narrow definition of malfunction in 40 CFR 60.2 (sudden, infrequent, not reasonable preventable and not caused by poor maintenance and or careless operation). The criteria also are designed to ensure that steps are taken to correct the malfunction, to minimize emissions in accordance with section 40 CFR part 60 subpart LLLL and 40 CFR part 60 subpart MMMM and to prevent future malfunctions. In any judicial or administrative proceeding, the Administrator may challenge the assertion of the affirmative defense and, if the respondent has not met its burden of proving all of the requirements in the affirmative defense, appropriate penalties may be assessed in accordance with section 113 of the Clean Air Act (see also 40 CFR Part 22.77).

[19] 40 CFR 60.2 (definition of malfunction).

[20] See, *e.g.,* State Implementation Plans: Policy Regarding Excessive Emissions During Malfunctions, Startup, and Shutdown (Sept. 20, 1999); Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions (Feb. 15, 1983).

[21] See proposed definition 40 CFR 60.4930 and 40 CFR 60.5250 (defining "affirmative defense" to mean, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding).

J. Delegation of Authority To Implement and Enforce These Provisions

We are proposing a section on delegation of authority to clarify which authorities can be delegated or transferred to State, local, and tribal air pollution control agencies in this rulemaking and which are retained by EPA. For previous rules, there has been some confusion about what authority can be delegated to and exercised by State, local, and tribal air pollution control agencies and what authority must be retained by EPA. In some cases, State, local, and tribal air pollution control agencies were making decisions, such as allowing waivers of some provisions of this subpart, which cannot be delegated to those agencies.

In the proposed SSI NSPS, the authorities that would be retained by EPA are listed in 40 CFR 60.4785 of subpart LLLL. They include authorities that must be retained by EPA for all NSPS: Approval of alternatives to the emission limits, approval of major alternatives to test methods, or monitoring and approval of major alternatives to recordkeeping and reporting. The list also specifically includes establishment of operating limits for control devices other than those listed in the rule per proposed 40 CFR 60.4855; and review of status reports submitted when no qualified operators are available per proposed 40 CFR 60.4835(b)(2). It also includes the approval of performance test and data reduction waivers under 40 CFR 60.8(b) and preconstruction siting analysis in proposed 40 CFR 60.4800. These authorities may affect the stringency of the emission standards or limitations, which can only be amended by Federal rulemaking; thus they cannot be transferred to State, local, or tribal air pollution control agencies. We are also including 40 CFR 60.5050 in the proposed EG to make the provisions regarding the implementation and enforcement authorities in both subparts LLLL and MMMM consistent. We are seeking comment on whether these or other authorities should be retained by EPA or delegated to State, local, or tribal air pollution control agencies.

K. State Plans

We are proposing regulatory language to clarify how states and eligible tribes can fulfill their obligation under CAA section 129 (b)(2) in lieu of submitting a State plan for review and approval. We are adding proposed 40 CFR 60.5045 that will clarify how states and eligible tribes can fulfill the obligation under

CAA section 129 (b)(2) by submitting an acceptable, as specified in 40 CFR 60.2541, written request for delegation of the Federal plan. Proposed 40 CFR 60.5045 lists specific requirements, such as a demonstration of adequate resources and legal authority to implement and enforce the Federal plan, that must be met in order to receive delegation of the Federal plan. We are seeking comment on this provision.

V. Impacts of the Proposed Action

A. Impacts of the Proposed Action for Existing Units

1. What are the primary air impacts?

We have estimated the potential emission reductions that may be realized through implementation of the proposed emission limits. Table 12 of this preamble summarizes the emission reductions for MACT compliance for each pollutant. The analysis is documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units."

TABLE 12—PROJECTED EMISSION REDUCTIONS FOR EXISTING SSI UNITS IF ALL ENTITIES COMPLY WITH THE PROPOSED EMISSION LIMITS

Pollutant	Reductions achieved through meeting MACT by subcategory (TPY)		Total reductions (TPY)
	Fluidized bed	Multiple hearth	
Cd	0.0010	1.4	1.4
CDD/CDF TEQ	0.0000065	0.0000013	0.0000078
CDD/CDF TMB	0.000079	0.000020	0.000099
CO	0	0	0
HCl	1.5	92	93
Hg	0.058	2.7	2.7
NO_X	0	4.3	4.3
Pb	0.0053	2.6	2.6
PM	41	278	319
SO_2	60	2,100	2,200
Total	102	2,510	2,610

2. What are the water and solid waste impacts?

We anticipate affected sources would need to apply additional controls to meet the proposed emission limits. These controls may utilize water, such as wet scrubbers, which would need to be treated. We estimate an annual requirement of 346 million gallons per year of additional wastewater would be generated as a result of operating additional controls or increased sorbents.

Likewise, the addition of PM controls or improvements to controls already in place would increase the amount of particulate collected that would require disposal. Furthermore, activated carbon injection may be utilized by some sources, which would result in additional solid waste needing disposal. The annual amounts of solid waste that would require disposal are anticipated to be approximately 364 TPY from PM capture and 11,400 TPY from activated carbon injection. The analysis is documented in the memorandum "Secondary Impacts for the Sewage Sludge Incineration Source Category."

3. What are the energy impacts?

The energy impacts associated with meeting the proposed emission limits would consist primarily of additional electricity needs to run added or improved air pollution control devices. For example, increased scrubber pump horsepower may cause slight increases in electricity consumption; sorbent injection controls would likewise require electricity to power pumps and motors. We anticipate that an additional 33,800 megawatt-hours per year would be required for the additional and improved control devices. The analysis is documented in the memorandum "Secondary Impacts for the Sewage Sludge Incineration Source Category."

4. What are the secondary air impacts?

For SSI units adding controls to meet the proposed emission limits, we anticipate very minor secondary air impacts. The combustion of fuel needed to generate additional electricity would yield slight increases in emissions, including NO_X, CO, PM and SO_2 and an increase in CO_2 emissions. Since NO_X and SO_2 are covered by capped emissions trading programs, and methodological limitations prevent us from quantifying the change in CO and PM, we do not estimate an increase in secondary air impacts for this rule from additional electricity demand.

5. What are the cost and economic impacts?

We have estimated compliance costs for all existing units to add the necessary controls, monitoring equipment, inspections, recordkeeping, and reporting requirements to comply with Option 2 (*i.e.,* the proposed SSI standards). Based on this analysis, we anticipate an overall total capital investment of $225 million with an associated total annualized cost of $105 million, in 2008 dollars (and using a discount rate of 7 percent), as shown in Table 13 of this preamble. We anticipate that owner/operators will need to install 1 or more air pollution control devices for 214 of the 218 affected units to meet the proposed emission limits. We are requesting comment on whether there are space constraints at wastewater treatment facilities that would affect the feasibility and cost of installing air pollution control devices. The analysis is documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units."

TABLE 13—SUMMARY OF COSTS FOR EXISTING SSI IF ALL ENTITIES COMPLY WITH PROPOSED EMISSION LIMITS

[Millions of 2008$]

Subcategory	Capital cost ($ million)	Annualized cost ($ million/yr) [a]
Fluidized Bed	86.7	32.3
Multiple Hearth	138.0	72.7
Total	224.7	105.0

[a] Calculated using a discount factor of 7 percent.

Analysis of Alternative Sewage Sludge Disposal. We have also evaluated the possibility that existing SSI owners would dispose of sewage sludge through alternative methods rather than incineration, such as landfilling, land application, or sending sewage sludge to another SSI unit. The alternative method we analyzed was landfilling, which is generally more expensive than land application, but would provide a more conservative estimate of the cost of alternative disposal.

We conducted this analysis by determining the cost of landfilling and then subtracting the existing cost of operating the SSI unit (because this cost would no longer be incurred). The cost of landfilling sewage sludge included landfill tipping fees as well as transportation costs. The cost of storing dewatered sewage sludge on-site for up to four days was also included in the landfilling cost. Sewage sludge incineration unit operating costs were obtained from ICR questionnaires sent to 9 facilities. These costs are discussed in more detail in the memorandum "Cost and Emission Reduction of the MACT Floor Level of Control," which is in the SSI docket. We request comment on the assumptions and cost estimates used for the landfilling option. The results of the analysis shows that, for most facilities, landfilling sewage sludge is a more economically advantageous disposal option than continuing to operate their SSI unit. It was assumed that smaller sources presented with the option of applying MACT controls or landfilling would select landfilling because the analysis shows a cost savings, even when not considering the additional cost of MACT controls. If the cost of the MACT controls were also included, it would be even more advantageous to landfill.

However, there are several uncertainties with the analysis that may significantly impact the results. These include:

- The operating cost information was based on only the 9 ICR respondents, which are larger units. Smaller units may have lower or different operating costs that are not captured in the operating cost factors or different capacity utilizations or operating hours.
- For some SSI units, the nearest landfill accepting sewage sludge may be farther than assumed in the analysis.

To confirm the results of the analysis, we contacted 9 owners of wastewater treatment facilities that would be considered small entities, that is, the population of the municipalities or regional authorities that own the facility were less than or equal to 50,000 people. We also reviewed company Web sites for other small entities to find the status of the SSI units. The results of the data collection showed that the majority of small entities have shut down their SSI unit and are either land applying or landfilling. Others are planning on landfilling in the future. The data collection, as well as the cost estimate for the landfilling option is discussed in the memorandum, "Cost and Emission Reduction of the MACT Floor Level of Control."

While we are able to confirm this analysis for smaller entities, we were unable to conduct it for larger entities. We also believe that facilities that use larger SSI units may have more difficulty in landfilling sewage sludge due to potential capacity issues at landfills. This may result in higher tipping fees and transportation costs to find landfills with available capacity. As a result of these concerns, we do not believe that larger entities would necessarily find it more advantageous to landfill sewage sludge.

We believe that smaller entities (*i.e.,* with populations less than 50,000 people) are likely to landfill. This would result in lowered costs of compliance with the MACT for existing sources, as well as minor changes in the emission reductions achieved. We also believe that based on our estimates there will be no increased cost to small entities using this alternative option. However, it does not change the result that option 2 (MACT floor levels plus meeting the beyond-the-floor Hg limit of 0.02 mg/dscm) would be appropriate due to the significant Hg emissions reductions that would still occur for larger sources. The analysis is documented in the memorandum "Analysis of Beyond the Maximum Achievable Control Technology (MACT) Floor Controls for Existing SSI Units."

Table 14 of this preamble summarizes the costs associated with small entities landfilling and large entities complying with the MACT control levels. For the option selected, we estimate that 196 (90%) of the affected units will need to install 1 or more air pollution control devices.

TABLE 14—SUMMARY OF COSTS FOR EXISTING SSI UNITS IF LARGE ENTITIES COMPLY WITH THE PROPOSED EMISSION LIMITS AND SMALL ENTITIES UTILIZE ALTERNATIVE DISPOSAL (i.e., LANDFILL)

[Millions of 2008$]

Subcategory	Capital cost ($ million)	Annualized cost ($ million/yr) [a]
Fluidized Bed	70.0	26.2
Multiple Hearth	130.9	62.5
Total	200.9	88.7

[a] Calculated using a discount factor of 7 percent.

We have estimated the potential emission reductions that may be realized through implementation of the proposed emission limits. For the case where small entities choose to landfill, some emission reductions are offset by emissions resulting from hauling, landfill gas generation, and flaring. The estimation of these emissions is documented in the memorandum "Cost and Emission Reduction of the MACT Floor Level of Control." Emissions from landfilling are subtracted from the total reductions resulting from units complying or shutting down. Table 15 of this preamble summarizes the net emission reductions for each pollutant.

TABLE 15—PROJECTED EMISSION REDUCTIONS FOR EXISTING SSI IF LARGE ENTITIES COMPLY WITH THE EMISSION LIMITS AND SMALL ENTITIES UTILIZE ALTERNATIVE DISPOSAL (i.e., LANDFILL)

Pollutant	Reductions achieved through meeting MACT by subcategory (TPY)		Emissions from hauling (TPY)	Emissions from landfill and flare (TPY)	Total reductions (TPY)
	Fluidized bed	Multiple hearth			
Cd	0.0028	1.55	0	0	1.6
CDD/CDF TEQ	0.0000065	0.0000013	0	0	0.0000078
CDD/CDF TMB	0.000080	0.000020	0	0	0.000099
CO	19	3,100	6.0	240	2,900
HCl	1.8	95	0	0.38	96
Hg	0.061	2.7	0	0.00000023	2.8
Pb	0.15	3.0	0	0	3.0
PM	43	350	1.3	0.90	390
NO_X	53.0	794	22	2.1	823
SO_2	77	2,200	0.052	0.75	2,300
Total	190	6,410	30	244	6,330

With respect to water and solid waste impacts in the case where large entities comply and small entities landfill, we estimate an annual requirement of 319 million gallons per year of additional wastewater would be generated as a result of operating additional controls or increased sorbents for the units that add controls to comply with the rule. Additionally, the annual amounts of solid waste that would require disposal are anticipated to be approximately 324 TPY from PM capture and 10,000 TPY from activated carbon injection. The largest impact on solid waste, however, would come from small entities choosing to discontinue the use of their SSI and instead send the waste to a landfill. We estimate approximately 359,000 TPY of waste would be diverted to landfills. The analysis is documented in the memorandum "Secondary Impacts for the Sewage Sludge Incineration Source Category." We request comment on whether landfilling is more advantageous environmentally than the incineration of sewage sludge.

As described in section V.A.3 of this preamble, the energy impacts associated with meeting the proposed emission limits would consist primarily of additional electricity needs to run added or improved air pollution control devices. For the scenario where only large entities comply, we anticipate that an additional 29,200 megawatt-hours per year would be required for the additional and improved control devices. The analysis is documented in the memorandum "Secondary Impacts for the Sewage Sludge Incineration Source Category."

For SSI units adding controls to meet the proposed emission limits, we anticipate very minor secondary air impacts. As previously noted, in the case where small entities choose to landfill, there would be additional air impacts due to emissions generated by trucks hauling waste and emissions from landfill gas and flaring. Table 16 of this preamble summarizes the estimated results.

TABLE 16—SUMMARY OF SECONDARY IMPACTS FOR EXISTING SOURCES IF LARGE ENTITIES COMPLY WITH THE PROPOSED EMISSION LIMITS AND SMALL ENTITIES UTILIZE ALTERNATIVE DISPOSAL (i.e., LANDFILL)

Pollutant	Secondary air impacts from diverting SSI waste to landfills (TPY)		Total secondary impacts (ton/yr)
	Waste-hauling vehicles	Landfill gas and flare	
Cd	—	—	—
CDD/CDF, TEQ	—	—	—
CO	6.03	240.2	246.23
HCl	—	0.38	0.38
Hg	—	0.000000233	0.000000233
NO_X	21.84	2.11	23.95
Pb	—	—	—
PM	1.30	0.90	2.20
$PM_{2.5}$	1.12	—	1.12
SO_2	0.05	0.75	0.80

TABLE 16—SUMMARY OF SECONDARY IMPACTS FOR EXISTING SOURCES IF LARGE ENTITIES COMPLY WITH THE PROPOSED EMISSION LIMITS AND SMALL ENTITIES UTILIZE ALTERNATIVE DISPOSAL (i.e., LANDFILL)—Continued

Pollutant	Secondary air impacts from diverting SSI waste to landfills (TPY)		Total secondary impacts (ton/yr)
	Waste-hauling vehicles	Landfill gas and flare	
Total	30.35	244.3	274.65

Because the proposed regulatory option affects governmental entities (96 of the 97 owners are governmental entities) providing services not provided in a market, the economic analysis focused on the comparison of control cost to total governmental revenue. (*See* Table 17 of this preamble.) Table 17 sets forth the overall costs to large and small municipalities and shows that there will be no increased costs to small municipalities and a net, relatively small, increase for large municipalities.

TABLE 17—REVENUE TESTS FOR GOVERNMENT ENTITIES IF LARGE ENTITIES COMPLY WITH THE EMISSION LIMITS AND SMALL ENTITIES UTILIZE ALTERNATIVE DISPOSAL (i.e., LANDFILL)

Sample statistic for cost-revenue-ratios	Small	Large
Mean	−0.6%	0.2%
Median	−0.2%	0.1%
Minimum	−2.6%	0.0%
Maximum	0.7%	1.0%
Number of Entities	18	79
Number of Entities >1%	0	0
Number of Entities >3%	0	0

None of the entities has cost-revenue-ratios greater than 1 percent.

B. Impacts of the Proposed Action for New Units

As discussed in section IV.C.2 of this preamble, based on trends of SSI units constructed and replaced, technical advantages of FB incinerators, and information provided by the industry on likely units constructed, we believe that new SSI units constructed are likely to be FB incinerators.

1. What are the primary air impacts?

We have estimated the potential emission reductions that may be realized through implementation of the proposed emission limits on 2 new FB incinerators potentially being constructed in the next 5 years. Table 18 of this preamble summarizes the emission reductions for MACT compliance for each pollutant. The analysis is documented in the memorandum "Estimation of Impacts for New Units Constructed Within 5 Years After Promulgation of the SSI NSPS."

TABLE 18—EMISSION REDUCTIONS FOR 2 NEW SSI UNITS (i.e., FLUIDIZED BED INCINERATORS) CONSTRUCTED

Pollutant	Emission reduction (TPY)
Cd	0.00047
CDD/CDF, TEQ	0.00000038
CDD/CDF, TMB	0.0000044
CO	3.022
HCl	0.033
Hg	0.0036
NO_X	1.07
Pb	0.0031
PM	2.43
$PM_{2.5}$	2.76
SO_2	1.01
Total	10.33

2. What are the water and solid waste impacts?

We anticipate affected sources would need to apply controls in addition to what they would have planned to include in the absence of this rule to meet the proposed emission limits. These controls may utilize water, such as wet scrubbers, which would need to be treated. We estimate an annual requirement of 18.2 million gallons per year of additional wastewater would be generated as a result of operating additional controls or increased sorbents for the 2 new units expected to come online in the next 5 years. The analysis is documented in the memorandum "Analysis of New Units for the Sewage Sludge Incineration Source Category Analysis of Secondary Impacts for the Sewage Sludge Incineration Source Category."

Likewise, the application of PM controls results in particulate collected that would require disposal. Furthermore, activated carbon injection may be used by some sources, which would result in solid waste needing disposal. The annual amounts of solid waste that would require disposal are anticipated to be approximately 4 TPY from PM capture and 97 TPY from activated carbon injection for the 2 units.

3. What are the energy impacts?

The energy impacts associated with meeting the proposed emission limits would consist primarily of additional electricity needs to run added or improved air pollution control devices. For example, increased scrubber pump horsepower may cause slight increases in electricity consumption. Sorbent injection controls would likewise require electricity to power pumps and motors. By our estimate, we anticipate that an additional 1,350 megawatt-hours

per year would be required for the additional and improved control devices for the 2 new units modeled to come online in the next 5 years. The analysis is documented in the memorandum "Analysis of Secondary Impacts for the Sewage Sludge Incineration Source Category Analysis of New Units for the Sewage Sludge Incineration Source Category."

4. What are the secondary air impacts?

For SSI units adding controls to meet the proposed emission limits, we anticipate very minor secondary air impacts. The analysis is documented in the memorandum "Analysis of Secondary Impacts for the Sewage Sludge Incineration Source Category."

5. What are the cost impacts?

We have estimated compliance costs for new SSI units coming online in the next 5 years. This analysis is based on a model plant, the assumption that 2 new units will come online and will add the necessary controls, monitoring equipment, inspections, recordkeeping, and reporting requirements to comply with the proposed SSI standards. Based on this analysis, we anticipate an overall total capital investment of $7.81 million (2008$) with an associated total annualized cost of $2.70 million (2008$ and using a 7 percent discount rate). This analysis assumes that new SSI units constructed are only FB incinerators, as discussed in section IV.C.2 of this preamble.

C. Benefits of the Proposed NSPS and EG

We estimate the monetized benefits of this proposed regulatory action to be $130 million to $320 million (2008$, 3 percent discount rate) in the implementation year (2015). The monetized benefits of the proposed regulatory action at a 7 percent discount rate are $120 million to $290 million (2008$). These estimates reflect energy disbenefits valued at $0.5 million. Using alternate relationships between $PM_{2.5}$ and premature mortality supplied by experts, higher and lower benefits estimates are plausible, but most of the expert-based estimates fall between these 2 estimates.[22] A summary of the monetized benefits estimates at discount rates of 3 percent and 7 percent is in Table 19 of this preamble.

TABLE 19—SUMMARY OF THE MONETIZED BENEFITS ESTIMATES FOR NEW AND EXISTING SSI UNITS IN 2015

[Millions of 2008$][1]

Pollutant	Estimated emission reductions (TPY)	Total monetized benefits (3% discount rate)	Total monetized benefits (7% discount rate)
$PM_{2.5}$	254	$58 to $140	$52 to $130.
$PM_{2.5}$ Precursors:			
SO_2	2,298	$68 to $170	$61 to $150.
NO_X	824	$4.0 to $9.8	$3.6 to $8.8.
Total		$130 to $320	$120 to $290.

[1] All estimates are for the implementation year (2015) and are rounded to 2 significant figures so numbers may not sum across rows. All fine particles are assumed to have equivalent health effects, but the benefit-per-ton estimates vary between precursors because each ton of precursor reduced has a different propensity to form $PM_{2.5}$. Benefits from reducing HAP are not included. These results include 2 new FB incinerators anticipated to come online by 2015, and the assumption that some small entities will landfill. These estimates do not include the energy disbenefits valued at $0.5 million, but the rounded totals do not change. CO_2-related disbenefits were calculated using the social cost of carbon, which is discussed further in the RIA.

These benefits estimates represent the total monetized human health benefits for populations exposed to less $PM_{2.5}$ in 2015 from controls installed to reduce air pollutants in order to meet these standards. These estimates are calculated as the sum of the monetized value of avoided premature mortality and morbidity associated with reducing a ton of $PM_{2.5}$ and $PM_{2.5}$ precursor emissions. To estimate human health benefits derived from reducing $PM_{2.5}$ and $PM_{2.5}$ precursor emissions, we utilized the general approach and methodology laid out in Fann *et al.* (2009).[23]

To generate the benefit-per-ton estimates, we used a model to convert emissions of direct $PM_{2.5}$ and $PM_{2.5}$ 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. Finally, the monetized health benefits were divided by the emission reductions to create the benefit-per-ton estimates. These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. Directly emitted PM, SO_2, and NO_X are the primary $PM_{2.5}$ precursors affected by this rule. Even though we assume that all fine particles have equivalent health effects, the benefit-per-ton estimates vary between precursors because each ton of precursor reduced has a different propensity to form $PM_{2.5}$. For example, SO_2 has a lower benefit-per-ton estimate than direct $PM_{2.5}$ because it does not form as much $PM_{2.5}$, thus the exposure would be lower, and the monetized health benefits would be lower.

For context, it is important to note that the magnitude of the PM benefits is largely driven by the concentration response function for premature mortality. Experts have advised EPA to consider a variety of assumptions, including estimates based on both empirical (epidemiological) studies and judgments elicited from scientific experts, to characterize the uncertainty in the relationship between $PM_{2.5}$ concentrations and premature mortality. For this proposed rule, we cite two key

[22] 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.

[23] Fann, N., C.M. Fulcher, B.J. Hubbell. 2009. "The influence of location, source, and emission type in estimates of the human health benefits of reducing a ton of air pollution." Air Qual Atmos Health. (2009) 2:169–176.

empirical studies, one based on the American Cancer Society cohort study [24] and the extended Six Cities cohort study.[25] In the RIA for this proposed rule, which is available in the docket, we also include benefits estimates derived from expert judgments and other assumptions.

EPA strives to use the best available science to support our benefits analyses. We recognize that interpretation of the science regarding air pollution and health is dynamic and evolving. After reviewing the scientific literature and recent scientific advice, we have determined that the no-threshold model is the most appropriate model for assessing the mortality benefits associated with reducing $PM_{2.5}$ exposure. Consistent with this recent advice, we are replacing the previous threshold sensitivity analysis with a new "LML" assessment. While an LML assessment provides some insight into the level of uncertainty in the estimated PM mortality benefits, EPA does not view the LML as a threshold and continues to quantify PM-related mortality impacts using a full range of modeled air quality concentrations.

Most of the estimated PM-related benefits in this rule would accrue to populations exposed to higher levels of $PM_{2.5}$. Using the Pope, *et al.,* (2002) study, 85 percent of the population is exposed at or above the LML of 7.5 μg/m^3. Using the Laden, *et al.,* (2006) study, 40 percent of the population is exposed above the LML of 10 μg/m^3. It is important to emphasize that we have high confidence in $PM_{2.5}$-related effects down to the lowest LML of the major cohort studies. This fact is important, because as we estimate PM-related mortality among populations exposed to levels of $PM_{2.5}$ that are successively lower, our confidence in the results diminishes. However, our analysis shows that the great majority of the impacts occur at higher exposures.

This analysis does not include the type of detailed uncertainty assessment found in the 2006 $PM_{2.5}$ NAAQS RIA because we lack the necessary air quality input and monitoring data to run the benefits model. In addition, we have not conducted any air quality modeling for this rule. The 2006 $PM_{2.5}$ NAAQS benefits analysis [26] provides an indication of the sensitivity of our results to various assumptions.

It should be emphasized that the monetized benefits estimates provided above do not include benefits from several important benefit categories, including reducing other air pollutants, ecosystem effects, and visibility impairment. The benefits from reducing HAP have not been monetized in this analysis, including reducing 2,900 tons of CO, 96 tons of HCl, 3.0 tons of Pb, 1.6 tons of Cd, 5,500 pounds of Hg and 78 grams of total CDD/CDF each year. Although we do not have sufficient information or modeling available to provide monetized estimates for this rulemaking, we include a qualitative assessment of the health effects of these air pollutants in the RIA for this proposed rule, which is available in the docket.

In addition, the monetized benefits estimates provided in Table 19 do not reflect the disbenefits associated with increased electricity and fuel consumption to operate the control devices. We estimate that the increases in emissions of CO_2 would have disbenefits valued at $0.5 million for the proposed option assuming that small entities landfill at a 3 percent discount rate. CO_2-related disbenefits were calculated using the social cost of carbon, which is discussed further in the RIA. However, these disbenefits do not change the rounded total monetized benefits of the proposed option, which are still $130 million to $320 million and $120 million to $290 million, at discount rates of 3 percent and 7 percent, respectively.

The social costs of this proposed rulemaking are estimated to be $92 million (2008$) in the implementation year and the monetized benefits including energy disbenefits are $130 million to $320 million (2008$, 3 percent discount rate) for that same year. The monetized benefits including energy disbenefits at a 7 percent discount rate are $120 million to $290 million (2008$). Thus, net benefits of this rulemaking including energy disbenefits estimated at $37 million to $220 million (2008$, 3 percent discount rate) and $26 million to $190 million (2008$, 7 percent discount rate).

VI. Relationship of the Proposed Action to CAA Sections 112(c)(3) and 112(k)(3)(B)(ii)

Clean Air Act sections 112(c)(3) and (k)(3)(B)(ii) instruct EPA to identify and list area source categories representing at least 90 percent of the emissions of the 30 "listed" HAP (64 FR 38706, July 19, 1999), that are, or will be, subject to standards under section 112(d) of the CAA. The 30 HAP are the result of emissions from area sources that pose the greatest threat to public health in the largest number of urban areas. Under the provisions of section 112(c)(3) and (k)(3)(B)(ii) of the CAA, SSI was added to the inventory. Each of the source categories added, including SSI, contributes a certain percentage of the total area source emissions for at least 1 of the 30 area source HAP and makes progress towards meeting our requirement to address 90 percent of the emissions of each of the 30 area source HAP.

As required by the statute, the CAA section 129 SSI standards include numeric emission limits for the 9 pollutants specified in section 129(a)(4) and opacity. The combination of wastewater pretreatment, good combustion practices and add-on air pollution control devices (e.g., FF, scrubbers, activated carbon injection, afterburners) effectively reduces emissions of the pollutants for which emission limits are required under CAA section 129: Cd, CO, CDD/CDF, HCl, Hg, Pb, NO_X, PM and SO_2.

Although, CAA section 129 standards for SSI will not set separate specific numerical emission limits for sections 112(c)(3) and (k)(3)(B)(ii) urban air HAP, the SSI standards will result in substantial reductions of 7–PAH, Cr, Mn, Ni, and PCB. These additional emission reductions are due to co-control of pollutants by the same air pollution control devices used to comply with the CAA section 129 SSI standard. Air pollution control devices are necessary to comply with the requirements of the SSI NSPS and EG. Add-on air pollution control devices to control PM will also reduce emissions of compounds that coalesce to form on PM (*e.g.,* Mn, Ni, Cr, etc.). The addition of any post-combustion device to control organics such as CO and CDD/CDF will also reduce emissions for any byproducts of incomplete combustion such as additional organic pollutants (*e.g.,* 7–PAH and PCB). The addition of wet scrubbers will also reduce emissions of compounds that are water soluble. Additionally, the NSPS emission limits will promote the construction of new FB incinerators rather than MH incinerators. Fluidized bed incinerators have significantly lower emissions of all organic compounds and NO_X.

While the proposed rule does not identify specific numerical emission limits for 7–PAH, Cr, Mn, Ni and PCB,

[24] Pope *et al.,* 2002. "Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution." Journal of the American Medical Association. 287:1132–1141.

[25] Laden *et al.,* 2006. "Reduction in Fine Particulate Air Pollution and Mortality." *American Journal of Respiratory and Critical Care Medicine.* 173: 667–672.

[26] U.S. Environmental Protection Agency, 2006. Final Regulatory Impact Analysis: $PM_{2.5}$ NAAQS. Prepared by Office of Air and Radiation. October. Available on the Internet at *http://www.epa.gov/ttn/ecas/ria.html.*

emissions of those pollutants are for the reasons noted above, nonetheless, subject to regulation for the purposes of section 112(c)(3) and (k)(3)(B)(ii) of the CAA. In lieu of establishing numerical emission limits for pollutants such as PCB and 7–PAH, CAA section 129 (a)(4) allows EPA to regulate surrogate substances. While we have not identified specific numerical limits for 7–PAH or PCB, we believe CO serves as an effective surrogate of those pollutants, because CO, like 7–PAH and PCB, is formed as a byproduct of combustion. We believe that CDD/CDF also serve as an effective surrogate for PCB, because the compounds act similarly and, thus, are expected to be controlled similarly using SSI emission control devices (*e.g.,* wet scrubbers, FF, activated carbon injection).

VII. Relationship of the Proposed Action to Other SSI Rules for the Use or Disposal of Sewage Sludge

Under authority of section 405(d) and (e) of the CWA, as amended 33 U.S.C.A. 1251, (*et seq.*), EPA promulgated regulations on February 19, 1993, at 40 CFR part 503 designed to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants that may be present in sewage sludge. The part 503 regulations establish requirements for the final use and disposal of sewage sludge when: (1) The sludge is applied to the land for a beneficial use (*e.g.,* for use in home gardens); (2) the sludge is disposed on land by placing it on surface disposal sites; and (3) the sewage sludge is incinerated. The standards apply to POTW that generate or treat domestic sewage sludge, as well as to any person who uses or disposes of sewage sludge from such treatment works.

The part 503 requirements for firing sewage sludge in a SSI are in subpart E of the regulations. Subpart E includes general requirements; pollutant limits; operational standards; management practices; and monitoring, recordkeeping, and reporting requirements.

These part 503 regulations require that SSI meet the National Emission Standards for Beryllium and Hg in subparts C and E, respectively, of 40 CFR part 61. The regulations also require that the allowable concentration of 5 other inorganic pollutants be calculated using equations in the regulation. The inorganic pollutants included are Pb, As, Cd, Cr, and Ni. The terms in the equations must be determined on a case-by-case basis, except for the risk-specific concentration for the inhalation exposure pathway to protect individuals when these pollutants are inhaled. The site-specific variables for the equations (incinerator type, dispersion factor, control efficiency, feed rate, and stack height) must be used to calculate allowable daily concentrations of As, Cd, Cr, Pb and Ni in the sewage sludge fed to the incinerator.

Also included in subpart E is an operational standard for THC. The value for THC in the final part 503 regulation cannot be exceeded in the exit gas from the SSI stack. Management practices and frequency of monitoring, recordkeeping, and reporting requirements are also included in this subpart.

Under today's proposed rule, EPA is establishing limits for 3 of the inorganic pollutants covered by the current part 503 regulations (Cd, Pb and Hg) and the following 7 additional pollutants: HCl, CO, opacity, NO_X, SO_2, PM, and total CDD/CDF. Besides the pollutants covered here, there are other differences between the part 503 regulations and this proposed rule. The emission limits for inorganic pollutants under part 503 are risk-based numbers rather than technology-based. Also, part 503 does not distinguish between new and existing units or between incinerator types (*i.e.,* MH or FB incinerator) for setting emission limits since emission limits are based on risks to a highly exposed individual.

Because both part 503 and this proposed rule cover the same universe of facilities, there are certain issues that arise in terms of potential impacts to current SSI facilities. First, we expect that the regulation of sewage sludge under CAA section 129 under the proposed rule would result in stricter emission standards than under the current CWA rule. Consequently, a potential impact of this rule is that some of the estimated 112 facilities that operate SSI as the primary means of disposal could discontinue this practice and would instead landfill their sewage sludge (see earlier discussion in section V of this preamble on the analysis of alternative sewage sludge disposal). Second, one must consider the available capacity of surface disposal sites to receive additional sewage sludge and the potential for added costs if the use of SSI is discontinued. Third, SSI would be subject to 2 different sets of requirements (numeric standards, operational standards, monitoring, recordkeeping, and reporting) under the 2 different statutes if the proposed rule is implemented, creating an additional burden to these facilities unless alternative regulatory approaches are implemented. EPA plans to evaluate the requirements under both statutes once this proposed rule is finalized to determine what changes, if any, should be made to the part 503 regulations. EPA requests comments on other potential impacts of this proposed rule on SSI.

VIII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under section 3(f)(1) of Executive Order 12866 (58 FR 51735, October 4, 1993), this action is an "economically significant regulatory action" because it is likely to have an annual effect on the economy of $100 million or more. Accordingly, EPA submitted this action to the OMB for review under Executive Order 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action. In addition, EPA prepared a RIA of the potential costs and benefits associated with this action.

When estimating the $PM_{2.5}$ and ozone-related human health benefits and compliance costs in Table 20 below, EPA applied methods and assumptions consistent with the State-of-the-science for human health impact assessment, economics, and air quality analysis. EPA applied its best professional judgment in performing this analysis and believes that these estimates provide a reasonable indication of the expected benefits and costs to the nation of this rule. The RIA available in the docket describes in detail the empirical basis for EPA's assumptions and characterizes the various sources of uncertainties affecting the estimates below.

When characterizing uncertainty in the PM-mortality relationship, EPA has historically presented a sensitivity analysis applying alternate assumed thresholds in the PM concentration-response relationship. In its synthesis of the current State of the PM science, EPA's "2009 Integrated Science Assessment (ISA) for Particulate Matter" concluded that a no-threshold log-linear model most adequately portrays the PM-mortality concentration-response relationship. In the RIA accompanying this rule, rather than segmenting out impacts predicted to be associated levels above and below a 'bright line' threshold, EPA includes a "LML" that illustrates the increasing uncertainty that characterizes exposure attributed to levels of $PM_{2.5}$ below the LML for each study. Figures provided in the RIA show the distribution of baseline exposure to $PM_{2.5,}$ as well as the lowest air quality levels measured in each of the epidemiology cohort studies. This

information provides a context for considering the likely portion of PM-related mortality benefits occurring above or below the LML of each study; in general, our confidence in the size of the estimated reduction $PM_{2.5}$-related premature mortality diminishes as baseline concentrations of $PM_{2.5}$ are lowered. Using the Pope, *et al.,* (2002) study, 85 percent of the population is exposed to annual mean $PM_{2.5}$ levels at or above the LML of 7.5 $\mu g/m^3$. Using the Laden, *et al.,* (2006) study, 40 percent of the population is exposed above the LML of 10 $\mu g/m^3$. While the LML analysis provides some insight into the level of uncertainty in the estimated PM mortality benefits, EPA does not view the LML as a threshold and continues to quantify PM-related mortality impacts using a full range of modeled air quality concentrations.

A summary of the monetized benefits, social costs and net benefits for the proposed option, as well as a less stringent option and more stringent option, at discount rates of 3 percent and 7 percent is in Table 18 of this preamble.

TABLE 20—SUMMARY OF THE MONETIZED BENEFITS, SOCIAL COSTS AND NET BENEFITS FOR NEW AND EXISTING SSI UNITS IN 2015

[Millions of 2008$] [1]

	3% Discount rate	7% Discount rate
Proposed: Option 2 MACT Floor and Beyond-the-Floor Controls for Hg and CDD/CDF		
Total Monetized Benefits [2]	$120 to $310	$110 to $280.
Total Social Costs [3]	$92	$92.
Net Benefits	$33 to $220	$23 to $190.
Non-monetized Benefits	2,900 tons of CO. 96 tons of HCl. 5,500 pounds of Hg. 1.6 tons of Cd. 3.0 tons of Pb. 90 grams of CDD/CDF. Health effects from NO_X and SO_2 exposure. Ecosystem effects. Visibility impairment.	
Option 1 MACT Floor		
Total Monetized Benefits [2]	$120 to $310	$110 to $280.
Total Social Costs [3]	$63	$63.
Net Benefits	$62 to $240	$52 to $220.
Non-monetized Benefits	2,900 tons of CO. 96 tons of HCl. 820 pounds of Hg. 1.6 tons of Cd. 3.0 tons of Pb. 74 grams of CDD/CDF. Health effects from NO_X and SO_2 exposure. Ecosystem effects. Visibility impairment.	
Option 3 MACT Floor, Beyond-the-Floor Controls for Hg and CDD/CDF, and Beyond-the-Floor Controls for CO		
Total Monetized Benefits [2]	$120 to $300	$110 to $280.
Total Social Costs [3]	$132	$132.
Net Benefits	−$9.6 to $170	−$18 to $150.
Non-monetized Benefits	26,000 tons of CO. 96 tons of HCl. 5,500 pounds of Hg. 1.6 tons of Cd. 3.0 tons of Pb. 90 grams of CDD/CDF. Health effects from NO_X and SO_2 exposure. Ecosystem effects. Visibility impairment.	

[1] All estimates are for the implementation year (2015) and are rounded to 2 significant figures. These results include 2 new FB incinerators anticipated to come on-line by 2015 and the assumption that small entities will landfill.

[2] The total monetized benefits reflect the human health benefits associated with reducing exposure to $PM_{2.5}$ through reductions of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors such as NO_X and SO_2. It is important to note that the monetized benefits include many but not all health effects associated with $PM_{2.5}$ exposure. Benefits are shown as a range from Pope, *et al.,* (2002) to Laden, *et al.,* (2006). These models assume that all fine particles, regardless of their chemical composition, are equally potent in causing premature mortality because there is no clear scientific evidence that would support the development of differential effects estimates by particle type. These results include 2 new FB incinerators anticipated to come online by 2015, as well as energy disbenefits of $4.5 to $9.7 million.

[3] The methodology used to estimate social costs for 1 year in the multimarket model using surplus changes results in the same social costs for both discount rates.

For more information on the benefits analysis, please refer to the RIA for this rulemaking, which is available in the docket.

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the OMB under the PRA, 44 U.S.C. 3501 *et seq.* The ICR documents prepared by EPA have been assigned EPA ICR number 2369.01 for subpart LLLL, and 2403.01 for subpart MMMM.

The recordkeeping and reporting requirements in this proposed rule would be based on the information collection requirements in CAA section 129 and EPA's NSPS General Provisions (40 CFR part 60, subpart A). The recordkeeping and reporting requirements in the General Provisions are mandatory pursuant to CAA section 114 (42 U.S.C. 7414). All information other than emissions data submitted to EPA pursuant to the information collection requirements for which a claim of confidentiality is made is safeguarded according to CAA section 114(c) and EPA's implementing regulations at 40 CFR part 2, subpart B.

The requirements in this proposed action result in industry recordkeeping and reporting burden associated with review of the amendments for all SSI and initial and annual compliance with the emission limits using EPA approved emissions test methods. The burden also includes continuous parameter monitoring and annual inspections of air pollution control devices that may be used to meet the emission limits. Operators are required to obtain qualification and complete annual training. New units are also required to submit a report prior to construction, including a siting analysis.

The annual average burden associated with the EG over the first 3 years following promulgation of this proposed action is estimated to be $14.2 million. This includes 21,900 hours at a total annual labor cost of $1.2 million and total annualized capital/startup and O&M costs of $13 million per year, associated with the monitoring requirements, storage of data and reports and photocopying and postage over the 3-year period of the ICR. The annual inspection costs are included under the recordkeeping and reporting labor costs.

The annual average burden associated with the NSPS over the first 3 years following promulgation of this proposed action is estimated to involve 518 hours at a total annual labor cost of $29,000. The total annualized capital/startup costs are estimated at $292,000 per year. This gives a cumulative annual burden of $321,000 per year for the NSPS. Burden is defined at 5 CFR 1320.3(b).

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

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, EPA has established a public docket for this rule, which includes this ICR, under Docket ID number EPA–HQ–OAR–2009–0559. Submit any comments related to the ICR to EPA and OMB. *See* **ADDRESSES** section at the beginning of this notice for where to submit comments to EPA. Send comments to OMB at the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, *Attention:* Desk Office for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after October 14, 2010, a comment to OMB is best assured of having its full effect if OMB receives it by November 15, 2010. The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

C. Regulatory Flexibility Act

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

For purposes of assessing the impacts of this proposed action on small entities, a small entity is defined as follows: (1) A small business as defined by the SBA regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently-owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. None of the 18 small entities has cost-revenue-ratios greater than 1 percent. Thus, this is not considered to be a significant impact.

Although the proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities by allowing optional CEMS instead of requiring them, allowing information from tests conducted in recent years to show compliance rather than require all new testing and allowing reduced testing with continued compliance.

D. Unfunded Mandates Reform Act

Title II of the UMRA of 1995, 2 U.S.C. 1531–1538, requires Federal agencies, unless otherwise prohibited by law, to assess the effects of their regulatory actions on State, local, and tribal governments, and the private sector. This rule contains a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, EPA has prepared under section 202 of the UMRA a written statement that is summarized in this section of the preamble. A copy of the UMRA written statement can be found in the docket. The UMRA written statement further describes EPA's statutory authority, a qualitative and quantitative cost-benefits assessment, and a description of the extent of EPA's prior consultation with elected representatives (or their designated authorized employees) of the affected State, local, and tribal governments, and a summary of their oral or written comments and concerns and EPA's evaluation of them.

EPA's statutory authority for this action is contained in CAA section 129, as described in section II.C of this preamble and in the UMRA written statement in the docket. These emission standards are also needed as part of EPA's fulfillment of its obligations under CAA section 112(c)(3) and (k)(3)(B)(ii). Regarding the cost-benefits assessment, the RIA prepared for the proposed rule, including the EPA's assessment of costs and benefits, is detailed in the "Regulatory Impact Analysis: Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units" in the docket. Based on estimated compliance costs associated with the proposed rule and the predicted change in prices and production in the affected industries, the estimated social costs of the proposed rule are $92 million (2008$). The estimated costs account for 18 small

entities choosing alternative disposal methods to SSI.

Consistent with the intergovernmental consultation provisions of section 204 of the UMRA, EPA has initiated consultations with governmental entities affected by this proposed rule. EPA invited 10 organizations of elected State and local officials who have been identified by EPA as the "Big 10" organizations appropriate to contact for purposes of consultation with elected officials. The following national organizations representing State and local officials attended a meeting held on May 27, 2010, in Washington, DC: (1) National Governors' Association, (2) National Conference of State Legislatures, (3) National League of Cities, (4) U.S. Conference of Mayors, (5) National Association of Counties, (6) Association of State and Territorial Solid Waste Management Officials, (7) Council of State Governments and (8) Environmental Council of the States, to inform them and seek their input for this rulemaking. Two of the Big 10 organizations were unable to attend. Additionally, the National Association of Clean Water Agencies, the National Association of Clean Air Agencies and the Association of State and Interstate Water Pollution Control Administrators participated, to serve as technical advisors to the national organizations during this consultation.

The purpose of the consultation was to provide general background on the proposal, answer questions, and solicit input from State and local governments. Prior to the meeting, EPA provided the officials with a copy of the SSI inventory and presentation. During the meeting, officials expressed uncertainty with regards to how EPA calculated the costs to comply with the standard. Officials also expressed uncertainty with regards to how viable the alternative to the standard is with respect to small governments and entities located in certain geographic regions. Technical memoranda, which can be found in the docket, document EPA's cost analysis, beyond-the-floor options, and the regulatory impacts analysis. EPA determined that the alternative to the standard is a viable option for some entities.

Consistent with section 205 of the UMRA, EPA has identified and considered a reasonable number of regulatory alternatives. Incineration continues to be used to dispose of sewage sludge, but is increasingly becoming less common. Additional pollution controls will increase costs for facilities that continue to use the incineration disposal method. If the additional costs are high enough, many POTW may choose to adopt alternative disposal methods (*e.g.,* surface disposal in landfills or other beneficial land applications). However, the use of alternative disposal methods may be limited in some areas because of landfill capacity constraints, local geography, or other legal or economic constraints.

One alternative option is landfilling. Landfilling, in some cases, provides a simple and low-cost option for sewage sludge disposal. Sewage sludge may be placed in landfills used for other municipal solid waste or in landfills constructed specifically for sewage sludge. The landfill disposal option is attractive for low-volume incinerators; landfill capacity constraints limit disposal opportunities for large sludge volumes.

Land application is a second alternative. Sewage sludge that has undergone treatment to make it safe for use on other land application (*e.g.,* fertilizer) is commonly referred to as biosolids. Biosolids can be sold to agricultural or landscaping entities for land application, so the organic material in biosolids is reused to contribute to crop production. Land application has also been used in mine reclamation to re-establish vegetation.

Further analysis can be found in the "Regulatory Impacts Analysis." The regulatory alternative selected is landfilling. EPA recognizes that the landfilling option may be utilized by some facilities but not all depending on a number of factors such as cost, geographic location, and State regulations.

This proposed rule is not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. While some small governments may have SSI units that would be affected by this rule, EPA's analysis shows that for the more likely scenario that small governmental entities switch to landfilling, none of the ratios was greater than 1 percent. Because the proposed rule's requirements apply equally to SSI units owned and/or operated by governments or SSI units owned and/or operated by private entities, there would be no requirements that uniquely apply to such government or impose any disproportionate impacts on them.

E. Executive Order 13132: Federalism

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

This proposed rule will have federalism implications, as defined by Agency guidance for implementing the Order, due to substantial direct compliance costs on State or local governments. As specified by the Order, EPA must consult with elected State and local government officials, or their representative national organizations, when developing regulations and policies that impose substantial compliance costs on State and local governments. Pursuant to Agency policy, EPA conducted a briefing for the Big 10 intergovernmental organizations representing elected State and local government officials, to formally request their comments and input on the action. Please reference the UMRA discussion above for further details regarding the Big 10 consultation.

The Big 10 is currently in the process of providing EPA with feedback on its proposed standards and EG for SSI units. In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

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

This action does not have tribal implications, as specified in Executive Order 13175, (65 FR 67249, November 9, 2000). EPA is not aware of any SSI owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

EPA specifically solicits additional comment on this proposed action from tribal officials in the proposal period via the National Tribal Air Association and other mechanisms.

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

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This proposed action is not subject to Executive Order

13045 because it is based solely on technology performance. We note however, that reductions in air emissions by these facilities will improve air quality, with expected positive impacts for children's health.

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

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. EPA estimates that the requirements in this proposed action would cause most SSI to modify existing air pollution control devices (*e.g.,* increase the horsepower of their wet scrubbers) or install and operate new control devices, resulting in approximately 29,200 megawatt-hours per year of additional electricity being used.

Given the negligible change in energy consumption resulting from this proposed action, EPA does not expect any significant price increase for any energy type. The cost of energy distribution should not be affected by this proposed action at all since the action would not affect energy distribution facilities. We also expect that any impacts on the import of foreign energy supplies, or any other adverse outcomes that may occur with regards to energy supplies, would not be significant. We, therefore, conclude that if there were to be any adverse energy effects associated with this proposed action, they would be minimal.

I. National Technology Transfer and Advancement Act

Section 12(d) of the NTTAA of 1995, Public Law 104–113 (15 U.S.C. 272 note) directs EPA to use VCS in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable VCS.

EPA conducted searches for the "Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Sewage Sludge Incineration Units" through the Enhanced National Standards Service Network Database managed by the ANSI. We also contacted VCS organizations and accessed and searched their databases.

This rulemaking involves technical standards. 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. These parts of ASME PTC 19.10–1981 are acceptable alternatives to EPA Methods 6, 7. This standard is available from the ASME, Three Park Avenue, New York, NY 10016–5990.

Another VCS, ASTM D6784–02, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)" is an acceptable alternative to Method 29 and 30B. The EPA has also decided to use EPA Methods 5, 6, 6C, 7, 7E, 9, 10, 10A, 10B, 22, 23, 26A, 29 and 30B. No VCS were found for EPA Method 9 and 22.

During the search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to EPA's reference method, the EPA ordered a copy of the standard and reviewed it as a potential equivalent method. All potential standards were reviewed to determine the practicality of the VCS for this rule. This review requires significant method validation data which meets the requirements of EPA Method 301 for accepting alternative methods or scientific, engineering and policy equivalence to procedures in EPA reference methods. The EPA may reconsider determinations of impracticality when additional information is available for particular VCS.

The search identified 23 other VCS that were potentially applicable for this rule in lieu of EPA reference methods. After reviewing the available standards, EPA determined that 23 candidate VCS (ASME B133.9–1994 (2001), ISO 9096:1992 (2003), ANSIIASME PTC PTC¬38–1980 (1985), ASTM D3685/ D3685M–98 (2005), CAN/CSA Z223.1–M1977, ANSIIASME PTC 19–10–1981, ISO 10396:1993 (2007), ISO 12039:2001, ASTM D5835–95 (2007), ASTM D6522–00 (2005), CAN/CSA Z223.2–M86 (1999), ISO 7934:1998, ISO 11632:1998, ASTM D1608–98 (2003), ISO I1564:1998, CAN/CSA Z223.24–MI983, CAN/CSA Z223.21–MI978, ASTM D3162–94 (2005), EN 1948–3 (1996), EN 1911–1,2,3 (1998), ASTM D6735–01, EN 13211:2001, CAN/CSA Z223.26–MI987) identified for measuring emissions of pollutants or their surrogates subject to emission standards in the rule would not be practical due to lack of equivalency, documentation, validation data, and other important technical and policy considerations.

Under 40 CFR 60.13(i) of the NSPS General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, PS, or procedures in the final rule and any amendments.

EPA welcomes comments on this aspect of the proposed rulemaking and specifically invites the public to identify potentially-applicable VCS and to explain why such standards should be used in this regulation.

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

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on EJ. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make EJ part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed 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 populations. Additionally, the Agency has reviewed this proposed rule to determine if there was existing disproportionately high and adverse human health or environmental effects on minority or low-income populations that could be mitigated by this rulemaking. An analysis of demographic data showed that the average of populations in close proximity to the sources, and thus most likely to be effected by the sources, were similar in demographic composition to national averages.

In determining the aggregate demographic makeup of the communities near affected sources, EPA used census data at the block group level to identify demographics of the populations considered to be living near affected sources, such that they have notable exposures to current emissions from these sources. In this approach, EPA reviewed the distributions of

different socio-demographic groups in the locations of the expected emission reductions from this rule. The review identified those census block groups within a circular distance of a half, 3, and 5 miles of affected sources and determined the demographic and socio-economic composition (*e.g.,* race, income, education, etc.) of these census block groups. The radius of 3 miles (or approximately 5 kilometers) has been used in other demographic analyses focused on areas around potential sources.[27–30] EPA's demographic analysis has shown that these areas in aggregate have similar proportions of American Indians, African-Americans, Hispanics, Whites, and "Other and Multi-racial" populations, and similar proportions of families with incomes below the poverty level as the national average.[31]

This proposed action establishes national emission standards for new and existing SSI units. The EPA estimates that there are approximately 218 such units covered by this rule. The proposed rule will reduce emissions of all the listed HAP emitted from this source. This includes emissions of Cd, HCl, Pb, Hg, and CDD/CDF. Adverse health effects from these pollutants include cancer, irritation of the lungs, skin and mucus membranes, effects on the central nervous system and damage to the kidneys and acute health disorders. The rule will also result in substantial reductions of criteria pollutants such as CO, NO_X, PM and $PM_{2.5}$ and SO_2. Sulfur dioxide and NO_X are precursors for the formation of $PM_{2.5}$ and ozone. Reducing these emissions will reduce ozone and $PM_{2.5}$ formation and associated health effects, such as adult premature mortality, chronic and acute bronchitis, asthma and other respiratory and cardiovascular diseases. For additional information, please refer to the RIA contained in the docket for this rulemaking. EPA defines "Environmental Justice" to include meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. To promote meaningful involvement, EPA has developed a communication and outreach strategy to ensure that interested communities have access to this proposed rule, are aware of its content and have an opportunity to comment during the comment period. During the comment period, EPA will publicize the rulemaking via EJ newsletters, tribal newsletters, EJ listservs, and the Internet, including the OPEI Rulemaking Gateway Web site (*http://yosemite.epa.gov/opei/RuleGate.nsf/*). EPA will also provide general rulemaking fact sheets (*e.g.,* why is this important for my community) for EJ community groups and conduct conference calls with interested communities. In addition, State and Federal permitting requirements will provide State and local governments and members of affected communities the opportunity to provide comments on the permit conditions associated with permitting the sources affected by this rulemaking.

[27] U.S. GAO (Government Accountability Office). *Demographics of People Living Near Waste Facilities.* Washington, DC: Government Printing Office; 1995.

[28] Mohai P, Saha R. "Reassessing Racial and Socio-economic Disparities in Environmental Justice Research." *Demography.* 2006;43(2): 383–399.

[29] Mennis J. "Using Geographic Information Systems to Create and Analyze Statistical Surfaces of Populations and Risk for Environmental Justice Analysis." *Social Science Quarterly,* 2002;83(1):281–297.

[30] Bullard RD, Mohai P, Wright B, Saha R, *et al. Toxic Waste and Race at Twenty 1987–2007.* United Church of Christ. March 2007.

[31] The results of the demographic analysis are presented in "Review of Environmental Justice Impacts," June 2010, a copy of which is available in the docket.

List of Subjects in 40 CFR Part 60

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

Dated: September 30, 2010.

Lisa Jackson,

Administrator.

For the reasons stated in the preamble, title 40, chapter I, part 60 of the Code of Federal Regulations, is proposed to be amended as follows:

PART 60—[AMENDED]

1. The authority citation for part 60 continues to read as follows:

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

2. Part 60 is amended by adding subparts LLLL and MMMM to read as follows:

Subpart LLLL—Standards of Performance for New Sewage Sludge Incineration Units

Sec.

Introduction

§ 60.4760 What does this subpart do?

This subpart establishes new source performance standards for sewage sludge incineration (SSI) units. To the extent any requirement of this subpart is inconsistent with the requirements of subpart A of this part, the requirements of this subpart will apply.

§ 60.4765 When does this subpart become effective?

This subpart takes effect on [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**]. Some of the requirements in this subpart apply to planning an SSI unit and must be completed even before construction is initiated on an SSI unit (*i.e.,* the preconstruction requirements in §§ 60.4800 and 60.4805). Other requirements such as the emission limits, emission standards, and operating limits apply after the SSI unit begins operation.

Applicability and Delegation of Authority

§ 60.4770 Does this subpart apply to my sewage sludge incineration unit?

Yes, your SSI unit is an affected source if it meets all the criteria specified in paragraphs (a) through (c) of this section.

(a) Your SSI unit is an SSI unit for which construction commenced after October 14, 2010 or for which modification commenced after [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(b) Your SSI unit is an SSI unit as defined in § 60.4930.

(c) Your SSI unit is not exempt under § 60.4780.

§ 60.4775 What is a new sewage sludge incineration unit?

(a) A new SSI unit is an SSI unit that meets either of the two criteria specified in paragraph (a)(1) or (a)(2) of this section.

(1) Commenced construction after October 14, 2010.

(2) Commenced modification after [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(b) Physical or operational changes made to your SSI unit to comply with the emission guidelines in subpart MMMM of this part (Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units) do not qualify as a modification under this subpart.

§ 60.4780 What sewage sludge incineration units are exempt from this subpart?

This subpart exempts combustion units that incinerate sewage sludge that are located at an industrial or commercial facility subject to subpart CCCC of this part, provided the owner or operator of such a combustion unit notifies the Administrator of an exemption claim under this section.

§ 60.4785 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the Administrator, as defined in § 60.2, or a delegated authority such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the Administrator) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

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

(c) The authorities that will not be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (8) of this section.

(1) Approval of alternatives to the emission limits and standards in Table 1 to this subpart and operating limits established under § 60.4850.

(2) Approval of major alternatives to test methods.

(3) Approval of major alternatives to monitoring.

(4) Approval of major alternatives to recordkeeping and reporting.

(5) The requirements in § 60.4855.

(6) The requirements in § 60.4835(b)(2).

(7) Performance test and data reduction waivers under § 60.8(b).

(8) Preconstruction siting analysis in § 60.4800 and § 60.4805.

§ 60.4790 How are these new source performance standards structured?

These new source performance standards contain the nine major components listed in paragraphs (a) through (i) of this section.

(a) Preconstruction siting analysis.

(b) Operator training and qualification.

(c) Emission limits, emission standards, and operating limits.

(d) Initial compliance requirements.

(e) Continuous compliance requirements.

(f) Performance testing, monitoring, and calibration requirements.

(g) Recordkeeping and reporting.

(h) Definitions.

(i) Tables.

§ 60.4795 Do all nine components of these new source performance standards apply at the same time?

No. You must meet the preconstruction siting analysis requirements before you commence construction of the SSI unit. The operator training and qualification, emission limits, emission standards, operating limits, performance testing, and compliance, monitoring, and most recordkeeping and reporting requirements are met after the SSI unit begins operation.

Preconstruction Siting Analysis

§ 60.4800 Who must prepare a siting analysis?

(a) You must prepare a siting analysis if you plan to commence construction of an SSI unit after October 14, 2010.

(b) You must prepare a siting analysis if you are required to submit an initial application for a construction permit under 40 CFR part 51, subpart I, or 40 CFR part 52, as applicable, for the modification of your SSI unit.

§ 60.4805 What is a siting analysis?

(a) The siting analysis must consider air pollution control alternatives that minimize, on a site-specific basis, to the maximum extent practicable, potential risks to public health or the environment, including impacts of the affected SSI unit on ambient air quality, visibility, soils, and vegetation. In considering such alternatives, the analysis may consider costs, energy impacts, nonair environmental impacts, or any other factors related to the practicability of the alternatives.

(b) Analyses of your SSI unit's impacts that are prepared to comply with State, local, or other Federal regulatory requirements may be used to satisfy the requirements of this section, provided they include the consideration of air pollution control alternatives specified in paragraph (a) of this section.

(c) You must complete and submit the siting requirements of this section as required under § 60.4915(a)(3) prior to commencing construction.

Operator Training and Qualification

§ 60.4810 What are the operator training and qualification requirements?

(a) An SSI unit cannot be operated unless a fully trained and qualified SSI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified SSI unit operator may operate the SSI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified SSI unit operators are temporarily not accessible, you must follow the procedures in § 60.4835.

(b) Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in paragraph (c) of this section.

(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (3) of this section.

(1) Training on the 10 subjects listed in paragraphs (c)(1)(i) through (x) of this section.

(i) Environmental concerns, including types of emissions.

(ii) Basic combustion principles, including products of combustion.

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, sewage sludge feeding, and shutdown procedures.

(iv) Combustion controls and monitoring.

(v) Operation of air pollution control equipment and factors affecting performance (if applicable).

(vi) Inspection and maintenance of the incinerator and air pollution control devices.

(vii) Actions to prevent malfunctions or to prevent conditions that may lead to malfunctions.

(viii) Bottom and fly ash characteristics and handling procedures.

(ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.

(x) Pollution prevention.

(2) An examination designed and administered by the State-approved program.

(3) Written material covering the training course topics that may serve as reference material following completion of the course.

§ 60.4815 When must the operator training course be completed?

The operator training course must be completed by the later of the two dates specified in paragraphs (a) and (b) of this section.

(a) Six months after your SSI unit startup.

(b) The date before an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.

§ 60.4820 How do I obtain my operator qualification?

(a) You must obtain operator qualification by completing a training course that satisfies the criteria under § 60.4810(b).

(b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under § 60.4810(c)(2).

§ 60.4825 How do I maintain my operator qualification?

To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (a) through (e) of this section.

(a) Update of regulations.

(b) Incinerator operation, including startup and shutdown procedures, sewage sludge feeding, and ash handling.

(c) Inspection and maintenance.

(d) Prevention of malfunctions or conditions that may lead to malfunction.

(e) Discussion of operating problems encountered by attendees.

§ 60.4830 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification by one of the two methods specified in paragraphs (a) and (b) of this section.

(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in § 60.4825.

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in § 60.4820(a).

§ 60.4835 What if all the qualified operators are temporarily not accessible?

If a qualified operator is not at the facility and cannot be at the facility within 1 hour, you must meet the criteria specified in either paragraph (a) or (b) of this section, depending on the length of time that a qualified operator is not accessible.

(a) When a qualified operator is not accessible for more than 8 hours, the SSI unit may be operated for less than 2 weeks by other plant personnel who are familiar with the operation of the SSI unit who have completed a review of the information specified in § 60.4840 within the past 12 months. However, you must record the period when a qualified operator was not accessible and include this deviation in the annual report as specified under § 60.4915(d).

(b) When a qualified operator is not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, State what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.

(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible, and requesting approval from the Administrator to continue operation of the SSI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section.

(i) If the Administrator notifies you that your request to continue operation of the SSI unit is disapproved, the SSI unit may continue operation for 30 days, and then must cease operation.

(ii) Operation of the unit may resume if a qualified operator is accessible as required under § 60.4810(a) and you notify the Administrator within 5 days of having resumed operations and of having a qualified operator accessible.

§ 60.4840 What site-specific documentation is required and how often must it be reviewed by qualified sewage sludge incineration unit operators and other plant personnel who may operate the unit according to the provisions of § 60.4835(a)?

(a) You must maintain at the facility the documentation of the operator training procedures specified under § 60.4910(c)(1) and make the documentation readily accessible to all SSI unit operators.

(b) You must establish a program for reviewing the information listed in § 60.4910(c)(1) with each qualified incinerator operator and other plant personnel who may operate the unit according to the provisions of § 60.4835(a), according to the following schedule:

(1) The initial review of the information listed in § 60.4910(c)(1) must be conducted within 6 months after the effective date of this subpart or prior to an employee's assumption of responsibilities for operation of the SSI unit, whichever date is later.

(2) Subsequent annual reviews of the information listed in § 60.4910(c)(1) must be conducted no later than 12 months following the previous review.

Emission Limits, Emission Standards, and Operating Limits

§ 60.4845 What emission limits and standards must I meet and by when?

You must meet the emission limits and standards specified in Table 1 to this subpart within 60 days after your SSI unit reaches the feed rate at which it will operate or within 180 days after its initial startup, whichever comes first. The emission limits and standards apply at all times the unit is operating, including, and not limited to, periods of startup, shutdown, and malfunction. The emission limits and standards apply to emissions from a bypass stack or vent while sewage sludge is being charged to the SSI unit.

§ 60.4850 What operating limits must I meet and by when?

You must meet the operating limits specified in paragraphs (a) through (c) of this section, according to the schedule specified in paragraphs (d) and (e) of this section. The operating parameters are listed in Table 2 to this subpart. The operating limits apply at all times the unit is charging sewage sludge, including periods of malfunction.

(a) You must meet site-specific operating limits for maximum dry sludge feed rate, sludge moisture content, and minimum temperature of the combustion chamber (or afterburner combustion chamber) that you establish in § 60.4870.

(b) If you use a wet scrubber, electrostatic precipitator, or activated carbon injection to comply with an emission limit, you must meet the site-specific operating limits that you establish in § 60.4870 for each operating parameter associated with each air pollution control device.

(c) If you use a fabric filter to comply with the emission limits, you must install the bag leak detection system specified in § 60.4905(b)(3)(i) and operate the bag leak detection system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must calculate the alarm time as specified in § 60.4870.

(d) You must meet the operating limits specified in paragraphs (a) through (c) of this section 60 days after your SSI unit reaches the feed rate at which it will operate, or within 180 days after its initial startup, whichever comes first.

(e) For the operating limits specified in paragraphs (a) and (b) of this section, you may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. You must confirm or reestablish operating limits during:

(1) Annual performance tests required under § 60.4885(a).

(2) Performance tests required under § 60.4885(a)(2).

(3) Periodic performance evaluations required under § 60.4885(b)(6) to meet the operating limits specified in paragraph (a) of this section.

§ 60.4855 How do I establish operating limits if I do not use a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection, or if I limit emissions in some other manner, to comply with the emission limits?

If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection, or limit emissions in some other manner (*e.g.,* materials balance) to comply with the emission limits in § 60.4845, you must meet the requirements in paragraphs (a) and (b) of this section.

(a) Establish an operating limit each for maximum dry sludge feed rate, sludge moisture content, and minimum temperature of the combustion chamber (or afterburner combustion chamber) according to § 60.4870.

(b) Petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter.

(1) You must not conduct the initial performance test until after the petition has been approved by the Administrator, and you must comply with the operating limits as written, pending approval by the Administrator.

(2) Your petition must include the five items listed in paragraphs (b)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor.

(ii) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.

(iii) A discussion of how you will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance.

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

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

§ 60.4860 Do the emission limits, emission standards, and operating limits apply during periods of startup, shutdown, and malfunction?

The emission limits and standards apply at all times, including periods of startup, shutdown, and malfunction. The operating limits apply at all times the unit is charging sewage sludge, including periods of malfunction.

§ 60.4861 How do I establish an affirmative defense for exceedance of an emission limit or standard during malfunction?

In response to an action to enforce the standards set forth in paragraph § 60.4845 you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined in § 60.2. Appropriate penalties may be assessed; however, if the respondent

fails to meet its burden of proving all of the requirements in the affirmative defense, then the affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that the conditions in paragraphs (a)(1) through (9) of this section are met.

(1) The excess emissions meet the conditions in paragraphs (a)(1)(i) through (iv) of this section.

(i) Were caused by a sudden, short, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner.

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices.

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for.

(iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

(2) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Offshift and overtime labor were used, to the extent practicable to make these repairs.

(3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions.

(4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, severe personal injury, or severe property damage.

(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health.

(6) All emissions monitoring and control systems were kept in operation if at all possible.

(7) Your actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs.

(8) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions.

(9) You have prepared a written root cause analysis to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(b) If your SSI unit experiences an exceedance of its emission limit(s) during a malfunction, you must notify the Administrator by telephone or facsimile (fax) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if you wish to avail yourself of an affirmative defense to civil penalties for that malfunction. If you seek to assert an affirmative defense, you must also submit a written report to the Administrator within 30 days of the initial occurrence of the exceedance of the standard in § 60.4845 to demonstrate, with all necessary supporting documentation, that you have met the requirements set forth in paragraph (a) of this section.

Initial Compliance Requirements

§ 60.4865 How and when do I demonstrate initial compliance with the emission limits and standards?

To demonstrate initial compliance with the emission limits and standards in Table 1 to this subpart, use the procedures specified in paragraph (a) of this section for particulate matter, hydrogen chloride, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, opacity, and fugitive emissions from ash handling, and follow the procedures specified in paragraph (b) of this section for carbon monoxide. In lieu of using the procedures specified in paragraph (a) of this section, you also have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity. You must meet the requirements of paragraphs (a) or (b) of this section, as applicable, and paragraphs (c) and (d) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.4900(a) and (b). Except as provided in paragraph (e) of this section, within 60 days after your SSI unit reaches the feed rate at which it will operate, or within 180 days after its initial startup, whichever comes first, you must demonstrate that your SSI unit meets the emission limits and standards specified in Table 1 to this subpart.

(a) Demonstrate initial compliance using the performance test required in § 60.8. You must demonstrate that your SSI unit meets the emission limits and standards specified in Table 1 to this subpart for particulate matter, hydrogen chloride, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, opacity, and fugitive emissions from ash handling using the performance test. The initial performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 1 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.4900(a).

(b) Demonstrate initial compliance using a continuous emissions monitoring system, continuous opacity monitoring system, or continuous automated sampling system. Collect data as specified in § 60.4900(b)(6) and use the following procedures:

(1) To demonstrate initial compliance with the carbon monoxide emission limit, you must use the carbon monoxide continuous emissions monitoring system specified in § 60.4900(b).

(2) To demonstrate initial compliance with the emission limits for particulate matter, hydrogen chloride, dioxins/furans total mass, dioxins/furans toxic equivalency, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity, you may substitute the use of a continuous monitoring system in lieu of conducting the initial performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(2) of this section (except opacity) in lieu of conducting the initial performance test for that pollutant in paragraph (a) of this section.

(ii) If your SSI unit is not equipped with a wet scrubber, you may substitute the use of a continuous opacity monitoring system in lieu of conducting the initial opacity and particulate matter performance tests in paragraph (a) of this section.

(iii) You may substitute the use of a continuous particulate matter monitoring system in lieu of conducting the initial opacity performance test in paragraph (a) of this section.

(iv) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the initial mercury or dioxin/furan performance test in paragraph (a) of this section.

(3) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) or (2) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in

§ 60.4900(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7.

(4) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(2) of this section, you must:

(i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.

(A) Use the procedures specified in § 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 1 to this subpart.

(B) Use the procedures specified in § 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan emission limits in Table 1 to this subpart.

(ii) Comply with the provisions in § 60.58b(q) to develop a monitoring plan. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 1 of appendix F of this part.

(5) If you use a continuous opacity monitoring system to demonstrate compliance with an applicable emission or opacity limit in paragraph (b)(2) of this section, you must use the continuous opacity monitoring system and follow the requirements specified in § 60.4900(b). You must measure emissions and calculate 6-minute averages as specified in § 60.13(h)(1). Using these 6-minute averages, you must calculate 1-hour block average opacity values. You must demonstrate initial compliance using the arithmetic average of three 1-hour block averages.

(6) Except as provided in paragraph (e) of this section, you must complete your initial performance evaluations required under your monitoring plan for any continuous emissions monitoring system, continuous opacity monitoring systems, and continuous automated sampling systems no later than 60 days after the date of initial startup of the affected SSI unit, as specified under § 60.8. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in § 60.4880(a)(3).

(c) To demonstrate initial compliance with the dioxins/furans toxic equivalency emission limit in either paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra-through octachlorinated-congener emitted using Method 23 at 40 CFR part 60, appendix A–7.

(2) For each dioxin/furan (tetra-through octachlorinated) congener measured in accordance with paragraph (c)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 3 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) You must submit an initial compliance report, as specified in § 60.4915(c).

(e) If you demonstrate initial compliance using a performance test as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.4915(g). You must conduct the initial performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the initial performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

§ 60.4870 How do I establish my operating limits?

(a) You must establish the site-specific operating limits specified in paragraphs (c) through (k) of this section during the initial performance tests and performance evaluations required in § 60.4865 and the most recent performance tests and performance evaluations required in § 60.4885. Follow the data measurement and recording frequencies and data averaging times specified in Table 2 to this subpart and follow the testing, monitoring, and calibration requirements specified in §§ 60.4900 and 60.4905. You are not required to establish operating limits for the operating parameters listed in Table 2 to this subpart for a control device if you use a continuous monitoring system to demonstrate compliance with the emission limits in Table 1 to this subpart for the applicable pollutants, as follows:

(1) For a scrubber designed to control emissions of hydrogen chloride and sulfur dioxide, you are not required to establish an operating limit and monitor pressure drop across the scrubber (or amperage to the scrubber), scrubber liquor flow rate, and scrubber pH if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for hydrogen chloride or sulfur dioxide.

(2) For a scrubber designed to control emissions of particulate matter, cadmium, and lead, you are not required to establish an operating limit and monitor pressure drop across the scrubber (or amperage to the scrubber), scrubber liquor flow rate, and scrubber pH if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, or lead.

(3) You are not required to establish an operating limit and monitor secondary voltage of the collection plates, secondary amperage of the collection plates, and effluent water flow rate at the outlet of the electrostatic precipitator if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, or lead.

(4) You are not required to establish an operating limit and monitor mercury sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for mercury.

(5) You are not required to establish an operating limit and monitor dioxin/furan sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limits for dioxins/furans.

(b) For each operating parameter specified in paragraphs (c) through (k) of this section, determine the average operating parameter level during the initial or most recent performance test or performance evaluation for the applicable pollutant(s) according to the procedures specified in paragraph (b)(1), (2), or (3) of this section, as applicable.

(1) *For continuous monitoring systems that collect multiple data points each hour.* (i) Collect the incremental data for the operating parameter (*e.g.,* scrubber liquor flow rate) for each of the three performance test run periods for each applicable pollutant (e.g., sulfur dioxide and hydrogen chloride). For each applicable performance test run period, calculate the arithmetic average operating parameter level.

(ii) The highest arithmetic average operating parameter level of the applicable performance test run periods specified in paragraph (b)(1)(i) of this section represents the average operating parameter level (*e.g.,* average scrubber liquor flow rate) during the performance test(s) for the applicable pollutant(s). Use this average operating parameter level to establish the respective operating limit, as specified in paragraphs (c) through (k) of this section.

(2) *For continuous monitoring systems that collect data on an hourly basis.* (i) Collect the hourly data for the operating parameter (*e.g.,* mercury sorbent injection rate) for each of the three performance test run periods for each applicable pollutant (*e.g.,* mercury). For each applicable performance test run period, calculate the arithmetic average operating parameter level.

(ii) The highest arithmetic average operating parameter level of the applicable performance test runs specified in paragraph (b)(2)(i) of this section represents the average operating parameter level (*e.g.,* average mercury sorbent injection rate) during the performance test(s) for the applicable pollutant(s). Use this average operating parameter level to establish the respective operating limit, as specified in paragraphs (c) through (k) of this section.

(3) *For continuous monitoring systems that collect data on a daily basis.* Collect the daily data for the operating parameter (*e.g.,* sludge moisture content) for each day that a performance test is conducted for the applicable pollutant(s). The highest daily arithmetic average operating parameter level for the applicable performance tests represents the average operating parameter level (*e.g.,* average sludge moisture content) during the performance test(s) for the applicable pollutant(s). Use this average operating parameter level to establish the respective operating limit, as specified in paragraphs (c) through (k) of this section.

(c) Minimum pressure drop across each wet scrubber, calculated as 90 percent of the average pressure drop across each wet scrubber, determined according to paragraph (b)(1) of this section.

(d) Minimum scrubber liquor flow rate (measured at the inlet to the wet scrubber), calculated as 90 percent of the average liquor flow rate, determined according to paragraph (b)(1) of this section.

(e) Minimum scrubber liquor pH (measured at the inlet to the wet scrubber), calculated as 90 percent of the average liquor pH, determined according to paragraph (b)(1) of this section.

(f) Minimum combustion chamber temperature (or minimum afterburner temperature), calculated as 90 percent of the average combustion chamber temperature (or afterburner temperature), determined according to paragraph (b)(1) of this section.

(g) Minimum power input to the electrostatic precipitator collection plates, calculated as 90 percent of the average power input. Average power input must be calculated as the product of the average secondary voltage and average secondary amperage to the electrostatic precipitator, both determined according to paragraph (b)(2) of this section.

(h) Maximum effluent water flow rate at the outlet of the electrostatic precipitator, calculated as 70 percent of the average effluent water flow rate at the outlet of the electrostatic precipitator, determined according to paragraph (b)(2) of this section.

(i) For activated carbon injection:

(1) Minimum mercury sorbent injection rate, calculated as 90 percent of the average mercury sorbent injection rate, determined according to paragraph (b)(2) of this section.

(2) Minimum dioxin/furan sorbent injection rate, calculated as 90 percent of the average dioxin/furan sorbent injection rate, determined according to paragraph (b)(2) of this section.

(3) Minimum carrier gas flow rate or minimum carrier gas pressure drop, as follows:

(i) Minimum carrier gas flow rate, calculated as 90 percent of the average carrier gas flow rate, determined according to paragraph (b)(1) of this section.

(ii) Minimum carrier gas pressure drop, calculated as 90 percent of the average carrier gas flow rate, determined according to paragraph (b)(1) of this section.

(j) Maximum dry sludge feed rate, calculated as 110 percent of the average dry sludge feed rate, determined according to paragraph (b)(2) of this section.

(k) Sludge moisture content, measured on a daily basis as a percentage, must be no less than 10 percent less than and no more than 10 percent greater than the average sludge moisture content, determined according to paragraph (b)(3) of this section. For example, if your average sludge moisture content is measured as 20 percent, your sludge moisture level must be greater than or equal to 18 percent and less than or equal to 22 percent.

§ 60.4875 By what date must I conduct the initial air pollution control device inspection and make any necessary repairs?

(a) You must conduct an air pollution control device inspection according to § 60.4900(c) within 60 days of achieving the maximum feed rate at which the affected SSI unit will be operated or within 180 days of initial startup of the SSI unit, whichever comes first. For air pollution control devices installed after the SSI unit achieves the maximum feed rate at which it will be operated, you must conduct the air pollution control device inspection within 60 days after installation of the control device or within 180 days of initial startup of the SSI unit, whichever comes later.

(b) Within 10 operating days following the air pollution control device inspection under paragraph (a) of this section, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the SSI unit must be completed.

§ 60.4880 How do I develop a site-specific monitoring plan for my continuous monitoring systems and bag leak detection system and by what date must I conduct an initial performance evaluation of my continuous monitoring systems and bag leak detection system?

You must develop and submit to the Administrator for approval a site-specific monitoring plan for each continuous monitoring system required under this subpart, according to the requirements in paragraphs (a) through (c) of this section. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under § 60.13(i) and paragraph (d) of this section. If you use a continuous automated sampling system to comply with the mercury or dioxin/furan emission limits, you must develop your monitoring plan as specified in § 60.58b(q), and you are not required to meet the requirements in paragraphs (a) and (b) of this section. You must submit your monitoring plan at least 60 days before your initial performance evaluation of your continuous monitoring system(s), as specified in paragraph (c) of this

section. You must update your monitoring plan as specified in paragraph (e) of this section.

(a) For each continuous monitoring system, your monitoring plan must address the elements and requirements specified in paragraphs (a)(1) through (8) of this section.

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

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

(3) Performance evaluation procedures and acceptance criteria.

(i) For continuous emissions monitoring systems, your performance evaluation and acceptance criteria will include, but not be limited to, the following:

(A) The applicable requirements for continuous emissions monitoring systems specified in § 60.13.

(B) The applicable performance specifications (*e.g.,* relative accuracy tests) in appendix B of this part.

(C) The applicable procedures (*e.g.,* quarterly accuracy determinations and daily calibration drift tests) in appendix F of this part.

(ii) For continuous opacity monitoring systems, your performance evaluation and acceptance criteria will include, but not be limited to, the following:

(A) The applicable requirements for continuous emissions monitoring systems specified in § 60.13.

(B) Performance Specification 1 in appendix B of this part.

(iii) For continuous parameter monitoring systems, your performance evaluation and acceptance criteria must include, but not be limited to, the associated performance specifications and quality assurance procedures.

(4) Ongoing operation and maintenance procedures in accordance with the general requirements of § 60.11(d).

(5) Ongoing data quality assurance procedures in accordance with the general requirements of § 60.13.

(6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 60.7(b), (c), (c)(1), (c)(4), (d), (e), (f), and (g).

(7) Provisions for periods when the continuous monitoring system is out of control, as follows:

(i) A continuous emissions monitoring system is out of control if the conditions in any one of paragraphs (a)(7)(i)(A), (a)(7)(i)(B), or (a)(7)(i)(C) of this section are met.

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard.

(B) The continuous emissions monitoring system fails a performance test audit (*e.g.,* cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

(C) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the continuous emissions monitoring system is out of control as specified in paragraph (a)(7)(i) of this section, you must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (*e.g.,* calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.

(8) Schedule for conducting initial and periodic performance evaluations of your continuous monitoring systems in accordance with your site-specific monitoring plan.

(b) If a bag leak detection system is used, your monitoring plan must include a description of the following items:

(1) Installation of the bag leak detection system.

(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established.

(3) Operation of the bag leak detection system, including quality assurance procedures.

(4) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list.

(5) How the bag leak detection system output will be recorded and stored.

(c) You must conduct an initial performance evaluation of each continuous monitoring system and bag leak detection system, as applicable, in accordance with your monitoring plan, and within 60 days of installation of the continuous monitoring system and bag leak detection system, as applicable.

(d) You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the standards of this subpart, subject to the provisions of paragraphs (d)(1) through (d)(6) of this section.

(1) The Administrator will not approve averaging periods other than those specified in this section, unless you document, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved during the performance test over any increment of time equivalent to the time required to conduct three runs of the performance test.

(2) If the application to use an alternate monitoring requirement is approved, you must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.

(3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (d)(3)(i) through (d)(3)(iii) of this section:

(i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.

(ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated.

(iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.

(4) The Administrator will notify you of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternate monitoring application, the Administrator will provide the following:

(i) Notice of the information and findings upon which the intended disapproval is based.

(ii) Notice of opportunity for you to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for you to provide additional supporting information.

(5) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart.

(6) The Administrator may decide at any time, on a case-by-case basis that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart.

(e) You must update your monitoring plan if there are any changes in your monitoring procedures or if there is a process change, as defined in § 60.4930.

Continuous Compliance Requirements

§ 60.4885 How and when do I demonstrate continuous compliance with the emission limits and standards?

To demonstrate continuous compliance with the emission limits and standards specified in Table 1 to this subpart, use the procedures specified in paragraph (a) of this section for particulate matter, hydrogen chloride, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, opacity, and fugitive emissions from ash handling, and follow the procedures specified in paragraph (b) of this section for carbon monoxide. In lieu of using the procedures specified in paragraph (a) of this section, you also have the option to demonstrate continuous compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity. You must meet the requirements of paragraphs (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.4900(a) and (b).

(a) Demonstrate continuous compliance using a performance test. Within 10 to 12 months following the initial performance test (except as provided in paragraph (e) of this section), demonstrate continuous compliance with the emission limits and standards in Table 1 to this subpart for particulate matter, hydrogen chloride, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, opacity, and fugitive emissions from ash handling using a performance test. The performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 1 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.4900(a). Conduct subsequent annual performance tests within 10 to 12 months following the previous one.

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. The Administrator may request a repeat performance test at any time.

(2) You must repeat the performance test within 60 days of a process change, as defined in § 60.4930.

(3) You have the option to perform less frequent testing to demonstrate compliance with the particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead emission limits.

(i) To perform less frequent testing, you must meet the following requirements:

(A) You have test data for at least 3 consecutive years.

(B) The test data results for particulate matter, hydrogen chloride, carbon monoxide, mercury, nitrogen oxides, sulfur dioxide, cadmium, or lead are less than 75 percent of the applicable emission limits.

(C) There are no changes in the operation of the SSI unit or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months following the previous performance test.

(ii) If your SSI unit continues to emit less than 75 percent of the emission limit for particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, carbon monoxide, or lead and there are no changes in the operation of the SSI unit or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test.

(iii) If a performance test shows emissions exceeded 75 percent or greater of the emission limit for particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, carbon monoxide, or lead, you must conduct annual performance tests for that pollutant until all performance tests over the next 3-year period are within 75 percent of the applicable emission limit.

(b) Demonstrate continuous compliance using a continuous emissions monitoring system, continuous opacity monitoring system, or continuous automated sampling system. Collect data as specified in § 60.4900(b)(6) and use the following procedures:

(1) To demonstrate continuous compliance with the carbon monoxide emission limit, you must use the carbon monoxide continuous emissions monitoring system specified in § 60.4900(b).

(2) To demonstrate continuous compliance with the emission limits for particulate matter, hydrogen chloride, dioxins/furans total mass, dioxins/furans toxic equivalency, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity, you may substitute the use of a continuous monitoring system in lieu of conducting the annual performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant (except opacity) specified in paragraph (b)(2) of this section in lieu of conducting the annual performance test for that pollutant in paragraph (a) of this section.

(ii) If your SSI unit is not equipped with a wet scrubber, you may substitute the use of a continuous opacity monitoring system in lieu of conducting the annual opacity and particulate matter performance tests in paragraph (a) of this section.

(iii) You may substitute the use of a particulate matter continuous emissions monitoring system in lieu of conducting the annual opacity performance test in paragraph (a) of this section.

(iv) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.

(3) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in either paragraph (b)(1) or (2) of this section, you must use the continuous emissions monitoring system and follow the requirements

specified in § 60.4900(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7.

(4) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(2) of this section, you must:

(i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.

(A) Use the procedures specified in § 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 1 to this subpart.

(B) Use the procedures specified in § 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan emission limits in Table 1 to this subpart.

(ii) Update your monitoring plan as specified in § 60.4880(e). For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 1 of appendix F of this part.

(5) If you use a continuous opacity monitoring system to demonstrate compliance with an applicable emission or opacity limit in paragraph (b)(2) of this section, you must use the continuous opacity monitoring system and follow the requirements specified in § 60.4900(b). You must measure emissions and calculate 6-minute averages as specified in § 60.13(h)(1). Using these 6-minute averages, you must calculate 1-hour block average opacity values. You must demonstrate initial compliance using the arithmetic average of three 1-hour block averages.

(6) Except as provided in paragraph (e) of this section, you must complete your periodic performance evaluations required under your monitoring plan for any continuous emissions monitoring system, continuous opacity monitoring systems, and continuous automated sampling systems, according to the schedule specified in your monitoring plan. If you were previously determining compliance by conducting an annual performance test, you must complete the initial performance evaluation required in your monitoring plan in § 60.4880 for the continuous monitoring system within 60 days of notification to the Administrator of use of the continuous emissions monitoring system, continuous opacity monitoring, or continuous automated sampling system. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in § 60.4880(a)(3).

(c) To demonstrate compliance with the dioxins/furans toxic equivalency emission limit in paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra-through octachlorinated-congener emitted using EPA Method 23.

(2) For each dioxin/furan (tetra-through octachlorinated) congener measured in accordance with paragraph (c)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 3 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) You must submit the annual compliance report specified in § 60.4915(d). You must submit the deviation report specified in § 60.4915(e) for each instance that you did not meet each emission limit in Table 1 to this subpart.

(e) If you demonstrate continuous compliance using a performance test, as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.4915(g). You must conduct the performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

§ 60.4890 How do I demonstrate continuous compliance with my operating limits?

You must meet the requirements of paragraphs (a) through (c) of this section, according to the monitoring and calibration requirements in § 60.4905.

(a) You must continuously monitor the operating parameters specified in paragraphs (a)(1) and (2) of this section using the continuous monitoring equipment and according to the procedures specified in § 60.4905, except as provided in § 60.4855. Four-hour rolling average values are used to determine compliance (except for sludge moisture content and alarm time of the baghouse leak detection system) unless a different averaging period is established under § 60.4855 for an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection. A daily average must be used to determine compliance for sludge moisture content.

(1) You must demonstrate that the SSI unit meets the operating limits established according to §§ 60.4855 and 60.4870 for each applicable operating parameter.

(2) You must demonstrate that the SSI unit meets the operating limit for bag leak detection systems as follows:

(i) For a bag leak detection system, you must calculate the alarm time as follows:

(A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.

(B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour.

(C) If you take longer than 1 hour to initiate corrective action, each alarm time (*i.e.,* time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.

(ii) Your maximum alarm time is equal to 5 percent of the operating time during a 6-month period, as specified in § 60.4850(c).

(b) Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. You must submit the deviation report specified in § 60.4915(e) for each instance that you did not meet one of your operating limits established under this subpart.

(c) You must submit the annual compliance report specified in § 60.4915(d) to demonstrate continuous compliance.

§ 60.4895 By what date must I conduct annual air pollution control device inspections and make any necessary repairs?

(a) You must conduct an annual inspection of each air pollution control device used to comply with the emission limits, according to § 60.4900(c), within 10 to 12 months following the previous annual air pollution control device inspection.

(b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the affected SSI unit must be completed.

Performance Testing, Monitoring, and Calibration Requirements

§ 60.4900 What are the performance testing, monitoring, and calibration requirements for compliance with the emission limits and standards?

You must meet, as applicable, the performance testing requirements specified in paragraph (a) of this section, the monitoring requirements specified in paragraph (b) of this section, the air pollution control device inspections requirements specified in paragraph (c) of this section, and the bypass stack provisions specified in paragraph (d) of this section.

(a) *Performance testing requirements.* (1) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations, as specified in § 60.8(c). Emissions in excess of the emission limits or standards during periods of startup, shutdown, and malfunction are considered deviations from the applicable emission limits or standards.

(2) You must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by:

(i) Maintaining a log of the quantity of sewage sludge burned during the performance test.

(ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test.

(3) All performance tests must be conducted using the test methods, minimum sampling volume, observation period, and averaging methods specified in Table 1 to this subpart.

(4) Method 1 at 40 CFR part 60, appendix A–1 must be used to select the sampling location and number of traverse points.

(5) Method 3A or 3B at 40 CFR part 60, appendix A–2 must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B at 40 CFR part 60, appendix A–2 must be used simultaneously with each method.

(6) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using Equation 1 of this section:

$$C_{adj} = C_{meas}(20.9 - 7)/(20.9 - \%O_2) \qquad \text{(Eq. 1)}$$

Where:

C_{adj} = Pollutant concentration adjusted to 7 percent oxygen.

C_{meas} = Pollutant concentration measured on a dry basis.

(20.9 − 7) = 20.9 percent oxygen − 7 percent oxygen (defined oxygen correction basis).

20.9 = Oxygen concentration in air, percent.

$\%O_2$ = Oxygen concentration measured on a dry basis, percent.

(7) Performance tests must be conducted and data reduced in accordance with the test methods and procedures contained in this subpart unless the Administrator does one of the following.

(i) Specifies or approves, in specific cases, the use of a method with minor changes in methodology.

(ii) Approves the use of an equivalent method.

(iii) Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

(iv) Waives the requirement for performance tests because you have demonstrated by other means to the Administrator's satisfaction that the affected SSI unit is in compliance with the standard.

(v) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph is construed to abrogate the Administrator's authority to require testing under section 114 of the Clean Air Act.

(8) You must provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, you must notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.

(9) You must provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods applicable to the SSI unit, as follows:

(A) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures.

(B) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(10) Unless otherwise specified in this subpart, each performance test must consist of three separate runs using the applicable test method. Each run must be conducted for the time and under the conditions specified in the applicable standard. Compliance with each emission limit must be determined by calculating the arithmetic mean of the three runs. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond your control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(b) *Continuous monitor requirements.* You must meet the following requirements, as applicable, when using a continuous monitoring system to demonstrate compliance with the emission limits in Table 1 to this subpart. The option to use a continuous emissions monitoring system for

hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium, or lead is published in the **Federal Register**. If you elect to use a continuous emissions monitoring system or continuous opacity monitoring system instead of conducting annual performance testing, you must meet the requirements of paragraphs (b)(1) through (6) of this section. If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must meet the requirements of paragraph (b)(7) of this section. The option to use a continuous automated sampling system for mercury or dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the **Federal Register**.

(1) You must notify the Administrator 1 month before starting use of the continuous emissions monitoring system or continuous opacity monitoring system.

(2) You must notify the Administrator 1 month before stopping use of the continuous emissions monitoring system or continuous opacity monitoring system, in which case you must also conduct a performance test within 60 days of ceasing operation of the system.

(3) You must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the emissions to the atmosphere or opacity in accordance with the following:

(i) Section 60.13 of subpart A of this part.

(ii) The following performance specifications of appendix B of this part, as applicable:

(A) For particulate matter, Performance Specification 11 of appendix B of this part.

(B) For hydrogen chloride, Performance Specification 15 of appendix B of this part.

(C) For carbon monoxide, Performance Specification 4B of appendix B of this part.

(D) [Reserved]

(E) For mercury, Performance Specification 12A of appendix B of this part.

(F) For nitrogen oxides, Performance Specification 2 of appendix B of this part.

(G) For sulfur dioxide, Performance Specification 2 of appendix B of this part.

(H) [Reserved]

(I) [Reserved]

(J) For opacity, Performance Specification 1 of appendix B of this part.

(iii) For continuous emissions monitoring systems, the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of appendix F of this part specified in paragraphs (b)(3)(iii)(A) through (I) of this section. For each pollutant, the span value of the continuous emissions monitoring system is two times the applicable emission limit, expressed as a concentration.

(A) For particulate matter, Procedure 2 in appendix F of this part.

(B) For hydrogen chloride, Procedure 1 in appendix F of this part except that the Relative Accuracy Test Audit requirements of Procedure 1 shall be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of Performance Specification 15 of appendix B of this part.

(C) For carbon monoxide, Procedure 1 in appendix F of this part.

(D) [Reserved]

(E) For mercury, Procedures 1 and 5 in appendix F of this part.

(F) For nitrogen oxides, Procedure 1 in appendix F of this part.

(G) For sulfur dioxide, Procedure 1 in appendix F of this part.

(H) [Reserved]

(I) [Reserved]

(4) During each relative accuracy test run of the continuous emissions monitoring system using the performance specifications in paragraph (b)(3)(ii) of this section, emission data for each regulated pollutant and oxygen (or carbon dioxide as established in paragraph (b)(5) of this section) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitors and the test methods specified in paragraphs (b)(4)(i) through (viii) of this section. Relative accuracy testing must be at normal operating conditions while the SSI unit is charging sewage sludge.

(i) For particulate matter, Method 5 at 40 CFR part 60, appendix A–3 or Method 26A or 29 at 40 CFR part 60, appendix A–8 shall be used.

(ii) For hydrogen chloride, Method 26 or 26A at 40 CFR part 60, appendix A–8, shall be used.

(iii) For carbon monoxide, Method 10, 10A, or 10B at 40 CFR part 60, appendix A–4, shall be used.

(iv) For dioxins/furans, Method 23 at 40 CFR part 60, appendix A–7, shall be used.

(v) For mercury, cadmium, and lead, Method 29 at 40 CFR part 60, appendix A–8, or as an alternative ASTM D6784–02, shall be used.

(vi) For nitrogen oxides, Method 7 or 7E at 40 CFR part 60, appendix A–4, shall be used.

(vii) For sulfur dioxide, Method 6 or 6C at 40 CFR part 60, appendix A–4, or as an alternative American National Standards Institute/American Society of Mechanical Engineers PTC–19.10–1981 Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus] must be used. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for inlet sulfur dioxide continuous emissions monitoring system should be no greater than 20 percent of the mean value of the method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the method and the continuous emissions monitoring system, whichever is greater.

(viii) For oxygen (or carbon dioxide as established in paragraph (a)(2)(v) of this section), Method 3A or 3B at 40 CFR part 60, appendix A–2, or as an alternative American National Standards Institute/American Society of Mechanical Engineers PTC–19.10–1981—Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus], as applicable, must be used.

(5) You may request that compliance with the emission limits (except opacity) be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels must be established during the initial performance test according to the procedures and methods specified in paragraphs (b)(5)(i) through (iv) of this section. This relationship may be re-established during subsequent performance compliance tests.

(i) The fuel factor equation in Method 3B at 40 CFR part 60, appendix A–2 must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B at 50 CFR part 60, appendix A–2, or as an alternative American National Standards Institute/American Society of Mechanical Engineers PTC–19.–10–1981—Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus], as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(ii) Samples must be taken for at least 30 minutes in each hour.

(iii) Each sample must represent a 1-hour average.

(iv) A minimum of three runs must be performed.

(6) You must collect data with the continuous monitoring system as follows:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (b)(6)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

(ii) You must collect continuous opacity monitoring system data in accordance with § 60.13(e)(1), and you must collect continuous emissions monitoring system data in accordance with § 60.13(e)(2).

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in a deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.4880(a)(7)(i) must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction, as defined in § 60.4930, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (b)(6)(iii) and (iv) of this section in assessing the operation of the control device and associated control system.

(7) If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must:

(i) Install, calibrate, maintain, and operate a continuous automated sampling system according to the site-specific monitoring plan developed in § 60.58b(p)(1) through (p)(6), (p)(9), (p)(10), and (q).

(ii) Collect data according to § 60.58b(p)(5) and paragraph (b)(6) of this section.

(c) *Air pollution control device inspections.* You must conduct air pollution control device inspections that include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation, if applicable.

(2) Ensure proper calibration of thermocouples, sorbent feed systems, and any other monitoring equipment.

(3) Generally observe that the equipment is maintained in good operating condition.

(4) Ensure that the air pollution control device meets manufacturer recommendations.

(d) *Bypass stack.* Use of the bypass stack at any time that sewage sludge is being charged to the SSI unit is an emissions standards deviation for all pollutants listed in Table 1 to this subpart. The use of the bypass stack during a performance test invalidates the performance test.

§ 60.4905 What are the monitoring and calibration requirements for compliance with my operating limits?

(a) You must install, operate, calibrate, and maintain the continuous parameter monitoring systems for measuring flow, pressure, pH, and temperature according to the requirements in paragraphs (a)(1) and (2) of this section:

(1) Meet the following general requirements for flow, pressure, pH, and temperature measurement devices:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (a)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

(ii) You must collect continuous parameter monitoring system data in accordance with § 60.13(e)(2).

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in your annual deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.4880(a)(7)(i) must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction, as defined in § 60.4930, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (a)(1)(iii) and (iv) of this section in assessing the operation of the control device and associated control system.

(vi) Determine the 4-hour rolling average of all recorded readings, except as provided in paragraph (a)(1)(iii) of this section.

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

(2) Meet the following requirements for each type of measurement device:

(i) If you have an operating limit that requires the use of a flow measurement device, you must meet the following requirements:

(A) Locate the flow sensor and other necessary equipment in a position that provides a representative flow.

(B) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.

(C) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(D) Conduct a flow sensor calibration check at least semi-annually.

(E) For carrier gas flow rate monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.4885, you must demonstrate that the system is maintained within +/-5 percent accuracy, according to the procedures in appendix A to part 75 of this chapter.

(ii) If you have an operating limit that requires the use of a pressure measurement device, you must meet the following requirements:

(A) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.

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

(C) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(D) Check pressure tap pluggage daily.

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

(F) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(G) For carrier gas pressure drop monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.4885, you must demonstrate that the system is maintained within +/-5 percent accuracy.

(iii) If you have an operating limit that requires the use of a pH measurement

device, you must meet the following requirements:

(A) Locate the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

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

(C) Check the pH meter's calibration on at least two points every 8 hours of process operation.

(iv) If you have an operating limit that requires the use of a temperature measurement device, you must meet the following requirements:

(A) Locate the temperature sensor and other necessary equipment in a position that provides a representative temperature.

(B) Use a temperature sensor with a minimum tolerance of 2.3 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range.

(C) Use a temperature sensor with a minimum tolerance of 2.3 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range.

(D) Conduct a temperature measurement device calibration check at least every 3 months.

(b) You must install, operate, calibrate, and maintain the continuous parameter monitoring systems for voltage, amperage, mass flow rate, and bag leak detection system as specified in paragraphs (b)(1) through (3) of this section.

(1) If you have an operating limit that requires the use of equipment to monitor secondary voltage and secondary amperage (or power input) of an electrostatic precipitator, you must use secondary voltage and secondary amperage monitoring equipment to measure secondary voltage and secondary amperage to the electrostatic precipitator.

(2) If you have an operating limit that requires the use of equipment to monitor mass flow rate for sorbent injection (*e.g.,* weigh belt, weigh hopper, or hopper flow measurement device), you must meet the following requirements:

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

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

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

(3) If you use a fabric filter to comply with the requirements of this subpart, you must:

(i) Install, operate, calibrate, and maintain your bag leak detection system as follows:

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

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

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

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

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

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

(G) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

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

(I) You must operate and maintain your bag leak detection system in continuous operation according to your monitoring plan required under § 60.4880.

(ii) You must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and you must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(A) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate matter emissions.

(B) Sealing off defective bags or filter media.

(C) Replacing defective bags or filter media or otherwise repairing the control device.

(D) Sealing off a defective fabric filter compartment.

(E) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.

(F) Shutting down the process producing the PM emissions.

(c) You must operate and maintain the continuous parameter monitoring systems specified in paragraphs (a) and (b) of this section in continuous operation according to your monitoring plan required under § 60.4880.

(d) If your SSI unit has a bypass stack, you must install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time, and duration.

Recordkeeping and Reporting

§ 60.4910 What records must I keep?

You must maintain the items (as applicable) specified in paragraphs (a) through (m) of this section for a period of at least 5 years. All records must be available on site in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

(a) *Date.* Calendar date of each record.

(b) *Siting.* All documentation produced as a result of the siting requirements of §§ 60.4800 and 60.4805.

(c) *Operator Training.* Documentation of the operator training procedures and records specified in paragraphs (c)(1) through (4) of this section. You must make available and readily accessible at the facility at all times for all SSI unit operators the documentation specified in paragraph (c)(1) of this section.

(1) Documentation of the following operator training procedures and information:

(i) Summary of the applicable standards under this subpart.

(ii) Procedures for receiving, handling, and feeding sewage sludge.

(iii) Incinerator startup, shutdown, and malfunction procedures.

(iv) Procedures for maintaining proper combustion air supply levels.

(v) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.

(vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

(vii) Reporting and recordkeeping procedures.

(viii) Procedures for handling ash.

(ix) A list of the materials burned during the performance test, if in addition to sewage sludge.

(x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of § 60.4835(a), the phone and/or pager number at which they can be reached during operating hours.

(2) Records showing the names of SSI unit operators and other plant personnel who may operate the unit according to the provisions of § 60.4835(a), as follows:

(i) Records showing the names of SSI unit operators and other plant personnel who have completed review of the information in paragraph (c)(1) of this section as required by § 60.4840(b), including the date of the initial review and all subsequent annual reviews.

(ii) Records showing the names of the SSI operators who have completed the operator training requirements under § 60.4810, met the criteria for qualification under § 60.4820, and maintained or renewed their qualification under § 60.4825 or § 60.4830. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications.

(3) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in § 60.4835(a).

(4) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted as required in § 60.4835(b).

(d) *Air pollution control device inspections.* Records of the results of initial and annual air pollution control device inspections conducted as specified in §§ 60.4875 and 60.4900(c), including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.

(e) *Performance test reports.* (1) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable.

(2) Retain a copy of the complete performance test report, including calculations.

(3) Keep a record of the log of the quantity of sewage sludge burned during the performance tests, as required in § 60.4900(a)(2).

(4) Keep any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations.

(f) *Continuous monitoring data.* Records of the following data, as applicable:

(1) For continuous opacity monitoring systems, all 6-minute average and 1-hour block average levels of opacity.

(2) For continuous emissions monitoring systems, all 1-hour average concentrations of particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead emissions.

(3) For continuous automated sampling systems, all average concentrations measured for mercury and dioxins/furans at the frequencies specified in your monitoring plan.

(4) For continuous parameter monitoring systems:

(i) All 1-hour average values recorded for the following operating parameters, as applicable:

(A) Dry sludge feed rate and combustion chamber temperature (or afterburner temperature).

(B) If a wet scrubber is used to comply with the rule, pressure drop across the wet scrubber system, liquor flow rate to the wet scrubber, and liquor pH as introduced to the wet scrubber.

(C) If an electrostatic precipitator is used to comply with the rule, voltage of the electrostatic precipitator collection plates or amperage of the electrostatic precipitator collection plates, and effluent water flow rate at the outlet of the wet electrostatic precipitator.

(D) If activated carbon injection is used to comply with the rule, mercury sorbent flow rate and carrier gas flow rate or pressure drop, as applicable.

(ii) Daily average values and composite sample values for sludge moisture content.

(iii) If a fabric filter is used to comply with the rule, the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in § 60.4850(b).

(iv) For other control devices for which you must establish operating limits under § 60.4855, you must maintain data collected for all operating parameters used to determine compliance with the operating limits, at the frequencies specified in your monitoring plan.

(g) *Other records for continuous monitoring systems.* You must keep the following records, as applicable:

(1) Keep records of any notifications to the Administrator in § 60.4915(h)(1) of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.

(2) Keep records of any requests under § 60.4900(b)(5) that compliance with the emission limits (except opacity) be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen.

(3) If activated carbon injection is used to comply with the rule, the type of sorbent used and any changes in the type of sorbent used.

(h) *Deviation Reports.* Records of any deviation reports submitted under § 60.4915(e) and (f).

(i) *Equipment specifications and operation and maintenance requirements.* Equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls, and monitoring equipment.

(j) *Calibration of monitoring devices.* Records of calibration of any monitoring devices as required under §§ 60.4900 and 60.4905.

(k) *Monitoring plan and performance evaluations for continuous monitoring systems.* Records of the monitoring plan required under § 60.4880, and records of performance evaluations required under § 60.4885(b)(6).

(l) *Less frequent testing.* Any records required to document that your SSI unit qualifies for less frequent testing under § 60.4885(a)(3).

(m) *Use of bypass stack.* Records indicating use of the bypass stack, including dates, times, and durations as required under § 60.4905(c).

§ 60.4915 What reports must I submit?

You must submit the reports specified in paragraphs (a) through (j) of this section. See Table 4 to this subpart for a summary of these reports.

(a) *Notification of construction.* You must submit a notification prior to commencing construction that includes the four items listed in paragraphs (a)(1) through (4) of this section:

(1) A statement of intent to construct.

(2) The anticipated date of commencement of construction.

(3) All documentation produced as a result of the siting requirements of § 60.4805.

(4) Anticipated date of initial startup.

(b) *Notification of initial startup.* You must submit the information specified in paragraphs (b)(1) through (b)(5) of this section prior to initial startup:

(1) The maximum design dry sludge burning capacity.

(2) The anticipated maximum dry sludge feed rate.

(3) If applicable, the petition for site-specific operating limits specified in § 60.4855.

(4) The anticipated date of initial startup.

(5) The site-specific monitoring plan required under § 60.4880, at least 60 days before your initial performance evaluation of your continuous monitoring system.

(c) *Initial compliance report.* You must submit the following information no later than 60 days following the initial performance test.

(1) Company name and address.

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

(3) Date of report.

(4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 1 to this subpart.

(5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation.

(6) The values for the site-specific operating limits established pursuant to §§ 60.4850 and 60.4855 and the calculations and methods used to establish each operating limit.

(7) If you are using a fabric filter to comply with the emission limits, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by § 60.4850(b).

(8) The results of the initial air pollution control device inspection required in § 60.4875, including a description of repairs.

(d) *Annual compliance report.* You must submit an annual compliance report that includes the items listed in paragraphs (d)(1) through (15) of this section for the reporting period specified in paragraph (d)(3) of this section. You must submit your first annual compliance report no later than 12 months following the submission of the initial compliance report in paragraph (c) of this section. You must submit subsequent annual compliance reports no more than 12 months following the previous annual compliance report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)

(1) Company name and address.

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

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

(4) If a performance test was conducted during the reporting period, the results of that performance test.

(i) If operating limits were established during the performance test, include the value for each operating limit and the method used to establish each operating limit, including calculations.

(ii) If activated carbon is used during the performance test, include the type of activated carbon used.

(5) For each pollutant and operating parameter recorded using a continuous monitoring system, the highest recorded 3-hour average and the lowest recorded 3-hour average during the reporting period, as applicable.

(6) If there are no deviations during the reporting period from any emission limit, emission standard, or operating limit that applies to you, a statement that there were no deviations from the emission limits, emission standard, or operating limits.

(7) Information for bag leak detection systems recorded under § 60.4910(f)(4)(iii).

(8) If a performance evaluation of a continuous monitoring system was conducted, the results of that performance evaluation. If new operating limits were established during the performance evaluation, include your calculations for establishing those operating limits.

(9) If you met the requirements of § 60.4885(a)(3) and did not conduct a performance test during the reporting period, you must include the dates of the last three performance tests, a comparison of the emission level you achieved in the last three performance tests to the 75 percent emission limit threshold specified in § 60.4885(a)(3)(i)(B), and a statement as to whether there have been any process changes and whether the process change resulted in an increase in emissions.

(10) Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours, but less than 2 weeks.

(11) Results of annual air pollution control device inspections recorded under § 60.4910(d) for the reporting period, including a description of repairs.

(12) If there were no periods during the reporting period when your continuous monitoring systems had a malfunction, a statement that there were no periods during which your continuous monitoring systems had a malfunction.

(13) If there were no periods during the reporting period when a continuous monitoring system was out of control, a statement that there were no periods during which your continuous monitoring systems were out of control.

(14) If there were no operator training deviations, a statement that there were no such deviations during the reporting period.

(15) If you did not make revisions to your site-specific monitoring plan during the reporting period, a statement that you did not make any revisions to your site-specific monitoring plan during the reporting period. If you made revisions to your site-specific monitoring plan during the reporting period, a copy of the revised plan.

(e) *Deviation reports.* (1) You must submit a deviation report if:

(i) Any recorded 4-hour rolling average parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart.

(ii) Any recorded daily average sludge moisture content is outside the allowable range.

(iii) The bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period.

(iv) Any recorded 4-hour rolling average emissions level is above the emission limit, if a continuous monitoring system is used to comply with an emission limit.

(v) Any opacity level recorded under § 60.4865(b)(5) that is above the opacity limit, if a continuous opacity monitoring system is used.

(vi) There are visible emissions of combustion ash from an ash conveying system for more than 5 percent of the hourly observation period.

(vii) A performance test was conducted that deviated from any emission limit in Table 1 to this subpart.

(viii) A continuous monitoring system was out of control.

(ix) You had a malfunction (*e.g.,* continuous monitoring system malfunction) that caused or may have caused any applicable emission limit to be exceeded.

(2) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).

(3) For each deviation where you are using a continuous monitoring system to comply with an associated emission limit or operating limit, report the items described in paragraphs (e)(3)(i) through (viii) of this section.

(i) Company name and address.

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

(iii) The calendar dates and times your unit deviated from the emission

limits, emission standards, or operating limits requirements.

(iv) The averaged and recorded data for those dates.

(v) Duration and cause of each deviation from the following:

(A) Emission limits, emission standards, operating limits, and your corrective actions.

(B) Bypass events and your corrective actions.

(vi) Dates, times, and causes for monitor downtime incidents.

(vii) A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.

(viii) If there were periods during which the continuous monitoring system had a malfunction or was out of control, you must include the following information for each deviation from an emission limit or operating limit:

(A) The date and time that each malfunction started and stopped.

(B) The date, time, and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.

(C) The date, time, and duration that each continuous monitoring system was out of control, including start and end dates and hours and descriptions of corrective actions taken.

(D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system as out of control, or during another period.

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

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

(G) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the SSI unit at which the continuous monitoring system downtime occurred during that reporting period.

(H) An identification of each parameter and pollutant that was monitored at the SSI unit.

(I) A brief description of the SSI unit.

(J) A brief description of the continuous monitoring system.

(K) The date of the latest continuous monitoring system certification or audit.

(L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(4) For each deviation where you are not using a continuous monitoring system to comply with the associated emission limit or operating limit, report the following items:

(i) Company name and address.

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

(iii) The total operating time of each affected SSI during the reporting period.

(iv) The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits requirements.

(v) The averaged and recorded data for those dates.

(vi) Duration and cause of each deviation from the following:

(A) Emission limits, emission standard, and operating limits, and your corrective actions.

(B) Bypass events and your corrective actions.

(vii) A copy of any performance test report that showed a deviation from the emission limits or standard.

(viii) A brief description of any malfunction reported in paragraph (e)(1)(viii) of this section, including a description of actions taken during the malfunction to minimize emissions in accordance with 60.11(d) and to correct the malfunction.

(f) *Qualified operator deviation.* (1) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (f)(1)(i) and (ii) of this section.

(i) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (f)(1)(i)(A) through (C) of this section.

(A) A statement of what caused the deviation.

(B) A description of actions taken to ensure that a qualified operator is accessible.

(C) The date when you anticipate that a qualified operator will be available.

(ii) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (f)(1)(ii)(A) through (C) of this section.

(A) A description of actions taken to ensure that a qualified operator is accessible.

(B) The date when you anticipate that a qualified operator will be accessible.

(C) Request for approval from the Administrator to continue operation of the SSI unit.

(2) If your unit was shut down by the Administrator, under the provisions of § 60.4835(b)(2)(i), due to a failure to provide an accessible qualified operator, you must notify the Administrator within 5 days of meeting § 60.4835(b)(2)(ii) that you are resuming operation.

(g) *Notification of a force majeure.* If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure:

(1) You must notify the Administrator, in writing as soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.

(2) You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which you propose to conduct the performance test.

(h) *Other notifications and reports required.* You must submit other notifications as provided by § 60.7 and as follows:

(1) You must notify the Administrator 1 month before starting or stopping use of a continuous monitoring system for determining compliance with any emission limit.

(2) You must notify the Administrator at least 30 days prior to any performance test conducted to comply with the provisions of this subpart, to afford the Administrator the opportunity to have an observer present.

(3) As specified in § 60.4900(a)(8), you must notify the Administrator at least 7 days prior to the date of a rescheduled performance test for which notification was previously made in paragraph (h)(2) of this section.

(i) *Report submission form.* (1) Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

(2) After December 31, 2011, within 60 days after the date of completing each performance evaluation or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data, except opacity, to EPA by successfully submitting the data electronically into EPA's Central Data Exchange by using the Electronic

Reporting Tool (*see http://www.epa.gov/ttn/chief/ert/ert_tool.html/*).

(j) *Changing report dates.* If the Administrator agrees, you may change the semi-annual or annual reporting dates. See § 60.19(c) for procedures to seek approval to change your reporting date.

Title V Operating Permits

§ 60.4920 Am I required to apply for and obtain a title V operating permit for my unit?

Yes, if you are subject to this subpart, you are required to apply for and obtain a title V operating permit unless you meet the relevant requirements for an exemption specified in § 60.4780.

§ 60.4925 When must I submit a title V permit application for my new SSI unit?

(a) If your new SSI unit subject to this subpart is not subject to an earlier permit application deadline, a complete title V permit application must be submitted on or before one of the dates specified in paragraph (a)(1) or (2) of this section. (See section 503(c) of the Clean Air Act and 40 CFR 70.5(a)(1)(i) and 40 CFR 71.5(a)(1)(i).)

(1) For an SSI unit that commenced operation as a new SSI unit as of [THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], then a complete title V permit application must be submitted not later than [THE DATE 1 YEAR AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(2) For an SSI unit that does not commence operation as a new SSI unit until after [THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**], then a complete title V permit application must be submitted not later than 12 months after the date the unit commences operation as a new source.

(b) If your new SSI unit subject to this subpart is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, a unit subject to this subpart may be a major source or part of a major source), then your unit may be required to apply for a title V permit prior to the deadlines specified in paragraph (a) of this section. If more than one requirement triggers a source's obligation to apply for a title V permit, the 12-month timeframe for filing a title V permit application is triggered by the requirement that first causes the source to be subject to title V. (*See* section 503(c) of the Clean Air Act and 40 CFR 70.3(a) and (b), 40 CFR 70.5(a)(1)(i), 40 CFR 71.3(a) and (b), and 40 CFR 71.5(a)(1)(i).)

(c) A "complete" title V permit application is one that has been determined or deemed complete by the relevant permitting authority under section 503(d) of the Clean Air Act and 40 CFR 70.5(a)(2) or 40 CFR 71.5(a)(2). You must submit a complete permit application by the relevant application deadline in order to operate after this date in compliance with Federal law. (See sections 503(d) and 502(a) of the Clean Air Act and 40 CFR 70.7(b) and 40 CFR 71.7(b).)

Definitions

§ 60.4930 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and § 60.2.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Auxiliary fuel means natural gas, liquefied petroleum gas, fuel oil, or diesel fuel.

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

Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

Co-fired combustor means a unit combusting sewage sludge or dewatered sludge pellets with other fuels or wastes (*e.g.,* coal, clean biomass, municipal solid waste, commercial or institutional waste, hospital medical infectious waste, unused pharmaceuticals, other solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10 percent or less of the weight of which is comprised, in aggregate, of sewage sludge.

Continuous automated sampling system means the total equipment and procedures for automated sample collection and sample recovery/analysis to determine a pollutant concentration or emission rate by collecting a single integrated sample(s) or multiple integrated sample(s) of the pollutant (or diluent gas) for subsequent on- or off-site analysis; integrated sample(s) collected are representative of the emissions for the sample time as specified by the applicable requirement.

Continuous emissions monitoring system means a monitoring system for continuously measuring and recording the emissions of a pollutant from an affected facility.

Continuous monitoring system (CMS) means a continuous emissions monitoring system, continuous automated sampling system, continuous parameter monitoring system, continuous opacity monitoring system, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by this subpart. The term refers to the total equipment used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

Continuous parameter monitoring system means a monitoring system for continuously measuring and recording operating conditions associated with air pollution control device systems (*e.g.,* temperature, pressure, and power).

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 limit, operating limit, or operator qualification and accessibility requirements.

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

Dioxins/furans means tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

Electrostatic precipitator or wet electrostatic precipitator means an air pollution control device that uses both electrical forces and, if applicable, water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

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

Fluidized bed incinerator means an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. During periods of malfunction the operator shall operate within established emissions and operating limits and shall continue monitoring of all applicable operating parameters until all waste has been combusted or until the malfunction ceases, whichever comes first.

Maximum feed rate means 110 percent of the highest 3-hour average dry charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits or standards.

Modification means a change to an SSI unit later than [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the SSI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the SSI unit used to calculate these costs, see the definition of SSI unit.

(2) Any physical change in the SSI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

Modified sewage sludge incineration (SSI) unit means an SSI unit that undergoes a modification, as defined in this section.

Multiple hearth incinerator means a circular steel furnace that contains a number of solid refractory hearths and a central rotating shaft; rabble arms that are designed to slowly rake the sludge on the hearth are attached to the rotating shaft. Dewatered sludge enters at the top and proceeds downward through the furnace from hearth to hearth, pushed along by the rabble arms.

New sewage sludge incineration unit means an SSI unit the construction of which is commenced after October 14, 2010 which would be applicable to such unit or a modified solid waste incineration unit.

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

Operating day means a 24-hour period between 12:00 midnight and the following midnight during which any amount of sewage sludge is combusted at any time in the SSI unit.

Particulate matter means filterable particulate matter emitted from SSI units as measured by Method 5 at 40 CFR part 60, appendix A–3 or Methods 26A or 29 at 40 CFR part 60, appendix A–8.

Power input to the electrostatic precipitator means the product of the test-run average secondary voltage and the test-run average secondary amperage to the electrostatic precipitator collection plates.

Process change means that any of the following have occurred:

(1) A change in the process employed at the wastewater treatment facility associated with the affected SSI unit (*e.g.,* the addition of tertiary treatment at the facility, which changes the method used for disposing of process solids and processing of the sludge prior to incineration).

(2) A change in the air pollution control devices used to comply with the emission limits for the affected SSI unit (*e.g.,* change in the sorbent used for activated carbon injection).

(3) An allowable increase in the quantity of wastewater received from an industrial source by the wastewater treatment facility.

Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incineration unit or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sewage sludge feed rate means the rate at which sewage sludge is fed into the incinerator unit.

Sewage sludge incineration (SSI) unit means an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter. Sewage sludge incineration unit designs include fluidized bed and multiple hearth.

Shutdown means the period of time after all sewage sludge has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sewage sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

Standard conditions, when referring to units of measure, means a temperature of 68 °F (20 °C) and a pressure of 1 atmosphere (101.3 kilopascals).

Startup means the period of time between the activation, including the firing of fuels (*e.g.,* natural gas or distillate oil), of the system and the first feed to the unit.

Toxic equivalency means the product of the concentration of an individual dioxin congener in an environmental mixture and the corresponding estimate of the compound-specific toxicity relative to tetrachlorinated dibenzo-p-dioxin, referred to as the toxic equivalency factor for that compound. Table 3 to this subpart lists the toxic equivalency factors.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

You means the owner or operator of an SSI unit that meets the criteria in § 60.4770.

TABLE 1 TO SUBPART LLLL OF PART 60—EMISSION LIMITS AND STANDARDS FOR NEW SEWAGE SLUDGE INCINERATION UNITS

For the air pollutant	You must meet this emission limit [a]	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	4.1 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 5 at 40 CFR part 60, appendix A–3; Method 26A or Method 29 at 40 CFR part 60, appendix A–8).
Hydrogen chloride	0.12 parts per million by dry volume	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Carbon monoxide	7.4 parts per million by dry volume	4-hour rolling average (using 1-hour averages of data).	Continuous emissions monitoring system.
Dioxins/furans (total mass basis).	0.024 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.0022 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Mercury	0.0010 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02, collect a minimum volume of 3 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 at 40 CFR part 60, appendix A–8; Method 30B at 40 CFR part 60, appendix A (when published in the **Federal Register**); or ASTM D6784–02, Standard Test Method for Elemental, Oxidized, Particle Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method).
Oxides of nitrogen	26 parts per million by dry volume	3-run average (Collect sample for a minimum duration of one hour per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Sulfur dioxide	2.0 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 200 liters per run. For Method 6C, collect sample for a minimum duration of one hour per run).	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A–4; or ANSI/ASME PTC–19.10–1981 Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus]).
Cadmium	0.00051 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Lead	0.00053 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Opacity	0 percent	6-minute averages, three 1-hour observation periods.	Performance test (Method 9 at 40 CFR part 60, appendix A–4).
Fugitive emissions from ash handling.	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 of appendix A–7 of this part).

[a] All emission limits (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

TABLE 2—TO SUBPART LLLL OF PART 60—OPERATING PARAMETERS FOR NEW SEWAGE SLUDGE INCINERATION UNITS [a]

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording [b]	Averaging time for compliance
All SSI units				
Dry sludge feed rate	Maximum dry sludge feed rate	Continuous	Hourly	4-hour rolling.[c]
Combustion chamber temperature or afterburner temperature.	Minimum combustion temperature or afterburner temperature.	Continuous	Every 15 minutes	4-hour rolling.[c]
Sludge moisture content	Range of moisture content (percent)	Composite of three samples taken 6 hours apart.	Daily	Daily.

TABLE 2—TO SUBPART LLLL OF PART 60—OPERATING PARAMETERS FOR NEW SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording [b]	Averaging time for compliance
Scrubber				
Pressure drop across each wet scrubber or amperage to each wet scrubber.	Minimum pressure drop or minimum amperage.	Continuous	Every 15 minutes	4-hour rolling.[c]
Scrubber liquor flow rate	Minimum flow rate	Continuous	Every 15 minutes	4-hour rolling.[c]
Scrubber liquor pH	Minimum pH	Continuous	Every 15 minutes	4-hour rolling.[c]
Fabric Filter				
Alarm time of the bag leak detection system alarm.	Maximum alarm time of the bag leak detection system alarm (this operating limit is provided in § 60.4850 and is not established on a site-specific basis)			
Electrostatic precipitator				
Secondary voltage of the electrostatic precipitator collection plates. Secondary amperage of the electrostatic precipitator collection plates.	Minimum power input to the electrostatic precipitator collection plates.	Continuous	Hourly	4-hour rolling.[c]
Effluent water flow rate at the outlet of the electrostatic precipitator.	Maximum effluent water flow rate at the outlet of the electrostatic precipitator.	Hourly	Hourly	4-hour rolling.[c]
Activated carbon injection				
Mercury sorbent injection rate	Minimum mercury sorbent injection rate	Hourly	Hourly	4-hour rolling.[c]
Dioxin/furan sorbent injection rate	Minimum dioxin/furan sorbent injection rate.			
Carrier gas flow rate or carrier gas pressure drop.	Minimum carrier gas flow rate or minimum carrier gas pressure drop.	Continuous	Every 15 minutes	4-hour rolling.[c]

[a] As specified in § 60.4870, you may use a continuous emissions monitoring system, continuous opacity monitoring system, or continuous automated sampling system in lieu of establishing certain operating limits.

[b] This recording time refers to the frequency that the continuous monitor or other measuring device initially records data. For all data recorded every 15 minutes, you must calculate hourly arithmetic averages. For all parameters except sludge moisture content, you use hourly averages to calculate the 4-hour rolling averages to demonstrate compliance. You maintain records of 1-hour averages.

[c] Calculated each hour as the average of the previous 4 operating hours.

TABLE 3—TO SUBPART LLLL OF PART 60—TOXIC EQUIVALENCY FACTORS

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.3
1,2,3,7,8-pentachlorinated dibenzofuran	0.03
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.0003

TABLE 4—TO SUBPART LLLL OF PART 60—SUMMARY OF REPORTING REQUIREMENTS FOR NEW SEWAGE SLUDGE INCINERATION UNITS [a]

Report	Due date	Contents	Reference
Notification of construction	Prior to commencing construction	• Statement of intent to construct • Anticipated date of commencement of construction.	§ 60.4915(a)

TABLE 4—TO SUBPART LLLL OF PART 60—SUMMARY OF REPORTING REQUIREMENTS FOR NEW SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

Report	Due date	Contents	Reference
Notification of initial startup	Prior to initial startup	• Documentation for siting requirements. • Anticipated date of initial startup. • Maximum design dry sewage sludge burning capacity. • Anticipated maximum feed rate. • If applicable, the petition for site-specific operating limits. • Anticipated date of initial startup. • Site-specific monitoring plan.	§ 60.4915(b)
Initial compliance report	No later than 60 days following the initial performance test.	• Company name and address • Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. • Date of report. • Complete test report for the initial performance test. • Results of CMS [b] performance evaluation. • The values for the site-specific operating limits and the calculations and methods used to establish each operating limit. • Documentation of installation of bag leak detection system for fabric filter. • Results of initial air pollution control device inspection, including a description of repairs.	§ 60.4915(c)
Annual compliance report	No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report.	• Company name and address • Statement and signature by responsible official. • Date and beginning and ending dates of report. • If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. • For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. • If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. • If a fabric filter is used, the date, time, and duration of alarms. • If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. • If you met the requirements of § 60.4885(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 75 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes. • Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours but less than 2 weeks.	§§ 60.4915(d)

TABLE 4—TO SUBPART LLLL OF PART 60—SUMMARY OF REPORTING REQUIREMENTS FOR NEW SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

Report	Due date	Contents	Reference
		• Results of annual pollutions control device inspections, including description of repairs. • If there were no periods during which your CMSs had malfunctions, a statement that there were no periods during which your CMSs had malfunctions. • If there were no periods during which your CMSs were out of control, a statement that there were no periods during which your CMSs were out of control. • If there were no operator training deviations, a statement that there were no such deviations. • Information on monitoring plan revisions, including a copy of any revised monitoring plan.	
Deviation report (deviations from emission limits, emission standards, or operating limits, as specified in § 60.4915(e)(1)).	By August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year.	*If using a CMS:* • Company name and address. • Statement by a responsible official. • The calendar dates and times your unit deviated from the emission limits or operating limits. • The averaged and recorded data for those dates. • Duration and cause of each deviation. • Dates, times, and causes for monitor downtime incidents. • A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. • For periods of CMS malfunction or when a CMS was out of control, you must include the information specified in § 60.4915(e)(3)(viii). *If not using a CMS:* • Company name and address. • Statement by a responsible official. • The total operating time of each affected SSI. • The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits. • The averaged and recorded data for those dates. • Duration and cause of each deviation. • A copy of any performance test report that showed a deviation from the emission limits or standards. • A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken.	§ 60.4915(e)
Notification of qualified operator deviation (if all qualified operators are not accessible for 2 weeks or more).	Within 10 days of deviation	• Statement of cause of deviation ..... • Description of actions taken to ensure that a qualified operator will be available. • The date when a qualified operator will be accessible.	§ 60.4915(f)
Notification of status of qualified operator deviation.	Every 4 weeks following notification of deviation.	• Description of actions taken to ensure that a qualified operator is accessible. • The date when you anticipate that a qualified operator will be accessible. • Request for approval to continue operation.	§ 60.4915(f)

TABLE 4—TO SUBPART LLLL OF PART 60—SUMMARY OF REPORTING REQUIREMENTS FOR NEW SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

Report	Due date	Contents	Reference
Notification of resumed operation following shutdown (due to qualified operator deviation and as specified in § 60.4835(b)(2)(i).	Within 5 days of obtaining a qualified operator and resuming operation.	• Notification that you have obtained a qualified operator and are resuming operation.	§ 60.4915(f)
Notification of a force majeure	As soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline; the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.	• Description of the force majeure event • Rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure. • Description of the measures taken or to be taken to minimize the delay. • Identification of the date by which you propose to conduct the performance test.	§ 60.4915(g)
Notification of intent to start or stop use of a CMS.	1 month before starting or stopping use of a CMS.	• Intent to start or stop use of a CMS	§ 60.4915(h)
Notification of intent to conduct a performance test.	At least 30 days prior to the performance test.	• Intent to conduct a performance test to comply with this subpart.	
Notification of intent to conduct a rescheduled performance test.	At least 7 days prior to the date of a rescheduled performance test.	• Intent to conduct a rescheduled performance test to comply with this subpart.	

[a] This table is only a summary, see the referenced sections of the rule for the complete requirements.
[b] CMS means continuous monitoring system.

Subpart MMMM—Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units

Table of Contents

Introduction

Introduction

§ 60.5000 What is the purpose of this subpart?

This subpart establishes emission guidelines and compliance schedules for the control of emissions from sewage sludge incineration (SSI) units. The pollutants addressed by these emission guidelines are listed in Tables 2 and 3 to this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part. To the extent any requirement of this subpart is inconsistent with the requirements of subpart A of this part, the requirements of this subpart will apply.

§ 60.5005 Am I affected by this subpart?

(a) If you are the Administrator of an air quality program in a State or United States protectorate with one or more SSI units that commenced construction on or before October 14, 2010, you must submit a State plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.

(b) You must submit the State plan to EPA by [THE DATE 12 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

§ 60.5010 Is a State plan required for all states?

No. You are not required to submit a State plan if there are no SSI units for which construction commenced on or before October 14, 2010 in your State, and you submit a negative declaration letter in place of the State plan.

§ 60.5015 What must I include in my State plan?

(a) You must include the nine items described in paragraphs (a)(1) through (9) of this section in your State plan.

(1) Inventory of affected SSI units, including those that have ceased operation but have not been dismantled.

(2) Inventory of emissions from affected SSI units in your State.

(3) Compliance schedules for each affected SSI unit.

(4) Emission limits, emission standards, operator training and qualification requirements, and operating limits for affected SSI units that are at least as protective as the emission guidelines contained in this subpart.

(5) Performance testing, recordkeeping, and reporting requirements.

(6) Certification that the hearing on the State plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(7) Provision for State progress reports to EPA.

(8) Identification of enforceable State mechanisms that you selected for implementing the emission guidelines of this subpart.

(9) Demonstration of your State's legal authority to carry out the sections 111(d) and 129 State plan.

(b) Your State plan may deviate from the format and content of the emission guidelines contained in this subpart. However, if your State plan does deviate in content, you must demonstrate that your State plan is at least as protective as the emission guidelines contained in this subpart. Your State plan must address regulatory applicability, increments of progress for retrofit, operator training and qualification, emission limits and standards, performance testing, operating limits, monitoring, and recordkeeping and reporting.

(c) You must follow the requirements of subpart B of this part (Adoption and Submittal of State plans for Designated Facilities) in your State plan.

§ 60.5020 Is there an approval process for my State plan?

Yes. The EPA will review your State plan according to § 60.27.

§ 60.5025 What if my State plan is not approvable?

If you do not submit an approvable State plan (or a negative declaration letter) by [THE DATE 24 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], EPA will develop a Federal plan according to § 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of SSI units not covered by an approved State plan must comply with the Federal plan. The Federal plan is an interim action and will be automatically withdrawn when your State plan is approved.

§ 60.5030 Is there an approval process for a negative declaration letter?

No. The EPA has no formal review process for negative declaration letters. Once your negative declaration letter has been received, EPA will place a copy in the public docket and publish a notice in the **Federal Register**. If, at a later date, an SSI unit for which construction commenced on or before October 14, 2010 is found in your State, the Federal plan implementing the emission guidelines contained in this subpart would automatically apply to that SSI unit until your State plan is approved.

§ 60.5035 What compliance schedule must I include in my State plan?

(a) For SSI units that commenced construction on or before October 14, 2010, your State plan must include compliance schedules that require SSI units to achieve final compliance as expeditiously as practicable after approval of the State plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (2) of this section.

(1) [THE DATE 5 YEARS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

(2) Three years after the effective date of State plan approval.

(b) For compliance schedules that extend more than 1 year following the effective date of State plan approval, State plans must include dates for enforceable increments of progress as specified in § 60.5090.

§ 60.5040 Are there any State plan requirements for this subpart that apply instead of the requirements specified in subpart B?

Yes. Subpart B establishes general requirements for developing and processing section 111(d) State plans. This subpart applies instead of the requirements in subpart B of this part, as specified in paragraphs (a) and (b) of this section:

(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all SSI units to comply by the dates specified in § 60.5035. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in § 60.24(f).

(b) State plans developed to implement this subpart are required to include two increments of progress for the affected SSI units. These two minimum increments are the final control plan submittal date and final compliance date in § 60.21(h)(1) and (5). This applies instead of the requirement of § 60.24(e)(1) that would require a State plan to include all five increments of progress for all SSI units.

§ 60.5045 In lieu of a State plan submittal, are there other acceptable option(s) for a State to meet its section 111(d)/129 (b)(2) obligations?

Yes, a State may meet its Clean Air Act section 111(d)/129 obligations by submitting an acceptable written request for delegation of the Federal plan that meets the requirements of this section. This is the only other option for a State to meet its section 111(d)/129 obligations.

(a) An acceptable Federal plan delegation request must include the following:

(1) A demonstration of adequate resources and legal authority to administer and enforce the Federal plan.

(2) The items under § 60.5015(a)(1), (2), and (7).

(3) Certification that the hearing on the State delegation request, similar to the hearing for a State plan submittal, was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(4) A commitment to enter into a Memorandum of Agreement with the Regional Administrator that sets forth the terms, conditions, and effective date of the delegation and that serves as the mechanism for the transfer of authority. Additional guidance and information is given in EPA's Delegation Manual, Item 7–139, Implementation and Enforcement of 111(d)(2) and 111(d)/(2)/129 (b)(3) Federal plans.

(b) A State with an already approved SSI Clean Air Act section 111(d)/129 State plan is not precluded from receiving EPA approval of a delegation request for the revised Federal plan, provided the requirements of paragraph (a) of this section are met, and at the time of the delegation request, the State also requests withdrawal of EPA's previous State plan approval.

(c) A State's Clean Air Act section 111(d)/129 obligations are separate from its obligations under title V of the Clean Air Act.

§ 60.5050 What authorities will not be delegated to State, local, or tribal agencies?

The authorities that will not be delegated to State, local, or tribal agencies are specified in paragraphs (a) through (g) of this section.

(a) Approval of alternatives to the emission limits and standards in Tables 2 and 3 to this subpart and operating limits established under § 60.5175 or § 60.5190.

(b) Approval of major alternatives to test methods.

(c) Approval of major alternatives to monitoring.

(d) Approval of major alternatives to recordkeeping and reporting.

(e) The requirements in § 60.5175.

(f) The requirements in § 60.5155(b)(2).

(g) Performance test and data reduction waivers under § 60.8(b).

§ 60.5055 Does this subpart directly affect SSI unit owners and operators in my State?

(a) No. This subpart does not directly affect SSI unit owners and operators in your State. However, SSI unit owners and operators must comply with the State plan you develop to implement the emission guidelines contained in this subpart. States may choose to incorporate the model rule text directly in their State plan.

(b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by [THE DATE 1 YEAR AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], EPA will implement and enforce a Federal plan, as provided in § 60.5025, to ensure that each unit within your State that commenced construction on or before October 14, 2010 reaches compliance with all the provisions of this subpart by the dates specified in § 60.5035.

Applicability of State Plans

§ 60.5060 What SSI units must I address in my State plan?

(a) Your State plan must address SSI units that meet all three criteria described in paragraphs (a)(1) through (3) of this section.

(1) SSI units in your State that commenced construction on or before October 14, 2010.

(2) SSI units that meet the definition of an SSI unit as defined in § 60.5250.

(3) SSI units not exempt under § 60.5065.

(b) If the owner or operator of an SSI unit makes changes that meet the definition of modification after [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], the SSI unit becomes subject to subpart LLLL of this part and the State plan no longer applies to that unit.

(c) If the owner or operator of an SSI unit makes physical or operational changes to an SSI unit for which construction commenced on or before [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] primarily to comply with your State plan, subpart LLLL of this part does not apply to that unit. Such changes do not qualify as modifications under subpart LLLL of this part.

§ 60.5065 What SSI units are exempt from my State plan?

This subpart exempts combustion units that incinerate sewage sludge that are located at an industrial or commercial facility subject to subpart CCCC of this part, provided the owner or operator of such a combustion unit notifies the Administrator of an exemption claim under this section.

Use of Model Rule

§ 60.5070 What is the "model rule" in this subpart?

(a) The model rule is the portion of these emission guidelines (§§ 60.5085 through 60.5250) that addresses the regulatory requirements applicable to SSI units. The model rule provides these requirements in regulation format. You must develop a State plan that is at least as protective as the model rule. You may use the model rule language as part of your State plan. Alternative language may be used in your State plan if you demonstrate that the alternative language is at least as protective as the model rule contained in this subpart.

(b) In the model rule of §§ 60.5085 through 60.5250, "you" and "Administrator" have the meaning specified in § 60.5250.

§ 60.5075 How does the model rule relate to the required elements of my State plan?

Use the model rule to satisfy the State plan requirements specified in § 60.5015(a)(3) through (5).

§ 60.5080 What are the principal components of the model rule?

The model rule contains the nine major components listed in paragraphs (a) through (i) of this section.

(a) Increments of progress toward compliance.

(b) Operator training and qualification.

(c) Emission limits, emission standards, and operating limits.

(d) Initial compliance requirements.

(e) Continuous compliance requirements.

(f) Performance testing, monitoring, and calibration requirements.

(g) Recordkeeping and reporting.

(h) Definitions.

(i) Tables.

Model Rule—Increments of Progress

§ 60.5085 What are my requirements for meeting increments of progress and achieving final compliance?

If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

(a) Submit a final control plan.

(b) Achieve final compliance.

§ 60.5090 When must I complete each increment of progress?

Table 1 to this subpart specifies compliance dates for each increment of progress.

§ 60.5095 What must I include in the notifications of achievement of increments of progress?

Your notification of achievement of increments of progress must include the three items specified in paragraphs (a) through (c) of this section.

(a) Notification that the increment of progress has been achieved.

(b) Any items required to be submitted with each increment of progress.

(c) Signature of the owner or operator of the SSI unit.

§ 60.5100 When must I submit the notifications of achievement of increments of progress?

Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.

§ 60.5105 What if I do not meet an increment of progress?

If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 to this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.

§ 60.5110 How do I comply with the increment of progress for submittal of a control plan?

For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

(a) Submit the final control plan that includes the four items described in paragraphs (a)(1) through (4) of this section.

(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limits and standards and other requirements of this subpart.

(2) The type(s) of waste to be burned, if waste other than sewage sludge is burned in the unit.

(3) The maximum design sewage sludge burning capacity.

(4) If applicable, the petition for site-specific operating limits under § 60.5175.

(b) Maintain an onsite copy of the final control plan.

§ 60.5115 How do I comply with the increment of progress for achieving final compliance?

For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected SSI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.

§ 60.5120 What must I do if I close my SSI unit and then restart it?

(a) If you close your SSI unit but will restart it prior to the final compliance date in your State plan, you must meet the increments of progress specified in § 60.5085.

(b) If you close your SSI unit but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limits, emission standards, and operating limits on the date your unit restarts operation.

§ 60.5125 What must I do if I plan to permanently close my SSI unit and not restart it?

If you plan to close your SSI unit rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

Model Rule—Operator Training and Qualification

§ 60.5130 What are the operator training and qualification requirements?

(a) An SSI unit cannot be operated unless a fully trained and qualified SSI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified SSI unit operator may operate the SSI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified SSI unit operators are temporarily not accessible, you must follow the procedures in § 60.5155.

(b) Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in paragraph (c) of this section.

(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (3) of this section.

(1) Training on the 10 subjects listed in paragraphs (c)(1)(i) through (x) of this section.

(i) Environmental concerns, including types of emissions.

(ii) Basic combustion principles, including products of combustion.

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, sewage sludge feeding, and shutdown procedures.

(iv) Combustion controls and monitoring.

(v) Operation of air pollution control equipment and factors affecting performance (if applicable).

(vi) Inspection and maintenance of the incinerator and air pollution control devices.

(vii) Actions to prevent malfunctions or to prevent conditions that may lead to malfunctions.

(viii) Bottom and fly ash characteristics and handling procedures.

(ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.

(x) Pollution prevention.

(2) An examination designed and administered by the State-approved program.

(3) Written material covering the training course topics that may serve as reference material following completion of the course.

§ 60.5135 When must the operator training course be completed?

The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section.

(a) The final compliance date (Increment 2).

(b) Six months after your SSI unit startup.

(c) Six months after an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.

§ 60.5140 How do I obtain my operator qualification?

(a) You must obtain operator qualification by completing a training course that satisfies the criteria under § 60.5130(b).

(b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under § 60.5130(c)(2).

§ 60.5145 How do I maintain my operator qualification?

To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (a) through (e) of this section.

(a) Update of regulations.

(b) Incinerator operation, including startup and shutdown procedures, sewage sludge feeding, and ash handling.

(c) Inspection and maintenance.

(d) Prevention of malfunctions or conditions that may lead to malfunction.

(e) Discussion of operating problems encountered by attendees.

§ 60.5150 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification by one of the two methods specified in paragraphs (a) and (b) of this section.

(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in § 60.5145.

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in § 60.5140(a).

§ 60.5155 What if all the qualified operators are temporarily not accessible?

If a qualified operator is not at the facility and cannot be at the facility within 1 hour, you must meet the criteria specified in either paragraph (a) or (b) of this section, depending on the length of time that a qualified operator is not accessible.

(a) When a qualified operator is not accessible for more than 8 hours, the SSI unit may be operated for less than 2 weeks by other plant personnel who are familiar with the operation of the SSI unit who have completed a review of the information specified in § 60.5160 within the past 12 months. However, you must record the period when a qualified operator was not accessible and include this deviation in the annual report as specified under § 60.5235(d).

(b) When a qualified operator is not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, State what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.

(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible, and requesting approval from the Administrator to continue operation of the SSI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section.

(i) If the Administrator notifies you that your request to continue operation of the SSI unit is disapproved, the SSI unit may continue operation for 30 days, and then must cease operation.

(ii) Operation of the unit may resume if a qualified operator is accessible as required under § 60.5130(a) and you notify the Administrator within 5 days of having resumed operations and of having a qualified operator accessible.

§ 60.5160 What site-specific documentation is required and how often must it be reviewed by qualified SSI operators and other plant personnel who may operate the unit according to the provisions of § 60.5155(a)?

(a) You must maintain at the facility the documentation of the operator training procedures specified under § 60.5230(c)(1) and make the documentation readily accessible to all SSI unit operators.

(b) You must establish a program for reviewing the information listed in § 60.5230(c)(1) with each qualified incinerator operator and other plant personnel who may operate the unit according to the provisions of § 60.5155(a), according to the following schedule:

(1) The initial review of the information listed in § 60.5230(c)(1) must be conducted within 6 months after the effective date of this subpart or prior to an employee's assumption of responsibilities for operation of the SSI unit, whichever date is later.

(2) Subsequent annual reviews of the information listed in § 60.5230(c)(1) must be conducted no later than 12 months following the previous review.

Model Rule—Emission Limits, Emission Standards, and Operating Limits

§ 60.5165 What emission limits and standards must I meet and by when?

You must meet the emission limits and standards specified in Table 2 or 3 to this subpart by the final compliance date under the approved State plan, Federal plan, or delegation, as applicable. The emission limits and standards apply at all times the unit is operating, including, and not limited to, periods of startup, shutdown, and malfunction. The emission limits and standards apply to emissions from a bypass stack or vent while sewage sludge is being charged to the SSI unit.

§ 60.5170 What operating limits must I meet and by when?

You must meet the operating limits specified in paragraphs (a) through (c) of this section, according to the schedule specified in paragraphs (d) and (e) of this section. The operating parameters are listed in Table 4 to this subpart. The operating limits apply at all times the unit is charging sewage sludge, including periods of malfunction.

(a) You must meet site-specific operating limits for maximum dry sludge feed rate, sludge moisture content, and minimum temperature of

the combustion chamber (or afterburner combustion chamber) that you establish in § 60.5190.

(b) If you use a wet scrubber, electrostatic precipitator, activated carbon injection, or afterburner to comply with an emission limit, you must meet the site-specific operating limits that you establish in § 60.5190 for each operating parameter associated with each air pollution control device.

(c) If you use a fabric filter to comply with the emission limits, you must install the bag leak detection system specified in § 60.5225(b)(3)(i) and operate the bag leak detection system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must calculate the alarm time as specified in § 60.5190.

(d) You must meet the operating limits specified in paragraphs (a) through (c) of this section by the final compliance date under the approved State plan, Federal plan, or delegation, as applicable.

(e) For the operating limits specified in paragraphs (a) and (b), you may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. You must confirm or reestablish operating limits during:

(1) Annual performance tests required under § 60.5205(a).

(2) Performance tests required under § 60.5205(a)(2).

(3) Periodic performance evaluations required under § 60.5205(b)(5) to meet the operating limits specified in paragraph (a) of this section.

§ 60.5175 How do I establish operating limits if I do not use a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or if I limit emissions in some other manner, to comply with the emission limits?

If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or limit emissions in some other manner (*e.g.,* materials balance) to comply with the emission limits in § 60.5165, you must meet the requirements in paragraphs (a) and (b) of this section.

(a) Establish an operating limit each for maximum dry sludge feed rate, sludge moisture content, and minimum temperature of the combustion chamber (or afterburner combustion chamber) according to § 60.5190.

(b) Petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter.

(1) You must not conduct the initial performance test until after the petition has been approved by the Administrator, and you must comply with the operating limits as written, pending approval by the Administrator.

(2) Your petition must include the five items listed in paragraphs (b)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor.

(ii) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.

(iii) A discussion of how you will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance.

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

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

§ 60.5180 Do the emission limits, emission standards, and operating limits apply during periods of startup, shutdown, and malfunction?

The emission limits and standards apply at all times, including periods of startup, shutdown and malfunction. The operating limits apply at all times the unit is charging sewage sludge, including periods of malfunction.

§ 60.5181 How do I establish an affirmative defense for exceedance of an emission limit or standard during malfunction?

In response to an action to enforce the standards set forth in paragraph § 60.5165 you may assert an affirmative defense to a claim for civil penalties for exceedances of such standards that are caused by malfunction, as defined in § 60.2. Appropriate penalties may be assessed; however, if the respondent fails to meet its burden of proving all of the requirements in the affirmative defense, then the affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that the conditions in paragraphs (a)(1) through (9) of this section are met.

(1) The excess emissions meet the conditions in paragraphs (a)(1)(i) through (iv) of this section.

(i) Were caused by a sudden, short, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner.

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices.

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for.

(iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance.

(2) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Offshift and overtime labor were used, to the extent practicable to make these repairs.

(3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions.

(4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, severe personal injury, or severe property damage.

(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health.

(6) All emissions monitoring and control systems were kept in operation if at all possible.

(7) Your actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs.

(8) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions.

(9) You have prepared a written root cause analysis to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(b) If your SSI unit experiences an exceedance of its emission limit(s) during a malfunction, you must notify

the Administrator by telephone or facsimile (fax) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if you wish to avail yourself of an affirmative defense to civil penalties for that malfunction. If you seek to assert an affirmative defense, you must also submit a written report to the Administrator within 30 days of the initial occurrence of the exceedance of the standard in § 60.5165 to demonstrate, with all necessary supporting documentation, that you have met the requirements set forth in paragraph (a) of this section.

Model Rule—Initial Compliance Requirements

§ 60.5185 How and when do I demonstrate initial compliance with the emission limits and standards?

To demonstrate initial compliance with the emission limits and standards in Table 2 or 3 to this subpart, use the procedures specified in paragraph (a) of this section. In lieu of using the procedures specified in paragraph (a) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity. You must meet the requirements of paragraphs (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.5220(a) and (b).

(a) Demonstrate initial compliance using the performance test required in § 60.8. You must demonstrate that your SSI unit meets the emission limits and standards specified in Table 2 or 3 to this subpart for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, opacity, and fugitive emissions from ash handling using the performance test. The initial performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 2 or 3 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.5220(a).

(1) Except as provided in paragraph (e) of this section, you must demonstrate that your SSI unit meets the emission limits and standards specified in Table 2 or 3 to this subpart by your final compliance date (see Table 1 to this subpart).

(2) You may use the results from a performance test conducted within the 2 previous years that demonstrated compliance with the emission limits and standards in Table 2 or 3 to this subpart. However, you must continue to meet the operating limits established during the most recent performance test that demonstrated compliance with the emission limits and standards in Table 2 or 3 to this subpart. The performance test must have used the test methods specified in Table 2 or 3 to this subpart.

(b) Demonstrate initial compliance using a continuous emissions monitoring system, continuous opacity monitoring system, or continuous automated sampling system. Collect data as specified in § 60.5220(b)(6) and use the following procedures:

(1) To demonstrate initial compliance with the emission limits for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans total mass, dioxins/furans toxic equivalency, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity, you may substitute the use of a continuous monitoring system in lieu of conducting the initial performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(1) of this section (except opacity) in lieu of conducting the initial performance test for that pollutant in paragraph (a) of this section.

(ii) You may substitute the use of a total hydrocarbon continuous monitoring system in lieu of conducting the initial carbon monoxide performance test required in paragraph (a) of this section.

(iii) If your SSI unit is not equipped with a wet scrubber, you may substitute the use of a continuous opacity monitoring system in lieu of conducting the initial opacity and particulate matter performance tests in paragraph (a) of this section.

(iv) You may substitute the use of a particulate matter continuous emissions monitoring system in lieu of conducting the initial opacity performance test in paragraph (a) of this section.

(v) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.

(2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in § 60.5220(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7.

(3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must:

(i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.

(A) Use the procedures specified in § 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 2 to this subpart.

(B) Use the procedures specified in § 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan emission limits in Table 2 to this subpart.

(ii) Comply with the provisions in § 60.58b(q) to develop a monitoring plan. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 1 of appendix F of this part.

(4) If you use a continuous opacity monitoring system to demonstrate compliance with an applicable emission or opacity limit in paragraph (b)(1) of this section, you must use the continuous opacity monitoring system and follow the requirements specified in § 60.5220(b). You must measure emissions and calculate 6-minute averages as specified in § 60.13(h)(1). Using these 6-minute averages, you must calculate 1-hour block average opacity values. You must demonstrate initial compliance using the arithmetic average of three 1-hour block averages.

(5) Except as provided in paragraph (e) of this section, you must complete your initial performance evaluations required under your monitoring plan for any continuous emissions monitoring systems, continuous opacity monitoring systems, and continuous automated sampling systems by your final compliance date (see Table 1 to this subpart). Your performance evaluation must be conducted using the procedures and acceptance criteria specified in § 60.5200(a)(3).

(c) To demonstrate initial compliance with the dioxins/furans toxic equivalency emission limit in either paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra-through octachlorinated-congener emitted using EPA Method 23.

(2) For each dioxin/furan (tetra-through octachlorinated) congener measured in accordance with paragraph (c)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 5 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) You must submit an initial compliance report, as specified in § 60.5235(b).

(e) If you demonstrate initial compliance using a performance test as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.5235(g). You must conduct the initial performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the initial performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

§ 60.5190 How do I establish my operating limits?

(a) You must establish the site-specific operating limits specified in paragraphs (c) through (l) of this section during the initial performance tests and performance evaluations required in § 60.5185 and the most recent performance tests and performance evaluations required in § 60.5205. Follow the data measurement and recording frequencies and data averaging times specified in Table 4 to this subpart and follow the testing, monitoring, and calibration requirements specified in §§ 60.5220 and 60.5225. You are not required to establish operating limits for the operating parameters listed in Table 4 to this subpart for a control device if you use a continuous monitoring system to demonstrate compliance with the emission limits in Table 2 or 3 to this subpart for the applicable pollutants, as follows:

(1) For a scrubber designed to control emissions of hydrogen chloride and sulfur dioxide, you are not required to establish an operating limit and monitor pressure drop across the scrubber (or amperage to the scrubber), scrubber liquor flow rate, and scrubber pH if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for hydrogen chloride or sulfur dioxide.

(2) For a scrubber designed to control emissions of particulate matter, cadmium, and lead, you are not required to establish an operating limit and monitor pressure drop across the scrubber (or amperage to the scrubber), scrubber liquor flow rate, and scrubber pH if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, or lead.

(3) You are not required to establish an operating limit and monitor secondary voltage of the collection plates, secondary amperage of the collection plates, and effluent water flow rate at the outlet of the electrostatic precipitator if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, lead, or cadmium.

(4) You are not required to establish an operating limit and monitor mercury sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for mercury.

(5) You are not required to establish an operating limit and monitor dioxin/furan sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in §§ 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limits for dioxins/furans.

(b) For each operating parameter specified in paragraphs (c) through (k) of this section, determine the average operating parameter level during the initial or most recent performance test or performance evaluation for the applicable pollutant(s) according to the procedures specified in paragraph (b)(1), (2), or (3) of this section, as applicable:

(1) *For continuous monitoring systems that collect multiple data points each hour.* (i) Collect the incremental data for the operating parameter (e.g., scrubber liquor flow rate) for each of the three performance test run periods for each applicable pollutant (e.g., sulfur dioxide and hydrogen chloride). For each applicable performance test run period, calculate the arithmetic average operating parameter level.

(ii) The highest arithmetic average operating parameter level of the applicable performance test run periods specified in paragraph (b)(1)(i) of this section represents the average operating parameter level (e.g., average scrubber liquor flow rate) during the performance test(s) for the applicable pollutant(s). Use this average operating parameter level to establish the respective operating limit, as specified in paragraphs (c) through (k) of this section.

(2) *For continuous monitoring systems that collect data on an hourly basis.* (i) Collect the hourly data for the operating parameter (*e.g.,* mercury sorbent injection rate) for each of the three performance test run periods for each applicable pollutant (*e.g.,* mercury). For each applicable performance test run period, calculate the arithmetic average operating parameter level.

(ii) The highest arithmetic average operating parameter level of the applicable performance test run periods specified in paragraph (b)(2)(i) of this section represents the average operating parameter level (*e.g.,* average mercury sorbent injection rate) during the performance test(s) for the applicable pollutant(s). Use this average operating parameter level to establish the respective operating limit, as specified in paragraphs (c) through (k) of this section.

(3) *For continuous monitoring systems that collect data on a daily basis.* Collect the daily data for the operating parameter (*e.g.,* sludge moisture content) for each day that a performance test is conducted for the applicable pollutant(s). The highest daily arithmetic average operating parameter level for the applicable performance tests represents the average operating parameter level (*e.g.,* average sludge moisture content) during the performance test(s) for the applicable pollutant(s)). Use this average operating parameter level to establish the respective operating limit, as specified in paragraphs (c) through (k) of this section.

(c) Minimum pressure drop across each wet scrubber, calculated as 90 percent of the average pressure drop across each wet scrubber determined

according to paragraph (b)(1) of this section.

(d) Minimum scrubber liquor flow rate (measured at the inlet to the wet scrubber), calculated as 90 percent of the average liquor flow rate determined according to paragraph (b)(1) of this section.

(e) Minimum scrubber liquor pH (measured at the inlet to the wet scrubber), calculated as 90 percent of the average liquor pH determined according to paragraph (b)(1) of this section.

(f) If you do not use an afterburner to comply with the requirements of this rule, minimum combustion chamber temperature, calculated as 90 percent of the average combustion chamber temperature determined according to paragraph (b)(1) of this section.

(g) If you use an afterburner to comply with the requirement of this rule, minimum afterburner combustion chamber temperature, calculated as 90 percent of the average afterburner combustion chamber temperature determined according to paragraph (b)(1) of this section.

(h) Minimum power input to the electrostatic precipitator collection plates, calculated as 90 percent of the average power input. Average power input must be calculated as the product of the average secondary voltage and average secondary amperage to the electrostatic precipitator, both determined according to paragraph (b)(2) of this section.

(i) Maximum effluent water flow rate at the outlet of the electrostatic precipitator, calculated as 70 percent of the average effluent water flow rate at the outlet of the electrostatic precipitator determined according to paragraph (b)(2) of this section.

(j) For activated carbon injection:

(1) Minimum mercury sorbent injection rate, calculated as 90 percent of the average mercury sorbent injection rate, determined according to paragraph (b)(2) of this section.

(2) Minimum dioxin/furan sorbent injection rate, calculated as 90 percent of the average dioxin/furan sorbent injection rate, determined according to paragraph (b)(2) of this section.

(3) Minimum carrier gas flow rate or minimum carrier gas pressure drop, as follows:

(i) Minimum carrier gas flow rate, calculated as 90 percent of the average carrier gas flow rate, determined according to paragraph (b)(1) of this section.

(ii) Minimum carrier gas pressure drop, calculated as 90 percent of the average carrier gas flow rate, determined according to paragraph (b)(1) of this section.

(k) Maximum dry sludge feed rate, calculated as 110 percent of the average dry sludge feed rate, determined according to paragraph (b)(2) of this section.

(l) Sludge moisture content, measured on a daily basis as a percentage, must be no less than 10 percent less than and no more than 10 percent greater than the average sludge moisture content determined according to paragraph (b)(3) of this section. For example, if your average sludge moisture content is measured as 20 percent, your sludge moisture level must be greater than or equal to 18 percent and less than or equal to 22 percent.

§ 60.5195 By what date must I conduct the initial air pollution control device inspection and make any necessary repairs?

(a) You must conduct an air pollution control device inspection according to § 60.5220(c) by the final compliance date under the approved State plan, Federal plan, or delegation, as applicable. For air pollution control devices installed after the final compliance date, you must conduct the air pollution control device inspection within 60 days after installation of the control device.

(b) Within 10 operating days following the air pollution control device inspection under paragraph (a) of this section, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the SSI unit must be completed.

§ 60.5200 How do I develop a site-specific monitoring plan for my continuous monitoring systems and bag leak detection system and by what date must I conduct an initial performance evaluation of my continuous monitoring systems and bag leak detection system?

You must develop and submit to the Administrator for approval a site-specific monitoring plan for each continuous monitoring system required under this subpart, according to the requirements in paragraphs (a) through (c) of this section. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under § 60.13(i) and paragraph (d) of this section. If you use a continuous automated sampling system to comply with the mercury or dioxin/furan emission limits, you must develop your monitoring plan as specified in § 60.58b(q), and you are not required to meet the requirements in paragraphs (a) and (b) of this section. You must submit your monitoring plan at least 60 days before your initial performance evaluation of your continuous monitoring system(s), as specified in paragraph (c) of this section. You must update your monitoring plan as specified in paragraph (e) of this section.

(a) For each continuous monitoring system, your monitoring plan must address the elements and requirements specified in paragraphs (a)(1) through (8) of this section.

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

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

(3) Performance evaluation procedures and acceptance criteria.

(i) For continuous emissions monitoring systems, your performance evaluation and acceptance criteria will include, but not be limited to, the following:

(A) The applicable requirements for continuous emissions monitoring systems specified in § 60.13.

(B) The applicable performance specifications (*e.g.,* relative accuracy tests) in appendix B of this part.

(C) The applicable procedures (*e.g.,* quarterly accuracy determinations and daily calibration drift tests) in appendix F of this part.

(ii) For continuous opacity monitoring systems, your performance evaluation and acceptance criteria will include, but not be limited to, the following:

(A) The applicable requirements for continuous emissions monitoring systems specified in § 60.13.

(B) Performance Specification 1 in appendix B of this part.

(iii) For continuous parameter monitoring systems, your performance evaluation and acceptance criteria must include, but not be limited to, the associated performance specifications and quality assurance procedures.

(4) Ongoing operation and maintenance procedures in accordance with the general requirements of § 60.11(d).

(5) Ongoing data quality assurance procedures in accordance with the general requirements of § 60.13.

(6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 60.7(b), (c), (c)(1), (c)(4), (d), (e), (f), and (g).

(7) Provisions for periods when the continuous monitoring system is out of control, as follows:

(i) A continuous emissions monitoring system is out of control if the conditions in any one of paragraphs (a)(7)(i)(A), (B), or (C) of this section are met.

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard.

(B) The continuous emissions monitoring system fails a performance test audit (*e.g.,* cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.

(C) The continuous opacity monitoring system calibration drift exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the continuous emissions monitoring system is out of control as specified in paragraph (a)(7)(i) of this section, you must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (*e.g.,* calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.

(8) Schedule for conducting initial and periodic performance evaluations of your continuous monitoring systems in accordance with your site-specific monitoring plan.

(b) If a bag leak detection system is used, your monitoring plan must include a description of the following items:

(1) Installation of the bag leak detection system.

(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established.

(3) Operation of the bag leak detection system, including quality assurance procedures.

(4) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list.

(5) How the bag leak detection system output will be recorded and stored.

(c) You must conduct an initial performance evaluation of each continuous monitoring system and bag leak detection system, as applicable, in accordance with your monitoring plan and within 60 days of installation of the continuous monitoring system and bag leak detection system, as applicable.

(d) You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the standards of this subpart, subject to the provisions of paragraphs (d)(1) through (6) of this section.

(1) The Administrator will not approve averaging periods other than those specified in this section, unless you document, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved during the performance test over any increment of time equivalent to the time required to conduct three runs of the performance test.

(2) If the application to use an alternate monitoring requirement is approved, you must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.

(3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The application must contain the information specified in paragraphs (d)(3)(i) through (iii) of this section:

(i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.

(ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated.

(iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.

(4) The Administrator will notify you of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternate monitoring application, the Administrator will provide the following:

(i) Notice of the information and findings upon which the intended disapproval is based.

(ii) Notice of opportunity for you to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for you to provide additional supporting information.

(5) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart.

(6) The Administrator may decide at any time, on a case-by-case basis that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart.

(e) You must update your monitoring plan if there are any changes in your monitoring procedures or if there is a process change, as defined in § 60.5250.

Model Rule—Continuous Compliance Requirements

§ 60.5205 How and when do I demonstrate continuous compliance with the emission limits and standards?

To demonstrate continuous compliance with the emission limits and standards specified in Table 2 or 3 to this subpart, use the procedures specified in paragraph (a) of this section. In lieu of using the procedures specified in paragraph (a) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity. You must meet the requirements of paragraphs (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.5220(a) and (b).

(a) Demonstrate continuous compliance using a performance test. Within 10 to 12 months following the initial performance test (except as provided in paragraph (e) of this section), demonstrate continuous compliance with the emission limits and standards specified in Table 2 or 3

to this subpart for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity using a performance test. The performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 2 or 3 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.5220(a). Conduct subsequent annual performance tests within 10 to 12 months following the previous one.

(1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. The Administrator may request a repeat performance test at any time.

(2) You must repeat the performance test within 60 days of a process change, as defined in § 60.5250.

(3) You have the option to perform less frequent testing to demonstrate compliance with the particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead emission limits.

(i) To perform less frequent testing, you must meet the following requirements:

(A) You have test data for at least 3 consecutive years.

(B) The test data results for particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, or lead are less than 75 percent of the applicable emission limits.

(C) There are no changes in the operation of the SSI unit or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months following the previous performance test.

(ii) If your SSI unit continues to emit less than 75 percent of the emission limit for particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, or lead and there are no changes in the operation of the SSI unit or air pollution control equipment that could increase emissions, you may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test.

(iii) If a performance test shows emissions exceeded 75 percent or greater of the emission limit for particulate matter, hydrogen chloride, mercury, nitrogen oxides, sulfur dioxide, cadmium, or lead, you must conduct annual performance tests for that pollutant until all performance tests over the next 3-year period are within 75 percent of the applicable emission limit.

(b) Demonstrate continuous compliance using a continuous emissions monitoring system, continuous opacity monitoring system, or continuous automated sampling system. Collect data as specified in § 60.5220(b)(6) and use the following procedures:

(1) To demonstrate continuous compliance with the emission limits for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans total mass, dioxins/furans toxic equivalency, mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and opacity, you may substitute the use of a continuous monitoring system in lieu of conducting the annual performance test required in paragraph (a) of this section, as follows:

(i) You may substitute the use of a continuous emissions monitoring system for any pollutant (except opacity) specified in paragraph (b)(1) of this section in lieu of conducting the annual performance test for that pollutant in paragraph (a) of this section.

(ii) You may substitute the use of a total hydrocarbon continuous monitoring system in lieu of conducting the carbon monoxide annual performance test required in paragraph (a) of this section.

(iii) If your SSI unit is not equipped with a wet scrubber, you may substitute the use of a continuous opacity monitoring system in lieu of conducting the annual opacity and particulate matter performance tests in paragraph (a) of this section.

(iv) You may substitute the use of a particulate matter continuous emissions monitoring system in lieu of conducting the annual opacity performance test in paragraph (a) of this section.

(v) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.

(2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in § 60.5220(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7.

(3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must:

(i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.

(A) Use the procedures specified in § 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 2 to this subpart.

(B) Use the procedures specified in § 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan emission limits in Table 2 to this subpart.

(ii) Update your monitoring plan as specified in § 60.4880(e). For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 1 of appendix F of this part.

(4) If you use a continuous opacity monitoring system to demonstrate compliance with an applicable emission or opacity limit in paragraph (b)(1) of this section, you must use the continuous opacity monitoring system and follow the requirements specified in § 60.5220(b). You must measure emissions and calculate 6-minute averages as specified in § 60.13(h)(1). Using these 6-minute averages, you must calculate 1-hour block average opacity values. You must demonstrate initial compliance using the arithmetic average of three 1-hour block averages.

(5) Except as provided in paragraph (e) of this section, you must complete your periodic performance evaluations required in your monitoring plan for any continuous emissions monitoring systems, continuous opacity monitoring systems, and continuous automated sampling systems, according to the schedule specified in your monitoring plan. If you were previously determining compliance by conducting an annual performance test, you must complete the initial performance evaluation required under your monitoring plan in § 60.5200 for the continuous monitoring system within 60 days of notification to the Administrator of use of the continuous emissions monitoring system, continuous opacity monitoring, or

continuous automated sampling system. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in § 60.5200(a)(3).

(c) To demonstrate compliance with the dioxins/furans toxic equivalency emission limit in paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:

(1) Measure the concentration of each dioxin/furan tetra-through octachlorinated-congener emitted using Method 23 at 40 CFR part 60, appendix A–7.

(2) For each dioxin/furan (tetra-through octachlorinated) congener measured in accordance with paragraph (c)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 3 to this subpart.

(3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(d) You must submit an annual compliance report as specified in § 60.5235(c). You must submit a deviation report as specified in § 60.5235(d) for each instance that you did not meet each emission limit in Table 2 to this subpart.

(e) If you demonstrate continuous compliance using a performance test, as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.5235(g). You must conduct the performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

§ 60.5210 How do I demonstrate continuous compliance with my operating limits?

You must meet the requirements of paragraphs (a) through (c) of this section, according to the monitoring and calibration requirements in § 60.5225.

(a) You must continuously monitor the operating parameters specified in paragraphs (a)(1) and (a)(2) of this section using the continuous monitoring equipment and according to the procedures specified in § 60.5225, except as provided in § 60.5175. Four-hour rolling average values are used to determine compliance (except for sludge moisture content and alarm time of the baghouse leak detection system) unless a different averaging period is established under § 60.5175 for an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner. A daily average must be used to determine compliance for sludge moisture content.

(1) You must demonstrate that the SSI unit meets the operating limits established according to §§ 60.5175 and 60.5190 for each applicable operating parameter.

(2) You must demonstrate that the SSI unit meets the operating limit for bag leak detection systems as follows:

(i) For a bag leak detection system, you must calculate the alarm time as follows:

(A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.

(B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour.

(C) If you take longer than 1 hour to initiate corrective action, each alarm time (*i.e.,* time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.

(ii) Your maximum alarm time is equal to 5 percent of the operating time during a 6-month period, as specified in § 60.5170(c).

(b) Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. You must submit the deviation report specified in § 60.5235(d) for each instance that you did not meet one of your operating limits established under this subpart.

(c) You must submit the annual compliance report specified in § 60.5235(c) to demonstrate continuous compliance.

§ 60.5215 By what date must I conduct annual air pollution control device inspections and make any necessary repairs?

(a) You must conduct an annual inspection of each air pollution control device used to comply with the emission limits, according to § 60.5220(c), within 10 to 12 months following the previous annual air pollution control device inspection.

(b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the affected SSI unit must be completed.

Model Rule—Performance Testing, Monitoring, and Calibration Requirements

§ 60.5220 What are the performance testing, monitoring, and calibration requirements for compliance with the emission limits and standards?

You must meet, as applicable, the performance testing requirements specified in paragraph (a) of this section, the monitoring requirements specified in paragraph (b) of this section, the air pollution control device inspections requirements specified in paragraph (c) of this section, and the bypass stack provisions specified in paragraph (d) of this section.

(a) *Performance testing requirements.* (1) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations, as specified in § 60.8(c). Emissions in excess of the emission limits or standards during periods of startup, shutdown, and malfunction are considered deviations from the applicable emission limits or standards.

(2) You must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by:

(i) Maintaining a log of the quantity of sewage sludge burned during the performance test.

(ii) Maintaining a log of the moisture content of the sewage sludge burned during the performance test.

(3) All performance tests must be conducted using the test methods, minimum sampling volume, observation period, and averaging method specified in Table 2 or 3 to this subpart.

(4) Method 1 at 40 CFR part 60, appendix A must be used to select the sampling location and number of traverse points.

(5) Method 3A or 3B at 40 CFR part 60, appendix A–2 must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B at 40 CFR part 60, appendix A–2 must be used simultaneously with each method.

(6) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using Equation 1 of this section:

$$C_{adj} = C_{meas}(20.9 - 7)/(20.9 - \%O_2) \quad \text{(Eq. 1)}$$

Where:

C_{adj} = Pollutant concentration adjusted to 7 percent oxygen.

C_{meas} = Pollutant concentration measured on a dry basis.

$(20.9 - 7)$ = 20.9 percent oxygen $-$ 7 percent oxygen (defined oxygen correction basis).

20.9 = Oxygen concentration in air, percent.

$\%O_2$ = Oxygen concentration measured on a dry basis, percent.

(7) Performance tests must be conducted and data reduced in accordance with the test methods and procedures contained in this subpart unless the Administrator does one of the following.

(i) Specifies or approves, in specific cases, the use of a method with minor changes in methodology.

(ii) Approves the use of an equivalent method.

(iii) Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance.

(iv) Waives the requirement for performance tests because you have demonstrated by other means to the Administrator's satisfaction that the affected SSI unit is in compliance with the standard.

(v) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph is construed to abrogate the Administrator's authority to require testing under section 114 of the Clean Air Act.

(8) You must provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, you must notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.

(9) You must provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods applicable to the SSI unit, as follows:

(A) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures.

(B) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(10) Unless otherwise specified in this subpart, each performance test must consist of three separate runs using the applicable test method. Each run must be conducted for the time and under the conditions specified in the applicable standard. Compliance with each emission limit must be determined by calculating the arithmetic mean of the three runs. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond your control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.

(b) *Continuous monitor requirements.* You must meet the following requirements, as applicable, when using a continuous monitoring system to demonstrate compliance with the emission limits in Table 2 or 3 to this subpart. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium, or lead is published in the **Federal Register**. If you elect to use a continuous emissions monitoring system or continuous opacity monitoring system instead of conducting annual performance testing, you must meet the requirements of paragraphs (b)(1) through (6) of this section. If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must meet the requirements of paragraph (b)(7) of this section. The option to use a continuous automated sampling system for mercury or dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the **Federal Register**.

(1) You must notify the Administrator 1 month before starting use of the continuous emissions monitoring system or continuous opacity monitoring system.

(2) You must notify the Administrator 1 month before stopping use of the continuous emissions monitoring system or continuous opacity monitoring system, in which case you must also conduct a performance test within 60 days of ceasing operation of the system.

(3) You must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the emissions to the atmosphere or opacity in accordance with the following:

(i) Section 60.13 of subpart A of this part.

(ii) The following performance specifications of appendix B of this part, as applicable:

(A) For particulate matter, Performance Specification 11 of appendix B of this part.

(B) For hydrogen chloride, Performance Specification 15 of appendix B of this part.

(C) For carbon monoxide, Performance Specification 4B of appendix B of this part.

(D) [Reserved]

(E) For mercury, Performance Specification 12A of appendix B of this part.

(F) For nitrogen oxides, Performance Specification 2 of appendix B of this part.

(G) For sulfur dioxide, Performance Specification 2 of appendix B of this part.

(H) [Reserved]

(I) [Reserved]

(J) For opacity, Performance Specification 1 of appendix B of this part.

(iii) For continuous emissions monitoring systems, the quality assurance procedures (*e.g.,* quarterly accuracy determinations and daily calibration drift tests) of appendix F of this part specified in paragraphs (b)(3)(iii)(A) through (I) of this section. For each pollutant, the span value of the continuous emissions monitoring system is two times the applicable emission limit, expressed as a concentration.

(A) For particulate matter, Procedure 2 in appendix F of this part.

(B) For hydrogen chloride, Procedure 1 in appendix F of this part except that the Relative Accuracy Test Audit requirements of Procedure 1 shall be replaced with the validation requirements and criteria of sections 11.1.1 and 12.0 of Performance

Specification 15 of appendix B of this part.

(C) For carbon monoxide, Procedure 1 in appendix F of this part.

(D) [Reserved]

(E) For mercury, procedures 1 and 5 in appendix F of this part.

(F) For nitrogen oxides, Procedure 1 in appendix F of this part.

(G) For sulfur dioxide, Procedure 1 in appendix F of this part.

(H) [Reserved]

(I) [Reserved]

(4) During each relative accuracy test run of the continuous emissions monitoring system using the performance specifications in paragraph (b)(3)(ii) of this section, emission data for each regulated pollutant and oxygen (or carbon dioxide as established in (b)(5) of this section) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitors and the test methods specified in paragraphs (b)(4)(i) through (b)(4)(viii) of this section. Relative accuracy testing must be at normal operating conditions while the SSI unit is charging sewage sludge.

(i) For particulate matter, Method 5 at 40 CFR part 60, appendix A–3 or Method 26A or 29 at 40 CFR part 60, appendix A–8 shall be used.

(ii) For hydrogen chloride, Method 26 or 26A at 40 CFR part 60, appendix A–8, shall be used.

(iii) For carbon monoxide, Method 10, 10A, or 10B at 40 CFR part 60, appendix A–4, shall be used.

(iv) For dioxins/furans, Method 23 at 40 CFR part 60, appendix A–7, shall be used.

(v) For mercury, cadmium, and lead, Method 29 at 40 CFR part 60, appendix A–8, or as an alternative ASTM D6784–02, shall be used.

(vi) For nitrogen oxides, Method 7 or 7E at 40 CFR part 60, appendix A–4, shall be used.

(vii) For sulfur dioxide, Method 6 or 6C at 40 CFR part 60, appendix A–4, or as an alternative American National Standards Institute/American Society of Mechanical Engineers PTC–19.10–1981 Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus] must be used. For sources that have actual inlet emissions less than 100 parts per million dry volume, the relative accuracy criterion for the inlet of the sulfur dioxide continuous emissions monitoring system should be no greater than 20 percent of the mean value of the method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value of the mean difference between the method and the continuous emissions monitoring system, whichever is greater.

(viii) For oxygen (or carbon dioxide as established in (a)(2)(v) of this section), Method 3A or 3B at 40 CFR part 60, appendix A–2, or as an alternative American National Standards Institute/American Society of Mechanical Engineers PTC–19.10–1981—Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus], as applicable, must be used.

(5) You may request that compliance with the emission limits (except opacity) be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels must be established during the initial performance test according to the procedures and methods specified in paragraphs (b)(5)(i) through (b)(5)(iv) of this section. This relationship may be re-established during subsequent performance compliance tests.

(i) The fuel factor equation in Method 3B at 40 CFR part 60, appendix A–2 must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B at 50 CFR part 60, appendix A–2, or as an alternative American National Standards Institute/American Society of Mechanical Engineers PTC–19.–10–1981— Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus], as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.

(ii) Samples must be taken for at least 30 minutes in each hour.

(iii) Each sample must represent a 1-hour average.

(iv) A minimum of three runs must be performed.

(6) You must collect data with the continuous monitoring system as follows:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (b)(6)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

(ii) You must collect continuous opacity monitoring system data in accordance with § 60.13(e)(1), and you must collect continuous emissions monitoring system data in accordance with § 60.13(e)(2).

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in a deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.4880(a)(7)(i) must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction as defined in § 60.5250, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (b)(6)(iii) and (b)(6)(iv) of this section in assessing the operation of the control device and associated control system.

(7) If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must:

(i) Install, calibrate, maintain, and operate a continuous automated sampling system according to the site-specific monitoring plan developed in § 60.58b(p)(1) through (p)(6), (p)(9), (p)(10), and (q).

(ii) Collect data according to § 60.58b(p)(5) and paragraph (b)(6) of this section.

(c) *Air pollution control device inspections.* You must conduct air pollution control device inspections that include, at a minimum, the following:

(1) Inspect air pollution control device(s) for proper operation, if applicable.

(2) Ensure proper calibration of thermocouples, sorbent feed systems, and any other monitoring equipment.

(3) Generally observe that the equipment is maintained in good operating condition.

(4) Ensure that the air pollution control device meets manufacturer recommendations.

(d) *Bypass stack.* Use of the bypass stack at any time that sewage sludge is being charged to the SSI unit is an emissions standards deviation for all pollutants listed in Table 2 or 3 to this subpart. The use of the bypass stack during a performance test invalidates the performance test.

§ 60.5225 What are the monitoring and calibration requirements for compliance with my operating limits?

(a) You must install, operate, calibrate, and maintain the continuous

parameter monitoring systems for measuring flow, pressure, pH, and temperature according to the requirements in paragraphs (a)(1) and (a)(2) of this section:

(1) Meet the following general requirements for flow, pressure, pH, and temperature measurement devices:

(i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (a)(1)(ii) of this section, except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments).

(ii) You must collect continuous parameter monitoring system data in accordance with § 60.13(e)(2).

(iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in your annual deviation report.

(iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.5200(a)(7)(i) must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction, as defined in § 60.5250, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

(v) You must use all the data collected during all periods except those periods specified in paragraphs (a)(1)(iii) and (a)(1)(iv) of this section in assessing the operation of the control device and associated control system.

(vi) Determine the 4-hour rolling average of all recorded readings, except as provided in paragraph (a)(1)(iii) of this section.

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

(2) Meet the following requirements for each type of measurement device:

(i) If you have an operating limit that requires the use of a flow measurement device, you must meet the following requirements:

(A) Locate the flow sensor and other necessary equipment in a position that provides a representative flow.

(B) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.

(C) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(D) Conduct a flow sensor calibration check at least semi-annually.

(E) For carrier gas flow rate monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.5205, you must demonstrate that the system is maintained within +/− 5 percent accuracy, according to the procedures in appendix A to part 75 of this chapter.

(ii) If you have an operating limit that requires the use of a pressure measurement device, you must meet the following requirements:

(A) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.

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

(C) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(D) Check pressure tap pluggage daily.

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

(F) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(G) For carrier gas pressure drop monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.5205, you must demonstrate that the system is maintained within +/− 5 percent accuracy.

(iii) If you have an operating limit that requires the use of a pH measurement device, you must meet the following requirements:

(A) Locate the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

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

(C) Check the pH meter's calibration on at least two points every 8 hours of process operation.

(iv) If you have an operating limit that requires the use of a temperature measurement device, you must meet the following requirements:

(A) Locate the temperature sensor and other necessary equipment in a position that provides a representative temperature.

(B) Use a temperature sensor with a minimum tolerance of 2.3 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range.

(C) Use a temperature sensor with a minimum tolerance of 2.3 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range.

(D) Conduct a temperature measurement device calibration check at least every 3 months.

(b) You must install, operate, calibrate, and maintain the continuous parameter monitoring systems for voltage, amperage, mass flow rate, and bag leak detection system as specified in paragraphs (b)(1) through (b)(3) of this section.

(1) If you have an operating limit that requires the use of equipment to monitor secondary voltage and secondary amperage (or power input) of an electrostatic precipitator, you must use secondary voltage and secondary amperage monitoring equipment to measure secondary voltage and secondary amperage to the electrostatic precipitator.

(2) If you have an operating limit that requires the use of equipment to monitor mass flow rate for sorbent injection (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the following requirements:

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

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

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

(3) If you use a fabric filter to comply with the requirements of this subpart, you must:

(i) Install, operate, calibrate, and maintain your bag leak detection system as follows:

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

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

(C) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of

10 milligrams per actual cubic meter or less.

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

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

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

(G) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

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

(I) You must operate and maintain your bag leak detection system in continuous operation according to your monitoring plan required under § 60.5200.

(ii) You must initiate procedures to determine the cause of every alarm within 8 hours of the alarm, and you must alleviate the cause of the alarm within 24 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(A) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate matter emissions.

(B) Sealing off defective bags or filter media.

(C) Replacing defective bags or filter media or otherwise repairing the control device.

(D) Sealing off a defective fabric filter compartment.

(E) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.

(F) Shutting down the process producing the particulate matter emissions.

(c) You must operate and maintain the continuous parameter monitoring systems specified in paragraphs (a) and (b) of this section in continuous operation according to your monitoring plan required under § 60.5200.

(d) If your SSI unit has a bypass stack, you must install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time, and duration.

Model Rule—Recordkeeping and Reporting

§ 60.5230 What records must I keep?

You must maintain the items (as applicable) specified in paragraphs (a) through (m) of this section for a period of at least 5 years. All records must be available on site in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

(a) *Date.* Calendar date of each record.

(b) *Increments of progress.* Copies of the final control plan and any additional notifications, reported under § 60.5250.

(c) *Operator Training.* Documentation of the operator training procedures and records specified in paragraphs (c)(1) through (c)(4) of this section. You must make available and readily accessible at the facility at all times for all SSI unit operators the documentation specified in paragraph (c)(1) of this section.

(1) Documentation of the following operator training procedures and information:

(i) Summary of the applicable standards under this subpart.

(ii) Procedures for receiving, handling, and feeding sewage sludge.

(iii) Incinerator startup, shutdown, and malfunction procedures.

(iv) Procedures for maintaining proper combustion air supply levels.

(v) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.

(vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

(vii) Reporting and recordkeeping procedures.

(viii) Procedures for handling ash.

(ix) A list of the materials burned during the performance test, if in addition to sewage sludge.

(x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of § 60.5155(a), the phone and/or pager number at which they can be reached during operating hours.

(2) Records showing the names of SSI unit operators and other plant personnel who may operate the unit according to the provisions of § 60.5155(a), as follows:

(i) Records showing the names of SSI unit operators and other plant personnel who have completed review of the information in paragraph (c)(1) of this section as required by § 60.5160(b), including the date of the initial review and all subsequent annual reviews.

(ii) Records showing the names of the SSI operators who have completed the operator training requirements under § 60.5130, met the criteria for qualification under § 60.5140, and maintained or renewed their qualification under § 60.5145 or § 60.5150. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications.

(3) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in § 60.5155(a).

(4) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted as required in § 60.5155(b).

(d) *Air pollution control device inspections.* Records of the results of initial and annual air pollution control device inspections conducted as specified in §§ 60.5195 and 60.5220(c), including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.

(e) *Performance test reports.*

(1) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable.

(2) Retain a copy of the complete performance test report, including calculations.

(3) Keep a record of the log of the quantity of sewage sludge burned during the performance tests, as required in § 60.5220(a)(2).

(4) Keep any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations.

(f) *Continuous monitoring data.* Records of the following data, as applicable:

(1) For continuous opacity monitoring systems, all 6-minute average and 1-hour block average levels of opacity.

(2) For continuous emissions monitoring systems, all 1-hour average concentrations of particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans, mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead emissions.

(3) For continuous automated sampling systems, all average concentrations measured for mercury and dioxins/furans at the frequencies specified in your monitoring plan.

(4) For continuous parameter monitoring systems:

(i) All 1-hour average values recorded for the following operating parameters, as applicable:

(A) Dry sludge feed rate and combustion chamber temperature (or afterburner temperature).

(B) If a wet scrubber is used to comply with the rule, pressure drop across the wet scrubber system, liquor flow rate to the wet scrubber, and liquor pH as introduced to the wet scrubber.

(C) If an electrostatic precipitator is used to comply with the rule, voltage of the electrostatic precipitator collection plates or amperage of the electrostatic precipitator collection plates, and effluent water flow rate at the outlet of the wet electrostatic precipitator.

(D) If activated carbon injection is used to comply with the rule, mercury sorbent flow rate and carrier gas flow rate or pressure drop, as applicable.

(ii) Daily average values and composite sample values for sludge moisture content.

(iii) If a fabric filter is used to comply with the rule, the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in § 60.5170(b).

(iv) For other control devices for which you must establish operating limits under § 60.5175, you must maintain data collected for all operating parameters used to determine compliance with the operating limits, at the frequencies specified in your monitoring plan.

(g) *Other records for continuous monitoring systems.* You must keep the following records, as applicable:

(1) Keep records of any notifications to the Administrator in § 60.4915(h)(1) of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.

(2) Keep records of any requests under § 60.5220(b)(5) that compliance with the emission limits (except opacity) be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen.

(3) If activated carbon injection is used to comply with the rule, the type of sorbent used and any changes in the type of sorbent used.

(h) *Deviation Reports.* Records of any deviation reports submitted under § 60.5235(e) and (f).

(i) *Equipment specifications and operation and maintenance requirements.* Equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls, and monitoring equipment.

(j) *Calibration of monitoring devices.* Records of calibration of any monitoring devices as required under §§ 60.5220 and 60.5225.

(k) *Monitoring plan and performance evaluations for continuous monitoring systems.* Records of the monitoring plan required under § 60.5200, and records of performance evaluations required under § 60.5205(b)(5).

(l) *Less frequent testing.* Any records required to document that your SSI unit qualifies for less frequent testing under § 60.5205(a)(3).

(m) *Use of bypass stack.* Records indicating use of the bypass stack, including dates, times, and durations as required under § 60.5225(c).

§ 60.5235 What reports must I submit?

You must submit the reports specified in paragraphs (a) through (i) of this section. See Table 6 to this subpart for a summary of these reports.

(a) *Increments of progress report.* If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must submit the following reports, as applicable:

(1) A final control plan as specified in §§ 60.5085(a) and 60.5110.

(2) You must submit your notification of achievement of increments of progress no later than 10 business days after the compliance date for the increment as specified in §§ 60.5095 and 60.5100.

(3) If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment, as specified in § 60.5105.

(4) If you plan to close your SSI unit rather than comply with the State plan, submit a closure notification as specified in § 60.5125.

(b) *Initial compliance report.* You must submit the following information no later than 60 days following the initial performance test.

(1) Company name and address.

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

(3) Date of report.

(4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 2 or 3 to this subpart.

(5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation.

(6) The values for the site-specific operating limits established pursuant to §§ 60.5170 and 60.5175 and the calculations and methods used to establish each operating limit.

(7) If you are using a fabric filter to comply with the emission limits, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by § 60.5170(b).

(8) The results of the initial air pollution control device inspection required in § 60.5195, including a description of repairs.

(c) *Annual compliance report.* You must submit an annual compliance report that includes the items listed in paragraphs (c)(1) through (c)(15) of this section for the reporting period specified in paragraph (c)(3) of this section. You must submit your first annual compliance report no later than 12 months following the submission of the initial compliance report in paragraph (b) of this section. You must submit subsequent annual compliance reports no more than 12 months following the previous annual compliance report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)

(1) Company name and address.

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

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

(4) If a performance test was conducted during the reporting period, the results of that performance test.

(i) If operating limits were established during the performance test, include the value for each operating limit and the method used to establish each operating limit, including calculations.

(ii) If activated carbon is used during the performance test, include the type of activated carbon used.

(5) For each pollutant and operating parameter recorded using a continuous monitoring system, the highest recorded 3-hour average and the lowest recorded 3-hour average during the reporting period, as applicable.

(6) If there are no deviations during the reporting period from any emission limit, emission standard, or operating limit that applies to you, a statement that there were no deviations from the emission limits, emission standard, or operating limits.

(7) Information for bag leak detection systems recorded under § 60.5230(f)(4)(iii).

(8) If a performance evaluation of a continuous monitoring system was conducted, the results of that performance evaluation. If new operating limits were established during the performance evaluation, include your calculations for establishing those operating limits.

(9) If you met the requirements of § 60.5205(a)(3) and did not conduct a performance test during the reporting period, you must include the dates of the last three performance tests, a comparison of the emission level you achieved in the last three performance tests to the 75 percent emission limit threshold specified in § 60.5205(a)(3)(i)(B), and a statement as to whether there have been any process changes and whether the process change resulted in an increase in emissions.

(10) Documentation of periods when all qualified sewage sludge incineration unit operators were unavailable for more than 8 hours, but less than 2 weeks.

(11) Results of annual air pollution control device inspections recorded under § 60.5230(d) for the reporting period, including a description of repairs.

(12) If there were no periods during the reporting period when your continuous monitoring systems had a malfunction, a statement that there were no periods during which your continuous monitoring systems had a malfunction.

(13) If there were no periods during the reporting period when a continuous monitoring system was out of control, a statement that there were no periods during which your continuous monitoring systems were out of control.

(14) If there were no operator training deviations, a statement that there were no such deviations during the reporting period.

(15) If you did not make revisions to your site-specific monitoring plan during the reporting period, a statement that you did not make any revisions to your site-specific monitoring plan during the reporting period. If you made revisions to your site-specific monitoring plan during the reporting period, a copy of the revised plan.

(d) *Deviation reports.*

(1) You must submit a deviation report if:

(i) Any recorded 4-hour rolling average parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart.

(ii) Any recorded daily average sludge moisture content is outside the allowable range.

(iii) The bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period.

(iv) Any recorded 4-hour rolling average emissions level is above the emission limit, if a continuous monitoring system is used to comply with an emission limit.

(v) Any opacity level recorded under § 60.5185(b)(5) that is above the opacity limit, if a continuous opacity monitoring system is used.

(vi) There are visible emissions of combustion ash from an ash conveying system for more than 5 percent of the hourly observation period.

(vii) A performance test was conducted that deviated from any emission limit in Table 2 or 3 to this subpart.

(viii) A continuous monitoring system was out of control.

(ix) You had a malfunction (*e.g.,* continuous monitoring system malfunction) that caused or may have caused any applicable emission limit to be exceeded.

(2) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).

(3) For each deviation where you are using a continuous monitoring system to comply with an associated emission limit or operating limit, report the items described in paragraphs (d)(3)(i) through (d)(3)(viii) of this section.

(i) Company name and address.

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

(iii) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.

(iv) The averaged and recorded data for those dates.

(v) Duration and cause of each deviation from the following:

(A) Emission limits, emission standards, operating limits, and your corrective actions.

(B) Bypass events and your corrective actions.

(vi) Dates, times, and causes for monitor downtime incidents.

(vii) A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.

(viii) If there were periods during which the continuous monitoring system had a malfunction or was out of control, you must include the following information for each deviation from an emission limit or operating limit:

(A) The date and time that each malfunction started and stopped.

(B) The date, time, and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.

(C) The date, time, and duration that each continuous monitoring system was out of control, including start and end dates and hours and descriptions of corrective actions taken.

(D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system was out of control, or during another period.

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

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

(G) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the SSI unit at which the continuous monitoring system downtime occurred during that reporting period.

(H) An identification of each parameter and pollutant that was monitored at the SSI unit.

(I) A brief description of the SSI unit.

(J) A brief description of the continuous monitoring system.

(K) The date of the latest continuous monitoring system certification or audit.

(L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.

(4) For each deviation where you are not using a continuous monitoring system to comply with the associated emission limit or operating limit, report the following items:

(i) Company name and address.

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

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

(iv) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.

(v) The averaged and recorded data for those dates.

(vi) Duration and cause of each deviation from the following:

(A) Emission limits, emission standards, operating limits, and your corrective actions.

(B) Bypass events and your corrective actions.

(vii) A copy of any performance test report that showed a deviation from the emission limits or standards.

(viii) A brief description of any malfunction reported in paragraph (d)(1)(viii) of this section, including a description of actions taken during the malfunction to minimize emissions in accordance with § 60.11(d) and to correct the malfunction.

(e) *Qualified operator deviation.*

(1) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (e)(1)(i)(A) through (e)(1)(i)(C) of this section.

(A) A statement of what caused the deviation.

(B) A description of actions taken to ensure that a qualified operator is accessible.

(C) The date when you anticipate that a qualified operator will be available.

(ii) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (e)(1)(ii)(A) through (e)(1)(ii)(C) of this section.

(A) A description of actions taken to ensure that a qualified operator is accessible.

(B) The date when you anticipate that a qualified operator will be accessible.

(C) Request for approval from the Administrator to continue operation of the SSI unit.

(2) If your unit was shut down by the Administrator, under the provisions of § 60.5155(b)(2)(i), due to a failure to provide an accessible qualified operator, you must notify the Administrator within five days of meeting § 60.5155(b)(2)(ii) that you are resuming operation.

(f) *Notification of a force majeure.* If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure:

(1) You must notify the Administrator, in writing as soon as practicable following the date you first knew, or through due diligence, should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.

(2) You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which you propose to conduct the performance test.

(g) *Other notifications and reports required.* You must submit other notifications as provided by § 60.7 and as follows:

(1) You must notify the Administrator 1 month before starting or stopping use of a continuous monitoring system for determining compliance with any emission limit.

(2) You must notify the Administrator at least 30 days prior to any performance test conducted to comply with the provisions of this subpart, to afford the Administrator the opportunity to have an observer present.

(3) As specified in § 60.5220(a)(8), you must notify the Administrator at least 7 days prior to the date of a rescheduled performance test for which notification was previously made in paragraph (g)(2) of this section.

(h) *Report submission form.*

(1) Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

(2) After December 31, 2011, within 60 days after the date of completing each performance evaluation or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data, except opacity, to EPA by successfully submitting the data electronically into EPA's Central Data Exchange by using the Electronic Reporting Tool (*see http://www.epa.gov/ttn/chief/ert/ert tool.html/*).

(i) *Changing report dates.* If the Administrator agrees, you may change the semiannual or annual reporting dates. *See* § 60.19(c) for procedures to seek approval to change your reporting date.

Model Rule—Title V Operating Permits

§ 60.5240 Am I required to apply for and obtain a title V operating permit for my existing SSI unit?

Yes, if you are subject to an applicable EPA-approved and effective Clean Air Act section 111(d)/129 State or tribal plan or an applicable and effective Federal plan, you are required to apply for and obtain a title V operating permit for your existing SSI unit unless you meet the relevant requirements for an exemption specified in § 60.5065.

§ 60.5245 When must I submit a title V permit application for my existing SSI unit?

(a) If your existing SSI unit is not subject to an earlier permit application deadline, a complete title V permit application must be submitted on or before the earlier of the dates specified in paragraphs (a)(1) through (a)(3) of this section. (*See* sections 129(e), 503(c), 503(d), and 502(a) of the Clean Air Act and 40 CFR 70.5(a)(1)(i) and 40 CFR 71.5(a)(1)(i)).

(1) 12 months after the effective date of any applicable EPA-approved Clean Air Act section 111(d)/129 State or tribal plan.

(2) 12 months after the effective date of any applicable Federal plan.

(3) [THE DATE 3 YEARS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**].

(b) For any existing unit not subject to an earlier permit application deadline, the application deadline of 36 months after the promulgation of this subpart applies regardless of whether or when any applicable Federal plan is effective, or whether or when any applicable Clean Air Act section 111(d)/129 State or tribal plan is approved by EPA and becomes effective.

(c) If your existing unit is subject to title V as a result of some triggering requirement(s) other than those specified in paragraphs (a) and (b) of this section (for example, a unit may be a major source or part of a major source), then your unit may be required to apply for a title V permit prior to the deadlines specified in paragraphs (a) and (b). If more than one requirement triggers a source's obligation to apply for a title V permit, the 12-month timeframe for filing a title V permit application is triggered by the requirement which first causes the source to be subject to title V. (See section 503(c) of the Clean Air Act and 40 CFR 70.3(a) and (b), 40 CFR 70.5(a)(1)(i), 40 CFR 71.3(a) and (b), and 40 CFR 71.5(a)(1)(i).)

(d) A "complete" title V permit application is one that has been determined or deemed complete by the relevant permitting authority under section 503(d) of the Clean Air Act and 40 CFR 70.5(a)(2) or 40 CFR 71.5(a)(2). You must submit a complete permit application by the relevant application deadline in order to operate after this date in compliance with Federal law. (*See* sections 503(d) and 502(a) of the

Clean Air Act and 40 CFR 70.7(b) and 40 CFR 71.7(b).)

Model Rule—Definitions

§ 60.5250 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and § 60.2.

Administrator means:

(1) For units covered by the Federal plan, the Administrator of the EPA or his/her authorized representative.

(2) For units covered by an approved State plan, the director of the State air pollution control agency or his/her authorized representative.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Auxiliary fuel means natural gas, liquefied petroleum gas, fuel oil, or diesel fuel.

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

Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

Calendar year means 365 consecutive days starting on January 1 and ending on December 31.

Co-fired combustor means a unit combusting sewage sludge or dewatered sludge pellets with other fuels or wastes (*e.g.,* coal, clean biomass, municipal solid waste, commercial or institutional waste, hospital medical infectious waste, unused pharmaceuticals, other solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10 percent or less of the weight of which is comprised, in aggregate, of sewage sludge.

Continuous automated sampling system means the total equipment and procedures for automated sample collection and sample recovery/analysis to determine a pollutant concentration or emission rate by collecting a single integrated sample(s) or multiple integrated sample(s) of the pollutant (or diluent gas) for subsequent on- or off-site analysis; integrated sample(s) collected are representative of the emissions for the sample time as specified by the applicable requirement.

Continuous emissions monitoring system means a monitoring system for continuously measuring and recording the emissions of a pollutant from an affected facility.

Continuous monitoring system (CMS) means a continuous emissions monitoring system, continuous automated sampling system, continuous parameter monitoring system, continuous opacity monitoring system, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by this subpart. The term refers to the total equipment used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

Continuous parameter monitoring system means a monitoring system for continuously measuring and recording operating conditions associated with air pollution control device systems (e.g., temperature, pressure, and power).

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 limit, operating limit, or operator qualification and accessibility requirements.

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

Dioxins/furans means tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

Electrostatic precipitator or wet electrostatic precipitator means an air pollution control device that uses both electrical forces and, if applicable, water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

Existing sewage sludge incineration unit means a sewage sludge incineration unit the construction of which is commenced on or before October 14, 2010.

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

Fluidized bed incinerator means an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. During periods of malfunction, the operator shall operate within established emissions and operating limits and shall continue monitoring all applicable operating parameters until all waste has been combusted or until the malfunction ceases, whichever comes first.

Maximum feed rate means 110 percent of the highest 3-hour average dry charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits and standards.

Modification means a change to an SSI unit later than [THE DATE 6 MONTHS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE **FEDERAL REGISTER**] and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the SSI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the SSI unit used to calculate these costs, see the definition of SSI unit.

(2) Any physical change in the SSI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

Modified sewage sludge incineration unit means an SSI unit that undergoes a modification, as defined in this section.

Multiple hearth incinerator means a circular steel furnace that contains a number of solid refractory hearths and a central rotating shaft; rabble arms that are designed to slowly rake the sludge on the hearth are attached to the rotating shaft. Dewatered sludge enters at the top and proceeds downward through the furnace from hearth to hearth, pushed along by the rabble arms.

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

Operating day means a 24-hour period between 12:00 midnight and the following midnight during which any

amount of sewage sludge is combusted at any time in the SSI unit.

Particulate matter means filterable particulate matter emitted from SSI units as measured by Method 5 at 40 CFR part 60, appendix A–3 or Methods 26A or 29 at 40 CFR part 60, appendix A–8.

Power input to the electrostatic precipitator means the product of the test-run average secondary voltage and the test-run average secondary amperage to the electrostatic precipitator collection plates.

Process change means that any of the following have occurred:

(1) A change in the process employed at the wastewater treatment facility associated with the affected SSI unit (*e.g.,* the addition of tertiary treatment at the facility, which changes the method used for disposing of process solids and processing of the sludge prior to incineration).

(2) A change in the air pollution control devices used to comply with the emission limits for the affected SSI unit (e.g., change in the sorbent used for activated carbon injection).

(3) An allowable increase in the quantity of wastewater received from an industrial source by the wastewater treatment facility.

Sewage sludge means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incineration unit or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Sewage sludge feed rate means the rate at which sewage sludge is fed into the incinerator unit.

Sewage sludge incineration (SSI) unit means an incineration unit combusting sewage sludge for the purpose of reducing the volume of the sewage sludge by removing combustible matter. Sewage sludge incineration unit designs include fluidized bed and multiple hearth.

Shutdown means the period of time after all sewage sludge has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sewage sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

Standard conditions, when referring to units of measure, means a temperature of 68 °F (20 °C) and a pressure of 1 atmosphere (101.3 kilopascals).

Startup means the period of time between the activation, including the firing of fuels (*e.g.,* natural gas or distillate oil), of the system and the first feed to the unit.

Toxic equivalency means the product of the concentration of an individual dioxin congener in an environmental mixture and the corresponding estimate of the compound-specific toxicity relative to tetrachlorinated dibenzo-p-dioxin, referred to as the toxic equivalency factor for that compound. Table 5 to this subpart lists the toxic equivalency factors.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

You means the owner or operator of an affected SSI unit.

TABLE 1 TO SUBPART MMMM OF PART 60—MODEL RULE—INCREMENTS OF PROGRESS AND COMPLIANCE SCHEDULES FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS

Comply with these increments of progress	By these dates [a]
Increment 1—Submit final control plan.	(Dates to be specified in State plan)
Increment 2—Final compliance.	(Dates to be specified in State plan) [b]

[a] Site-specific schedules can be used at the discretion of the State.

[b] The date can be no later than 3 years after the effective date of State plan approval or [THE DATE 5 YEARS AFTER THE DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] for SSI units that commenced construction on or before October 14, 2010.

TABLE 2 TO SUBPART MMMM OF PART 60—MODEL RULE—EMISSION LIMITS AND STANDARDS FOR EXISTING FLUIDIZED BED SEWAGE SLUDGE INCINERATION UNITS

For the air pollutant	You must meet this emission limit [a]	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	12 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters sample per run).	Performance test (Method 5 at 40 CFR part 60, appendix A–3; Method 26A or Method 29 at 40 CFR part 60, appendix A–8).
Hydrogen chloride	0.49 parts per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Carbon monoxide	56 parts per million by dry volume	3-run average (collect sample for a minimum duration of one hour per run).	Performance test (Method 10, 10A, or 10B at 40 CFR part 60, appendix A–4).
Dioxins/furans (total mass basis)	0.61 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).

TABLE 2 TO SUBPART MMMM OF PART 60—MODEL RULE—EMISSION LIMITS AND STANDARDS FOR EXISTING FLUIDIZED BED SEWAGE SLUDGE INCINERATION UNITS—Continued

For the air pollutant	You must meet this emission limit [a]	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Dioxins/furans (toxic equivalency basis).	0.056 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Mercury	0.0033 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02, collect a minimum volume of 3 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 at 40 CFR part 60, appendix A–8; Method 30B at 40 CFR part 60, appendix A (when published in the **Federal Register**); or ASTM D6784–02, Standard Test Method for Elemental, Oxidized, Particle Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method).
Oxides of nitrogen	63 parts per million by dry volume	3-run average (Collect sample for a minimum duration of one hour per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Sulfur dioxide	22 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 200 liters per run. For Method 6C, collect sample for a minimum duration of one hour per run).	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A–4; or ASNI/ASME PTC–19.10–1981 Flue and Exhaust Gas Analysis [Part 10, Instruments and Apparatus]).
Cadmium	0.0019 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Lead	0.0098 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters sample per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8.
Opacity	0 percent	6-minute averages, three 1-hour observation periods.	Performance test (Method 9 at 40 CFR part 60, appendix A–4).
Fugitive emissions from ash handling.	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 of appendix A–7 of this part).

[a] All emission limits (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

TABLE 3 TO SUBPART MMMM OF PART 60—MODEL RULE—EMISSION LIMITS AND STANDARDS FOR EXISTING MULTIPLE HEARTH SEWAGE SLUDGE INCINERATION UNITS

For the air pollutant	You must meet this emission limit [a]	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Particulate matter	80 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 5 at 40 CFR part 60, appendix A–3; Method 26A or Method 29 at 40 CFR part 60, appendix A–8).
Hydrogen chloride	1.0 parts per million by dry volume.	3-run average (For Method 26, collect a minimum volume of 200 liters per run. For Method 26A, collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A–8).
Carbon monoxide	3,900 parts per million by dry volume.	3-run average (collect sample for a minimum duration of one hour per run).	Performance test (Method 10, 10A, or 10B at 40 CFR part 60, appendix A–4).
Dioxins/furans (total mass basis)	5.0 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).
Dioxins/furans (toxic equivalency basis).	0.32 nanograms per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 23 at 40 CFR part 60, appendix A–7).

TABLE 3 TO SUBPART MMMM OF PART 60—MODEL RULE—EMISSION LIMITS AND STANDARDS FOR EXISTING MULTIPLE HEARTH SEWAGE SLUDGE INCINERATION UNITS—Continued

For the air pollutant	You must meet this emission limit [a]	Using these averaging methods and minimum sampling volumes or durations	And determining compliance using this method
Mercury	0.02 milligrams per dry standard cubic meter.	3-run average (For Method 29 and ASTM D6784–02, collect a minimum volume of 3 dry standard cubic meters per run. For Method 30B, collect a minimum sample as specified in Method 30B at 40 CFR part 60, appendix A).	Performance test (Method 29 at 40 CFR part 60, appendix A–8; Method 30B at 40 CFR part 60, appendix A (when published in the **Federal Register**); or ASTM D6784–02, Standard Test Method for Elemental, Oxidized, Particle Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method).
Oxides of nitrogen	210 parts per million by dry volume.	3-run average (Collect sample for a minimum duration of one hour per run).	Performance test (Method 7 or 7E at 40 CFR part 60, appendix A–4).
Sulfur dioxide	26 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 200 liters per run. For Method 6C, collect sample for a minimum duration of one hour per run).	Performance test (Method 6 or 6C at 40 CFR part 40, appendix A–4; or ASNI/ASME PTC–19.10–1981 Flue and Exhaust Gas Analysis ([Part 10, Instruments and Apparatus]).
Cadmium	0.095 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8).
Lead	0.30 milligrams per dry standard cubic meter.	3-run average (collect a minimum volume of 3 dry standard cubic meters per run).	Performance test (Method 29 at 40 CFR part 60, appendix A–8.
Opacity	10 percent	6-minute averages, three 1-hour observation periods.	Performance test (Method 9 at 40 CFR part 60, appendix A–4).
Fugitive emissions from ash handling.	Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) for no more than 5 percent of the hourly observation period.	Three 1-hour observation periods	Visible emission test (Method 22 of appendix A–7 of this part).

[a] All emission limits (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

TABLE 4 TO SUBPART MMMM OF PART 60—MODEL RULE—OPERATING PARAMETERS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS [a]

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording [b]	Averaging time for compliance
All sewage sludge incineration units				
Dry sludge feed rate	Maximum dry sludge feed rate	Continuous	Hourly	4-hour rolling.[c]
Combustion chamber temperature (not required if afterburner temperature is monitored).	Minimum combustion temperature or afterburner temperature	Continuous	Every 15 minutes	4-hour rolling.[c]
Sludge moisture content	Range of moisture content (%)	Composite of three samples taken 6 hours apart.	Daily	Daily.
Scrubber				
Pressure drop across each wet scrubber or amperage to each wet scrubber.	Minimum pressure drop or minimum amperage.	Continuous	Every 15 minutes	4-hour rolling.[c]
Scrubber liquor flow rate	Minimum flow rate	Continuous	Every 15 minutes	4-hour rolling.[c]
Scrubber liquor pH	Minimum pH	Continuous	Every 15 minutes	4-hour rolling.[c]
Fabric filter				
Alarm time of the bag leak detection system alarm.	Maximum alarm time of the bag leak detection system alarm (this operating limit is provided in § 60.4850 and is not established on a site-specific basis)			

TABLE 4 TO SUBPART MMMM OF PART 60—MODEL RULE—OPERATING PARAMETERS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording [b]	Averaging time for compliance
Electrostatic precipitator				
Secondary voltage of the electrostatic precipitator collection plates. Secondary amperage of the electrostatic precipitator collection plates.	Minimum power input to the electrostatic precipitator collection plates.	Continuous	Hourly	4-hour rolling.[c]
Effluent water flow rate at the outlet of the electrostatic precipitator.	Maximum effluent water flow rate at the outlet of the electrostatic precipitator.	Hourly	Hourly	4-hour rolling.[c]
Activated carbon injection				
Mercury sorbent injection rate	Minimum mercury sorbent injection rate.	Hourly	Hourly	4-hour rolling.[c]
Dioxin/furan sorbent injection rate	Minimum dioxin/furan sorbent injection rate.			
Carrier gas flow rate or carrier gas pressure drop.	Minimum carrier gas flow rate or minimum carrier gas pressure drop.	Continuous	Every 15 minutes	4-hour rolling.[c]
Afterburner				
Temperature of the afterburner combustion chamber.	Minimum temperature of the afterburner combustion chamber.	Continuous	Every 15 minutes	4-hour rolling.[a]

[a] As specified in § 60.5190, you may use a continuous emissions monitoring system, continuous opacity monitoring system, or continuous automated sampling system in lieu of establishing certain operating limits.

[b] This recording time refers to the frequency that the continuous monitor or other measuring device initially records data. For all data recorded every 15 minutes, you must calculate hourly arithmetic averages. For all parameters except sludge moisture content, you use hourly averages to calculate the 4-hour rolling averages to demonstrate compliance. You maintain records of 1-hour averages.

[c] Calculated each hour as the average of the previous 4 operating hours.

TABLE 5 TO SUBPART MMMM OF PART 60—MODEL RULE—TOXIC EQUIVALENCY FACTORS

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.3
1,2,3,7,8-pentachlorinated dibenzofuran	0.03
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.0003

TABLE 6 TO SUBPART MMMM OF PART 60—MODEL RULE—SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS [a]

Report	Due date	Contents	Reference
Increments of progress report	No later than 10 business days after the compliance date for the increment.	• Final control plan including air pollution control device descriptions, process changes, type of waste to be burned, and the maximum design sewage sludge burning capacity.	§ 60.5235(a)

TABLE 6 TO SUBPART MMMM OF PART 60—MODEL RULE—SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

Report	Due date	Contents	Reference
Initial compliance report	No later than 60 days following the initial performance test.	• Notification of any failure to meet an increment of progress. • Notification of any closure. • Company name and address • Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report. • Date of report. • Complete test report for the initial performance test. • Results of CMS [b] performance evaluation. • The values for the site-specific operating limits and the calculations and methods used to establish each operating limit. • Documentation of installation of bag leak detection system for fabric filter. • Results of initial air pollution control device inspection, including a description of repairs.	§ 60.5235(b)
Annual compliance report	No later than 12 months following the submission of the initial compliance report; subsequent reports are to be submitted no more than 12 months following the previous report.	• Company name and address • Statement and signature by responsible official. • Date and beginning and ending dates of report. • If a performance test was conducted during the reporting period, the results of the test, including any new operating limits and associated calculations and the type of activated carbon used, if applicable. • For each pollutant and operating parameter recorded using a CMS, the highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable. • If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred. • If a fabric filter is used, the date, time, and duration of alarms. • If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations. • If you met the requirements of § 60.5205(a)(3) and did not conduct a performance test, include the dates of the last three performance tests, a comparison to the 75 percent emission limit threshold of the emission level achieved in the last three performance tests, and a statement as to whether there have been any process changes. • Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours but less than 2 weeks. • Results of annual pollutions control device inspections, including description of repairs. • If there were no periods during which your CMSs had malfunctions, a statement that there were no periods during which your CMSs had malfunctions.	§ 60.5235(c)

TABLE 6 TO SUBPART MMMM OF PART 60—MODEL RULE—SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

Report	Due date	Contents	Reference
		• If there were no periods during which your CMSs were out of control, a statement that there were no periods during which your CMSs were out of control. • If there were no operator training deviations, a statement that there were no such deviations. • Information on monitoring plan revisions, including a copy of any revised monitoring plan.	
Deviation report (deviations from emission limits, emission standards, or operating limits, as specified in § 60.5235(e)(1)).	By August 1 of a calendar year for data collected during the first half of the calendar year; by February 1 of a calendar year for data collected during the second half of the calendar year.	*If using a CMS:* ..... • Company name and address • Statement by a responsible official • The calendar dates and times your unit deviated from the emission limits or operating limits • The averaged and recorded data for those dates. • Duration and cause of each deviation. • Dates, times, and causes for monitor downtime incidents. • A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels. • For periods of CMS malfunction or when a CMS was out of control, you must include the information specified in § 60.5235(e)(3)(viii). • *If not using a CMS:* • Company name and address. • Statement by a responsible official. • The total operating time of each affected SSI. • The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits. • The averaged and recorded data for those dates. • Duration and cause of each deviation. • A copy of any performance test report that showed a deviation from the emission limits or standards. • A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken.	§ 60.5235(d)
Notification of qualified operator deviation (if all qualified operators are not accessible for 2 weeks or more).	Within 10 days of deviation	• Statement of cause of deviation ..... • Description of actions taken to ensure that a qualified operator will be available • The date when a qualified operator will be accessible.	§ 60.5235(e)
Notification of status of qualified operator deviation.	Every 4 weeks following notification of deviation.	• Description of actions taken to ensure that a qualified operator is accessible. • The date when you anticipate that a qualified operator will be accessible. • Request for approval to continue operation.	§ 60.5235(e)
Notification of resumed operation following shutdown (due to qualified operator deviation and as specified in § 60.5155(b)(2)(i).	Within five days of obtaining a qualified operator and resuming operation.	• Notification that you have obtained a qualified operator and are resuming operation.	§ 60.5235(e)

TABLE 6 TO SUBPART MMMM OF PART 60—MODEL RULE—SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS [a]—Continued

Report	Due date	Contents	Reference
Notification of a force majeure	As soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or have caused a delay in conducting a performance test beyond the regulatory deadline; the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.	• Description of the force majeure event • Rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure. • Description of the measures taken or to be taken to minimize the delay. • Identification of the date by which you propose to conduct the performance test.	§ 60.5235(f)
Notification of intent to start or stop use of a CMS.	1 month before starting or stopping use of a CMS.	• Intent to start or stop use of a CMS	§ 60. 5235(g)
Notification of intent to conduct a performance test.	At least 30 days prior to the performance test.	• Intent to conduct a performance test to comply with this subpart.	
Notification of intent to conduct a rescheduled performance test.	At least 7 days prior to the date of a rescheduled performance test.	• Intent to conduct a rescheduled performance test to comply with this subpart.	

[a] This table is only a summary; see the referenced sections of the rule for the complete requirements.
[b] CMS means continuous monitoring system.

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