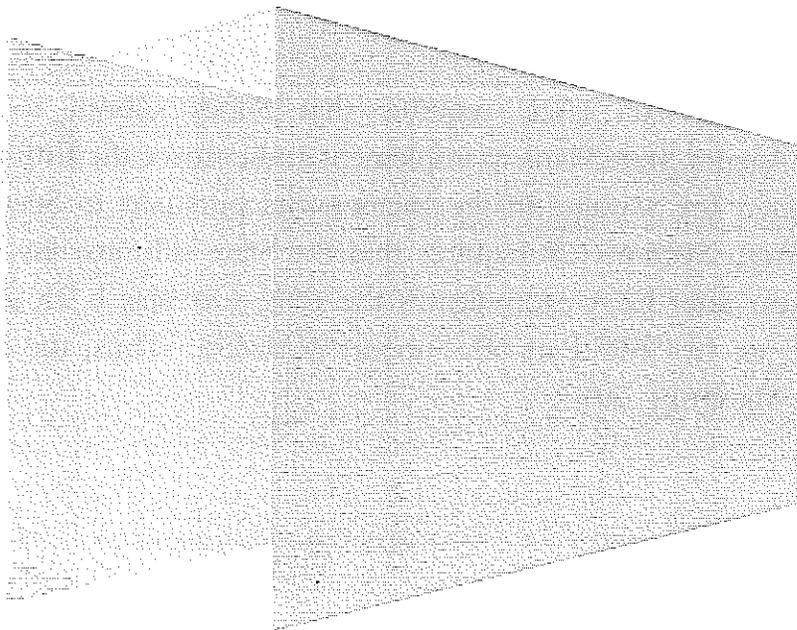


GOVERNMENT OF PUERTO RICO
OFFICE OF THE GOVERNOR
ENVIRONMENTAL QUALITY BOARD



**Proposed Amendments to the Regulation for the
Control of Atmospheric Air Pollution to include the
Emission Guidelines and Compliance Times for
Existing Sewage Sludge Incineration Units**



INTRODUCTION

The Puerto Rico Environmental Quality Board is amending Rule 102 - Definitions of the Regulation for the Control of Atmospheric Pollution (RCAP) and incorporating Rule 405(d) to include the Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (SSI).

The purpose of the review is to make consistent with definitions approved by the Environmental Protection Agency (EPA) included in the Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units. Once approved, the amendments will be sent to the EPA in order to update the Puerto Rico State Implementation Plan.

AMENDMENT TO RULE 102 OF THE RCAP - DEFINITIONS

We are reviewing and incorporating some definitions in Rule 102 of the Regulation for the Control of Atmospheric Pollution in order to make them consistent with the definitions approved by the Environmental Protection Agency for Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units.

ADDITION OF RULE 405 (D) OF THE RCAP

1. BACKGROUND

Section 129 of the Clean Air Act (Act) requires that States submit to the Environmental Protection Agency State Plans to implement and enforce the Emission Guidelines (EG) promulgated for Sewage Sludge Incinerators pursuant to Sections 111(d) and 129(b) of the Act. Section 129 requires that the State submits the State Plans not later than one year after EPA promulgates the EG. On March 21, 2011, EPA promulgated the EG as 40 CFR¹ Part 60, Subpart M. Thus, the State Plans are due no later than March 21, 2012.

¹ Code of Federal Regulations

The official procedures for adoption and submittal of State Plans are codified in 40 CFR Part 60, Subpart B. The EPA promulgated the Subpart B provisions on November 17, 1975. The EPA amended them on December 19, 1995, to allow the subparts developed under Section 129 to include specifications that supersede the provisions in Subpart B regarding the schedule for submittal of State Plans, the stringency of the emission limitations, and the compliance schedules. That is, these amendments were promulgated in order to allow conformity with Section 129, which requires the State Plans for SSI be submitted within one year and requires the State Plans to be as protective as the EG and requires that each unit be in compliance not later than three years after the State Plan is approved by EPA and no later than five years after the EG is promulgated. States must adopt their state plans according to State procedures prior to official submittal to EPA.

Emission guidelines for Sewage Sludge Incinerators were added as Subpart MMMM to the 40 CFR Part 60 with the intent to initiate State action to develop State regulations to control emissions from existing SSI. Through the State regulations, the guidelines require existing SSI to control emissions of air pollutants to levels that reflect the degree of emission reduction based on the maximum achievable control technology (MACT). In addition, the guidelines include requirements for SSI operator training and qualification.

2. *APPLICABILITY*

The subpart MMMM emission guidelines apply to existing Sewage Sludge Incinerators that commenced construction on or before October 14, 2010. An SSI is defined as any 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. A SSI unit also includes, but is not limited to, the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The SSI unit includes all ash handling systems connected to the bottom ash handling system. The combustion unit bottom ash system ends at the truck loading station or similar equipment that transfers the ash to final disposal. The SSI unit does not include air pollution control equipment or the stack.

However, combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge are exempted

from these requirements. The SSI source category is divided into two subcategories; fluidized bed and multiple hearth. Separate emission limitations apply to each category of existing SSI. All SSI units subject to Rule 405(d) are required to apply for and obtain a Title V operating permit according to the requirements of the Part VI of the Regulation for the Control of Atmospheric Pollution. A complete Title V application must be submitted on or before the earlier of these dates;

- a. 12 months after the effective date of the applicable EPA approved state plan.
- b. 12 months after the effective date of any applicable Federal plan; or
- c. March 21, 2014.

3. *SUMMARY OF EMISSION LIMITATIONS AND REQUIREMENTS*

The emission standards and limitations included in this plan are at least as protective as the Emission Guidelines of Subpart M MMM of the 40 CFR part 60. Specific emission limits are contained in Tables 1 and 2 of Rule 405(d) for the following pollutants: Particulate Matter (PM), Hydrogen Chloride (HCl), Carbon Monoxide (CO), Dioxins/Furans, Mercury (Hg), Nitrogen Oxides (NO_x), Sulfur dioxide (SO₂), Cadmium (Cd), Lead (Pb), and Fugitive emissions (visible emissions) from ash handling. In addition to the emission limits for these pollutants, also requirements for operator training and certification requirements are included [Rule 405(d)(3) of RCAP].

A. Numerical Emission Limits

All SSI units are required to comply with the numerical limitations contained in Table 1 for Fluidized bed or Table 2 for Multiple Hearth of Rule 405 (d)(2) of the RCAP.

B. Requirements for operators training and certification

The Emission Guidelines and Rule 405 (d) of the RCAP require that the initial operator training and qualification be completed by the later of the following three dates; the compliance date, 6 months after the unit startup, or 6 months after an employee assumes responsibility of operating or supervising operation of the unit. Initial operator training must be obtained through a state-approved program or by completing a training course that

includes specific topics that meets the requirements specified in Rule 405 (d) (3) of the RCAP.

C. Requirements for Air Pollution Control Device (APCD) inspections

The State Plan requires the facilities operating existing SSI units to conduct an initial inspection to the APCD. Section (d)(9) of Rule 405 lists the components of the SSI which the State Plan must require to the facilities operating SSI to inspect. It is required to complete any necessary equipment repairs within 10 operating days following an equipment inspection.

4. *SOURCE SURVEILLANCE AND COMPLIANCE ASSURANCE*

The guideline included in Rule 405(d) require that a designated facility monitor SSI and the air pollution control device operating parameters. Operating parameter limits are established during the initial performance testing. The SSI operating parameters to be monitored are established in Table 6 and depends on the air pollution control device used. Also a site-specific monitoring plan for the ash handling system is required.

Rule 405(d) requires demonstrating compliance with the emission limits using EPA-approved emission test methods. It also requires initial and annual emissions performance tests (or continuous emissions monitoring or continuous sampling as an alternative), bag leak detection systems for Fabric Filters controlled units, continuous parameter monitoring, and annual inspections of air pollution control devices, if they are used to meet the emission limits. Additionally, SSI units are required to conduct Method 22 (*see* 40 CFR part 60, appendix A-7) visible emissions test of the ash handling operations during each compliance test. The use of Cd, CO, HCl, NO_x, PM, Pb or SO₂ Continuous Emission Monitoring Systems (CEMS); Integrated Sorbent Trap Mercury Monitoring System (ISTMMS); and Integrated Sorbent Trap Dioxin Monitoring System (ISTDMS); (continuous sampling with periodic sample analysis) are approved alternatives to parametric monitoring and annual compliance testing.

As required in Rule 405 (d)(5) all designated facility shall install, calibrate, maintain and operate the appropriate devices for monitoring the applicable maximum and minimum operating parameters specified in the State Plan such that these devices measure and record values for these parameters at the required frequencies.

All designated facilities shall conduct an initial performance test as to determine compliance with the emission limits using the procedures and test methods specified in Table 1 or 2, as applicable in Rule 405(d)(2). Following the date on which the initial performance test is completed, a designated facility shall determine continuous compliance with the emission limits by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods specified.

Operation of the designed facility outside established parameter limits are direct violations of the parameter limits. In addition, under certain conditions, operation outside established parameter limits constitute violations of specific emission limits unless the facility conducts a performance test showing compliance under the new operating parameter limits.

The emission guidelines as specified in section (d)(5) of Rule 405 require to the owners and operators of existing facilities to maintain thorough records documenting the results of the initial and annual performance test, continuous monitoring of site specific operating parameter, initial and annual inspection, and compliance with the operator training and qualification requirements.

5. COMPLIANCE SCHEDULES

State plans are to require designated facilities to come into compliance 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 Emission Guideline, whichever is earlier. The State Plan also specifies that legally enforceable increments of progress are required toward the compliance for SSI that extend past 1 year beyond approval of the section 111 (d)/129 State Plan or of the EPA's Federal Plan publication date.

**Proposed Rules 102 and 405(d) Amendments:
Regulation for the Control of Atmospheric Air
Pollution to include the Emission Guidelines and
Compliance Times for Existing Sewage Sludge
Incineration Units**

Rule 405(d) Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (SSI).

(d)(1) Applicability

- (d)(1)(A) This rule 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 1 and 2 to this rule.
- (d)(1)(B) SSI units that commenced construction on or before October 14, 2010 must achieve final compliance as expeditiously as practicable after approval of this rule but not later than the earlier of March 21, 2016 or three years after the effective date of the approval of this rule.
- (d)(1)(C) SSI units 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. A SSI unit also includes, but is not limited to, the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The SSI unit includes all ash handling systems connected to the bottom ash handling system. The combustion unit bottom ash system ends at the truck loading station or similar equipment that transfers the ash to final disposal. The SSI unit does not include air pollution control equipment or the stack.
- (d)(1)(D) This rule exempts combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge. These units may be subject to Rule 405(c) of RCAP. The owner or operator of such a combustion unit must notify EPA and EQB of an exemption claim under this section.
- (d)(1)(E) If the owner or operator of a SSI unit makes changes that meet the definition of modification after September 21, 2011, the SSI unit becomes subject to 40 CFR Part 60, Subpart LLLL and the state plan no longer applies to that unit.
- (d)(1)(F) If the owner or operator of a SSI unit makes physical or operational changes to a SSI unit for which construction commenced on or before September 21, 2011 primarily to comply with the state plan, 40 CFR Part 60, Subpart LLLL does not apply to that unit. Such changes do not qualify as modifications under Subpart LLLL.

(d)(2) **Emission Limits, Emission Standards, and Operating Limits and Requirements**

(d)(2)(A) You must meet the emission limits and standards specified in Table 1 or 2 to this rule by the final compliance date under the approved state plan, or delegation, as applicable. The emission limits and standards apply at all times the unit is operating and during periods of malfunction. The emission limits and standards apply to emissions from a bypass stack or vent while sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time).

TABLE 1: 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	18 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 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	0.51 parts per million by dry volume	3-run average (Collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 26A at 40 CFR part 60, appendix A-8).
Carbon monoxide	64 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); or Dioxins/furans (toxic equivalency basis) ^b	1.2 nanograms per dry standard cubic meter (total mass basis); or 0.10 nanograms per dry standard cubic meter (toxic equivalency basis)	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Mercury	0.037 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008) ^c , collect a minimum volume of 1 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-8)	Performance test (Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008). ^c
Oxides of nitrogen	150 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	15 parts per million by dry volume	3-run average (For Method 6, collect a minimum volume of 60 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. ^c

TABLE 1: 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
Cadmium	0.0016 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 29 at 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
Lead	0.0074 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 dry standard cubic meters sample per run)	Performance test (Method 29 at 40 CFR part 60, appendix A-8). Use GFAAS or ICP/MS for the analytical finish.
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).

^aAll emission limits are measured at 7 percent oxygen, dry basis at standard conditions.

^bYou have the option to comply with either the dioxin/furan emission limit on a total mass basis or the dioxin/furan emission limit on a toxic equivalency basis.

^cIncorporated by reference, *see* 40 CFR §60.17.

TABLE 2: 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 0.75 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	1.2 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 1 dry standard cubic meters per run)	Performance test (Method 26 or 26A at 40 CFR part 60, appendix A-8).
Carbon monoxide	3,800 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).

TABLE 2: 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
Dioxins/furans (total mass basis)	5.0 nanograms per dry standard cubic meter; or	3-run average (collect a minimum volume of 1 dry standard cubic meters per run)	Performance test (Method 23 at 40 CFR part 60, appendix A-7).
Dioxins/furans (toxic equivalency basis) ^b	0.32 nanograms per dry standard cubic meter		
Mercury	0.28 milligrams per dry standard cubic meter	3-run average (For Method 29 and ASTM D6784-02 (Reapproved 2008), ^c collect a minimum volume of 1 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-8)	Performance test (Method 29 at 40 CFR part 60, appendix A-8; Method 30B at 40 CFR part 60, appendix A-8; or ASTM D6784-02 (Reapproved 2008)). ^c
Oxides of nitrogen	220 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 ANSI/ASME PTC 19.10-1981). ^c
Cadmium	0.095 milligrams per dry standard cubic meter	3-run average (collect a minimum volume of 1 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 1 dry standard cubic meters per run)	Performance test (Method 29 at 40 CFR part 60, appendix A-8).
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).

^aAll emission limits are measured at 7 percent oxygen, dry basis at standard conditions.

^bYou have the option to comply with either the dioxin/furan emission limit on a total mass basis or the dioxin/furan emission limit on a toxic equivalency basis.

^cIncorporated by reference, *see* 40 CFR §60.17.

- (d)(2)(B) You must meet, as applicable, the operating limits and requirements specified in paragraphs (d)(2)(B)(i) through (iv) and (viii) of this section, according to the schedule specified in paragraph (v) of this section. The operating parameters for which you will establish operating limits for a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection are listed in Table 6 to this rule. You must comply with the operating requirements in paragraph (vi) of this section and the requirements in paragraph (vii) of this section for meeting any new operating limits, re-established in (d)(9)(B). The operating limits apply at all times that sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time).
- (d)(2)(B)(i) Must meet a site-specific operating limit for minimum operating temperature of the combustion chamber (or afterburner combustion chamber) that you establish in (d)(8)(B).
- (d)(2)(B)(ii) 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 (d)(8)(B) for each operating parameter associated with each air pollution control device.
- (d)(2)(B)(iii) If you use a fabric filter to comply with the emission limits, you must install the bag leak detection system specified in sections (d)(8)(D)(ii) and (d)(5)(B)(ii)(3)(a) 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 (d)(9)(B)(i)(2)(a).
- (d)(2)(B)(iv) You must meet the operating requirements in your site-specific fugitive emission monitoring plan, submitted as specified in (d)(8)(D)(iv) to ensure that your ash handling system will meet the emission standard for fugitive emissions from ash handling.
- (d)(2)(B)(vi) You must meet the operating limits and requirements specified in paragraphs (d)(2)(B)(i) through (iv) of this section by the final compliance date under the approved state plan, or delegation, as applicable.
- (d)(2)(B)(vi) You must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as specified in paragraphs (d)(2)(B)(vi)(1) and (vi)(2) of this section.
- (d)(2)(B)(vi)(1) Continuously monitor the sewage sludge feed rate and calculate a daily average for all hours of operation during each 24-hour period. Keep a record of the daily average feed rate, as specified in (d)(6)(A)(vi)(3)(b).

- (d)(2)(B)(vi)(2) Take at least one grab sample per day of the sewage sludge fed to the sewage sludge incinerator. If you take more than one grab sample in a day, calculate the daily average for the grab samples. Keep a record of the daily average moisture content, as specified in (d)(6)(A)(vi)(3)(b).
- (d)(2)(B)(vii) For the operating limits and requirements specified in paragraphs (d)(2)(B)(i) through (B)(iv) and (B)(viii) of this section, you must meet any new operating limits and requirements, re-established according to (d)(9)(B)(iv).
- (d)(2)(B)(viii) If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, or activated carbon injection to comply with the emission limits in Table 1 or 2 to this rule, you must meet any site-specific operating limits or requirements that you establish as required in (d)(2)(C).
- (d)(2)(C) 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 (d)(2)(A), you must meet the requirements in paragraphs (d)(2)(C)(i) and (ii) of this section.
- (d)(2)(C)(i) Meet the applicable operating limits and requirements in 40 CFR §60.4850, and establish applicable operating limits according to (d)(8)(B).
- (d)(2)(C)(ii) 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.
- (d)(2)(C)(ii)(1) 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. 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. 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 rule.
- (d)(2)(C)(ii)(2) Your petition must include the five items listed in paragraphs (d)(2)(C)(ii)(2)(a) through (C)(ii)(2)(e) of this section.
- (d)(2)(C)(ii)(2)(a) Identification of the specific parameters you propose to monitor.

- (d)(2)(C)(ii)(2)(b) 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.
- (d)(2)(C)(ii)(2)(c) 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.
- (d)(2)(C)(ii)(2)(d) 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.
- (d)(2)(C)(ii)(2)(e) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.
- (d)(2)(D) The emission limits and standards apply at all times and during periods of malfunction. The operating limits apply at all times that sewage sludge is in the combustion chamber (*i.e.*, until the sewage sludge feed to the combustor has been cut off for a period of time not less than the sewage sludge incineration residence time). For determining compliance with the CO concentration limit using CO CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured CO concentration without correcting for oxygen concentration in averaging with other CO concentrations (corrected to 7 percent O₂) to determine the 24-hour average value.
- (d)(2)(E) In response to an action to enforce the numerical emission standards set forth in paragraph (d)(2)(A), you may assert an affirmative defense to a claim for civil penalties for exceedances of emission limits that are caused by malfunction, as defined in 40 CFR 60.2. Appropriate penalties may be assessed however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.
- (d)(2)(E)(i) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (d)(2)(E)(ii) of this section, and must prove by a preponderance of evidence that the conditions in paragraphs (d)(2)(E)(i)(1) through (i)(9) of this section are met.
- (d)(2)(E)(i)(1) The excess emissions:

- (d)(2)(E)(i)(1)(a) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner, and (b) Could not have been prevented through careful planning, proper design or better operation and maintenance practices, and (c) Did not stem from any activity or event that could have been foreseen and avoided, or planned for, and
- (d)(2)(E)(i)(1)(d) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance, and
- (d)(2)(E)(i)(2) Repairs were made as expeditiously as possible when the applicable emission limits were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs, and (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, and (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, personal injury, or severe property damage, and
- (d)(2)(E)(i)(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health, and
- (d)(2)(E)(i)(6) All emissions monitoring and control systems were kept in operation if at all possible consistent with safety and good air pollution control practices, and
- (d)(2)(E)(i)(7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, and
- (d)(2)(E)(i)(8) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions, and
- (d)(2)(E)(i)(9) A written root cause analysis has been prepared the purpose of which is 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.
- (d)(2)(E)(ii) The owner or operator of the SSI unit experiencing an exceedance of its emission limit(s) during a malfunction, shall 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 it wishes to avail itself of an affirmative defense to civil penalties for that

malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial occurrence of the exceedance of the standard in (d)(2)(A) to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

(d)(3) Operator training and qualification requirements.

- (d)(3)(A) A 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 paragraph (d)(3)(I) of this section.
- (d)(3)(B) Operator training and qualification must be obtained through a program approved by EQB or by completing the requirements included in paragraph (d)(3)(C) of this section.
- (d)(3)(C) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (d)(3)(C)(i), (d)(3)(C)(ii), and (d)(3)(C)(iii) of this section.
- (d)(3)(C)(i) Training on the 10 subjects listed in paragraphs (d)(3)(C)(i)(1) through (d)(3)(C)(i)(10) of this section.
- (d)(3)(C)(i)(1) Environmental concerns, including types of emissions.
- (d)(3)(C)(i)(2) Basic combustion principles, including products of combustion.
- (d)(3)(C)(i)(3) Operation of the specific type of incinerator to be used by the operator, including proper startup, sewage sludge feeding, and shutdown procedures.
- (d)(3)(C)(i)(4) Combustion controls and monitoring.
- (d)(3)(C)(i)(5) Operation of air pollution control equipment and factors affecting performance (if applicable).

- (d)(3)(C)(i)(6) Inspection and maintenance of the incinerator and air pollution control devices.
- (d)(3)(C)(i)(7) Actions to prevent malfunctions or to prevent conditions that may lead to malfunctions.
- (d)(3)(C)(i)(8) Bottom and fly ash characteristics and handling procedures.
- (d)(3)(C)(i)(9) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.
- (d)(3)(C)(i)(10) Pollution prevention.
- (d)(3)(C)(ii) An examination designed and administered by the state-approved program.
- (d)(3)(C)(iii) Written material covering the training course topics that may serve as reference material following completion of the course.
- (d)(3)(D) The operator training course must be completed by the later of the three dates specified in paragraphs (d)(3)(D)(i) through (D)(iii) of this section.
 - (d)(3)(D)(i) The final compliance date.
 - (d)(3)(D)(ii) Six months after your SSI unit startup.
 - (d)(3)(D)(iii) Six months after an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.
- (d)(3)(E) You must obtain operator qualification by completing a training course that satisfies the criteria under (d)(3)(B).
- (d)(3)(F) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under (d)(3)(C)(ii).
- (d)(3)(G) To maintain qualification, the operator must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (d)(3)(G)(i) through (v) of this section.
 - (d)(3)(G)(i) Update of regulations.
 - (d)(3)(G)(ii) Incinerator operation, including startup and shutdown procedures, sewage sludge feeding, and ash handling.
 - (d)(3)(G)(iii) Inspection and maintenance.

- (d)(3)(G)(iv) Prevention of malfunctions or conditions that may lead to malfunction.
- (d)(3)(G)(v) Discussion of operating problems encountered by attendees.
- (d)(3)(H) You must renew a lapsed operator qualification must be renewed before you begin operation of a SSI unit by one of the two methods specified in the following paragraphs:
 - (d)(3)(H)(i) For a lapse of less than 3 years, you must complete a standard annual refresher course described in (d)(3)(G).
 - (d)(3)(H)(ii) For a lapse of 3 years or more, you must repeat the initial qualification requirements in (d)(3)(E).
- (d)(3)(I) 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 (d)(3)(I)(i) or (d)(3)(I)(ii) of this section, depending on the length of time that a qualified operator is not accessible.
 - (d)(3)(I)(i) 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 and who have completed a review of the information specified in (d)(3)(J) and (d)(3)(K) 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 (d)(6)(B)(iv).
 - (d)(3)(I)(ii) When a qualified operator is not accessible for 2 weeks or more, you must take the two actions that are described in the following paragraphs:
 - (d)(3)(I)(ii)(1) Notify the EQB 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.
 - (d)(3)(I)(ii)(2) Submit a status report to the EQB 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 EQB to continue operation of the SSI unit. You must submit the first status report 4 weeks after you notify EQB of the deviation under paragraph (d)(3)(I)(ii)(1) of this section.
 - (d)(3)(I)(ii)(2)(a) 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.

- (d)(3)(I)(ii)(2)(b) Operation of the unit may resume if a qualified operator is accessible as required under (d)(3)(A) through (d)(3)(C). You must notify the Administrator within 5 days of having resumed operations and of having a qualified operator accessible.
- (d)(3)(J) You must maintain at the facility the documentation of the operator training procedures specified under (d)(6)(A)(iii)(1) and make the documentation readily accessible to all SSI unit operators.
- (d)(3)(K) You must establish a program for reviewing the information listed in (d)(6)(A)(iii)(1) with each qualified incinerator operator and other plant personnel who may operate the unit according to the provisions of (d)(3)(I)(i), according to the following schedule:
- (d)(3)(K)(i) The initial review of the information listed in (d)(6)(A)(iii)(1) must be conducted within 6 months after the effective date of this rule or prior to an employee's assumption of responsibilities for operation of the SSI unit, whichever date is later.
- (d)(3)(K)(ii) Subsequent annual reviews of the information listed in (d)(6)(A)(iii)(1) must be conducted no later than 12 months following the previous review.
- (d)(4) **Title V Operating Permits**
- (d)(4)(A) Yes, if you are subject to an applicable EPA-approved and effective Clean Air Act (CAA) 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 paragraph (d)(1)(D).
- (d)(4)(A)(i) 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 (d)(4)(A)(i)(1) through (i)(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)).
- (d)(4)(A)(i)(1) 12 months after the effective date of any applicable EPA-approved CAA section 111(d)/129 state or tribal plan.
- (d)(4)(A)(i)(2) 12 months after the effective date of any applicable Federal plan.
- (d)(4)(A)(i)(3) March 21, 2014.

(d)(4)(A)(ii) For any existing unit not subject to an earlier permit application deadline, the application deadline of 36 months after the promulgation of this rule applies regardless of whether or when any applicable Federal plan is effective, or whether or when any applicable CAA section 111(d)/129 state or tribal plan is approved by EPA and becomes effective.

(d)(4)(A)(iii) If your existing unit is subject to title V as a result of some triggering requirement(s) other than those specified in paragraphs (d)(4)(A)(i) and (ii) 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 (d)(4)(A)(i) and (ii). 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 CAA 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)(4)(A)(iv) 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 CAA 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).)

(d)(5) Performance Testing, Monitoring, and Calibration Requirements

(d)(5)(A) You must meet, as applicable, the performance testing requirements specified in paragraph (d)(5)(A)(i) of this section, the monitoring requirements specified in paragraph (d)(5)(A)(ii) of this section, the air pollution control device inspections requirements specified in paragraph (d)(5)(A)(iii) of this section, and the bypass stack provisions specified in paragraph (d)(5)(A)(iv) of this section.

(d)(5)(A)(i) *Performance testing requirements.*

(d)(5)(A)(i)(1) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations, as specified in 40 CFR 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.

(d)(5)(A)(i)(2) You must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by:

- (d)(5)(A)(i)(2)(a) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator.
- (d)(5)(A)(i)(2)(b) Maintaining a log of the moisture content of the sewage sludge burned during the performance test by taking grab samples of the sewage sludge fed to the incinerator for each 8 hour period that testing is conducted.
- (d)(5)(A)(i)(3) All performance tests must be conducted using the test methods, minimum sampling volume, observation period, and averaging method specified in Table 1 or 2 to this rule.
- (d)(5)(A)(i)(4) Method 1 at 40 CFR part 60, appendix A must be used to select the sampling location and number of traverse points.
- (d)(5)(A)(i)(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.
- (d)(5)(A)(i)(6) All pollutant concentrations must be adjusted to 7 percent oxygen using Equation 1 of this section:
- $$C_{\text{adj}} = C_{\text{meas}} (20.9 - 7) / (20.9 - \%O_2)$$
- 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.
- (d)(5)(A)(i)(7) Performance tests must be conducted and data reduced in accordance with the test methods and procedures contained in this rule unless the Administrator does one of the following.
- (d)(5)(A)(i)(7)(a) Specifies or approves, in specific cases, the use of a method with minor changes in methodology.
- (d)(5)(A)(i)(7)(b) Approves the use of an equivalent method.

- (d)(5)(A)(i)(7)(c) 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.
- (d)(5)(A)(i)(7)(d) 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.
- (d)(5)(A)(i)(7)(e) 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 CAA.
- (d)(5)(A)(i)(8) You must provide the Administrator at least 30 days prior notice of any performance test, except as specified under other rules, 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.
- (d)(5)(A)(i)(9) You must provide, or cause to be provided, performance testing facilities as follows:
- (d)(5)(A)(i)(9)(a) Sampling ports adequate for the test methods applicable to the SSI unit, as follows:
- (d)(5)(A)(i)(9)(a)(i) 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.
- (d)(5)(A)(i)(9)(a)(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- (d)(5)(A)(i)(9)(b) Safe sampling platform(s).
- (d)(5)(A)(i)(9)(c) Safe access to sampling platform(s).
- (d)(5)(A)(i)(9)(d) Utilities for sampling and testing equipment.
- (d)(5)(A)(i)(10) Unless otherwise specified in this rule, 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.

(d)(5)(A)(i)(11) During each test run specified in paragraph (d)(5)(A)(i)(1) of this section, you must operate your sewage sludge incinerator at a minimum of 85 percent of your maximum permitted capacity.

(d)(5)(A)(ii) *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 or 2 to this rule. 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 instead of conducting annual performance testing, you must meet the requirements of paragraphs (d)(5)(A)(ii)(1) through (ii)(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 (d)(5)(A)(ii)(7) of this section. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the Federal Register.

(d)(5)(A)(ii)(1) You must notify the Administrator 1 month before starting use of the continuous emissions monitoring system.

(d)(5)(A)(ii)(2) You must notify the Administrator 1 month before stopping use of the continuous emissions monitoring system, in which case you must also conduct a performance test within prior to ceasing operation of the system.

(d)(5)(A)(ii)(3) You must install, operate, calibrate, and maintain an instrument for continuously measuring and recording the emissions to the atmosphere in accordance with the following:

(d)(5)(A)(ii)(3)(a) 40 CFR 60.13.

- (d)(5)(A)(ii)(3)(b) The following performance specifications of appendix B of 40 CFR part 60, as applicable:
- (d)(5)(A)(ii)(3)(b)(i) For particulate matter, Performance Specification 11 of appendix B of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(b)(ii) For hydrogen chloride, Performance Specification 15 of appendix B of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(b)(iii) For carbon monoxide, Performance Specification 4B of appendix B of 40 CFR part 60 with spans appropriate to the applicable emission limit.
- (d)(5)(A)(ii)(3)(b)(iv) [Reserved]
- (d)(5)(A)(ii)(3)(b)(v) For mercury, Performance Specification 12A of appendix B of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(b)(vi) For nitrogen oxides, Performance Specification 2 of appendix B of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(b)(vii) For sulfur dioxide, Performance Specification 2 of appendix B of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(c) 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 (d)(5)(A)(ii)(3)(c)(i) through (ii)(3)(c)(vii) 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.
- (d)(5)(A)(ii)(3)(c)(i) For particulate matter, Procedure 2 in appendix F of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(c)(ii) For hydrogen chloride, Procedure 1 in appendix F of 40 CFR part 60 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 40 CFR part 60.
- (d)(5)(A)(ii)(3)(c)(iii) For carbon monoxide, Procedure 1 in appendix F of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(c)(iv) [Reserved]
- (d)(5)(A)(ii)(3)(c)(v) For mercury, Procedures 5 in appendix F of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(c)(vi) For nitrogen oxides, Procedure 1 in appendix F of 40 CFR part 60.

- (d)(5)(A)(ii)(3)(c)(vii) For sulfur dioxide, Procedure 1 in appendix F of 40 CFR part 60.
- (d)(5)(A)(ii)(3)(d) If your monitoring system has a malfunction or out-of-control period, you must complete repairs and resume operation of your monitoring system as expeditiously as possible.
- (d)(5)(A)(ii)(4) During each relative accuracy test run of the continuous emissions monitoring system using the performance specifications in paragraph (d)(5)(A)(ii)(3)(b) of this section, emission data for each regulated pollutant and oxygen (or carbon dioxide as established in (d)(5)(A)(ii)(5) of this section) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitoring systems and the test methods specified in paragraph (d)(5)(A)(ii)(4)(a) through (ii)(4)(h) of this section. Relative accuracy testing must be at representative operating conditions while the SSI unit is charging sewage sludge.
- (d)(5)(A)(ii)(4)(a) 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.
- (d)(5)(A)(ii)(4)(b) For hydrogen chloride, Method 26 or 26A at 40 CFR part 60, appendix A-8, shall be used, as specified in Tables 1 and 2 to this rule.
- (d)(5)(A)(ii)(4)(c) For carbon monoxide, Method 10, 10A, or 10B at 40 CFR part 60, appendix A-4, shall be used.
- (d)(5)(A)(ii)(4)(d) For dioxins/furans, Method 23 at 40 CFR part 60, appendix A-7, shall be used.
- (d)(5)(A)(ii)(4)(e) For mercury, cadmium, and lead, Method 29 at 40 CFR part 60, appendix A-8, shall be used. Alternatively for mercury, either Method 30B at 40 CFR part 60, appendix A-8 or ASTM D6784-02 (Reapproved 2008) (incorporated by reference, see §60.17), may be used.
- (d)(5)(A)(ii)(4)(f) For nitrogen oxides, Method 7 or 7E at 40 CFR part 60, appendix A-4, shall be used.
- (d)(5)(A)(ii)(4)(g) For sulfur dioxide, Method 6 or 6C at 40 CFR part 60, appendix A-4, or as an alternative ANSI/ASME PTC 19.10-1981 (incorporated by reference, see 40 CFR 60.17) 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.

- (d)(5)(A)(ii)(4)(h) For oxygen (or carbon dioxide as established in (d)(5)(A)(ii)(5) of this section), Method 3A or 3B at 40 CFR part 60, appendix A–2, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see 40 CFR 60.17), as applicable, must be used.
- (d)(5)(A)(ii)(5) You may request that compliance with the emission limits 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 (d)(5)(A)(ii)(5)(a) through (ii)(5)(d) of this section. This relationship may be re-established during subsequent performance tests.
- (d)(5)(A)(ii)(5)(a) 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 ANSI/ASME PTC 19.10–1981 (incorporated by reference, *see* 40 CFR 60.17), as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.
- (d)(5)(A)(ii)(5)(b) Samples must be taken for at least 30 minutes in each hour.
- (d)(5)(A)(ii)(5)(c) Each sample must represent a 1-hour average.
- (d)(5)(A)(ii)(5)(d) A minimum of three runs must be performed.
- (d)(5)(A)(ii)(6) You must operate the continuous monitoring system and collect data with the continuous monitoring system as follows:
- (d)(5)(A)(ii)(6)(a) 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 (d)(5)(A)(ii)(6)(b) of this section, except for periods of monitoring system malfunctions that occur during periods specified in (d)(8)(D)(i)(7)(a), 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). Any such periods that you do not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report.

- (d)(5)(A)(ii)(6)(b) You must collect continuous emissions monitoring system data in accordance with 40 CFR 60.13(e)(2).
- (d)(5)(A)(ii)(6)(c) 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.
- (d)(5)(A)(ii)(6)(d) Any data collected during periods when the monitoring system is out of control as specified in 40 CFR 60.4880(a)(7)(i), repairs associated with periods when the monitoring system is out of control, or required monitoring system quality assurance or control activities conducted during out-of-control periods 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 Rule 102 of RCAP, constitute a deviation from the monitoring requirements and must be reported in a deviation report.
- (d)(5)(A)(ii)(6)(e) You must use all the data collected during all periods except those periods specified in paragraphs (d)(5)(A)(ii)(6)(c) and (ii)(6)(d) of this section in assessing the operation of the control device and associated control system.
- (d)(5)(A)(ii)(7) If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must:
- (d)(5)(A)(ii)(7)(a) Install, calibrate, maintain, and operate a continuous automated sampling system according to the site-specific monitoring plan developed in 40 CFR 60.58b(p)(1) through (p)(6), (p)(9), (p)(10), and (q).
- (d)(5)(A)(ii)(7)(b) Collect data according to 40 CFR 60.58b(p)(5) and paragraph (d)(5)(A)(ii)(6) of this section.
- (d)(5)(A)(iii) *Air pollution control device inspections.* You must conduct air pollution control device inspections that include, at a minimum, the following:
- (d)(5)(A)(iii)(1) Inspect air pollution control device(s) for proper operation.
- (d)(5)(A)(iii)(2) Generally observe that the equipment is maintained in good operating condition.
- (d)(5)(A)(iii)(3) Develop a site-specific monitoring plan according to the requirements in (d)(8)(D). This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under 40 CFR 60.13(i).

- (d)(5)(A)(iv) *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 or 2 to this rule. The use of the bypass stack during a performance test invalidates the performance test.
- (d)(5)(B) Monitoring and calibration requirements for compliance with my operating limits.
- (d)(5)(B)(i) You must install, operate, calibrate, and maintain the continuous parameter monitoring systems according to the requirements in paragraphs (d)(5)(B)(i)(1) and (2) of this section.
- (d)(5)(B)(i)(1) Meet the following general requirements for flow, pressure, pH, and operating temperature measurement devices:
- (d)(5)(B)(i)(1)(a) 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 (d)(5)(B)(i)(1)(b) of this section, except for periods of monitoring system malfunctions that occur during periods specified defined in (d)(8)(D)(i)(7)(a), 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). Any such periods that you do not collect data using the continuous monitoring system constitute a deviation from the monitoring requirements and must be reported in a deviation report.
- (d)(5)(B)(i)(1)(b) You must collect continuous parameter monitoring system data in accordance with 40 CFR 60.13(e)(2).
- (d)(5)(B)(i)(1)(c) 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.
- (d)(5)(B)(i)(1)(d) Any data collected during periods when the monitoring system is out of control as specified in (d)(8)(D)(i)(7)(a) 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 Rule 102 of RCAP, constitute a deviation from the monitoring requirements and must be reported in a deviation report.
- (d)(5)(B)(i)(1)(e) You must use all the data collected during all periods except those periods specified in paragraphs (d)(5)(B)(i)(1)(c) and (i)(1)(d) of this section in assessing the operation of the control device and associated control system.

- (d)(5)(B)(i)(1)(f) Record the results of each inspection, calibration, and validation check.
- (d)(5)(B)(i)(2) Operate and maintain your continuous monitoring system according to your monitoring plan required under 40 CFR 60.4880. Additionally:
 - (d)(5)(B)(i)(2)(a) For carrier gas flow rate monitors (for activated carbon injection), during the performance test conducted pursuant to 40 CFR 60.4885, you must demonstrate that the system is maintained within ± 5 percent accuracy, according to the procedures in appendix A to 40 CFR part 75.
 - (d)(5)(B)(i)(2)(b) For carrier gas pressure drop monitors (for activated carbon injection), during the performance test conducted pursuant to 40 CFR 60.4885, you must demonstrate that the system is maintained within ± 5 percent accuracy.
- (d)(5)(B)(ii) You must operate and maintain your bag leak detection system in continuous operation according to your monitoring plan required under 40 CFR 60.4880. Additionally:
 - (d)(5)(B)(ii)(1) 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.
 - (d)(5)(B)(ii)(2) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.
 - (d)(5)(B)(ii)(3) 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:
 - (d)(5)(B)(ii)(3)(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.
 - (d)(5)(B)(ii)(3)(b) Sealing off defective bags or filter media.
 - (d)(5)(B)(ii)(3)(c) Replacing defective bags or filter media or otherwise repairing the control device.
 - (d)(5)(B)(ii)(3)(d) Sealing off a defective fabric filter compartment.
 - (d)(5)(B)(ii)(3)(e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.
 - (d)(5)(B)(ii)(3)(f) Shutting down the process producing the particulate matter emissions.

(d)(5)(B)(iii) You must operate and maintain the continuous parameter monitoring systems specified in paragraphs (d)(5)(B)(i) and (ii) of this section in continuous operation according to your monitoring plan required under 40 CFR 60.4880.

(d)(5)(B)(iv) 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.

(d)(6) Recordkeeping and Reporting

(d)(6)(A) You must maintain the items (as applicable) specified in paragraphs (d)(6)(A)(i) through (xiv) 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.

(d)(6)(A)(i) *Date.* Calendar date of each record.

(d)(6)(A)(ii) *Increments of progress.* Copies of the final control plan and any additional notifications, reported under (d)(6)(B).

(d)(6)(A)(iii) *Operator Training.* Documentation of the operator training procedures and records specified in paragraphs (d)(6)(A)(iii)(1) through (iii)(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 (d)(6)(A) (iii)(1) of this section.

(d)(6)(A)(iii)(1) Documentation of the following operator training procedures and information:

(d)(6)(A)(iii)(1)(a) Summary of the applicable standards under this rule.

(d)(6)(A)(iii)(1)(b) Procedures for receiving, handling, and feeding sewage sludge.

(d)(6)(A)(iii)(1)(c) Incinerator startup, shutdown, and malfunction preventative and corrective procedures.

(d)(6)(A)(iii)(1)(d) Procedures for maintaining proper combustion air supply levels.

(d)(6)(A)(iii)(1)(e) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this rule.

(d)(6)(A)(iii)(1)(f) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

- (d)(6)(A)(iii)(1)(g) Reporting and recordkeeping procedures.
- (d)(6)(A)(iii)(1)(h) Procedures for handling ash.
- (d)(6)(A)(iii)(1)(i) A list of the materials burned during the performance test, if in addition to sewage sludge.
- (d)(6)(A)(iii)(1)(j) For each qualified operator and other plant personnel who may operate the unit according to the provisions of (d)(3)(I)(i), the phone and/or pager number at which they can be reached during operating hours.
- (d)(6)(A)(iii)(2) Records showing the names of SSI unit operators and other plant personnel who may operate the unit according to the provisions of (d)(3)(I)(i), as follows:
- (d)(6)(A)(iii)(2)(a) Records showing the names of SSI unit operators and other plant personnel who have completed review of the information in paragraph (d)(6)(A)(iii)(1) of this section as required by (d)(3)(K), including the date of the initial review and all subsequent annual reviews.
- (d)(6)(A)(iii)(2)(b) Records showing the names of the SSI operators who have completed the operator training requirements under (d)(3), met the criteria for qualification under (d)(3)(E) and (d)(3)(F), and maintained or renewed their qualification under (d)(3)(G) or (d)(3)(H). Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications.
- (d)(6)(A)(iii)(3) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in (d)(3)(I)(i).
- (d)(6)(A)(iii)(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 (d)(3)(I)(ii).
- (d)(6)(A)(iv) *Air pollution control device inspections.* Records of the results of initial and annual air pollution control device inspections conducted as specified in sections (d)(8)(C)(i) and (d)(5)(A)(iii), including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.
- (d)(6)(A)(v) *Performance test reports.*
- (d)(6)(A)(v)(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.

- (d)(6)(A)(v)(2) Retain a copy of the complete performance test report, including calculations.
- (d)(6)(A)(v)(3) Keep a record of the hourly dry sludge feed rate measured during performance test runs as specified in (d)(5)(A)(i)(2)(a).
- (d)(6)(A)(v)(4) Keep any necessary records to demonstrate that the performance test was conducted under conditions representative of normal operations, including a record of the moisture content measured as required in (d)(5)(A)(i)(2)(b) for each grab sample taken of the sewage sludge burned during the performance test.
- (d)(6)(A)(vi) *Continuous monitoring data.* Records of the following data, as applicable:
- (d)(6)(A)(vi)(1) For continuous emissions monitoring systems, all 1-hour average concentrations of particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans total mass basis, mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead emissions.
- (d)(6)(A)(vi)(2) For continuous automated sampling systems, all average concentrations measured for mercury and dioxins/furans total mass basis at the frequencies specified in your monitoring plan.
- (d)(6)(A)(vi)(3) For continuous parameter monitoring systems:
- (d)(6)(A)(vi)(3)(a) All 1-hour average values recorded for the following operating parameters, as applicable:
- (d)(6)(A)(vi)(3)(a)(i) Combustion chamber operating temperature (or afterburner temperature).
- (d)(6)(A)(vi)(3)(a)(ii) If a wet scrubber is used to comply with the rule, pressure drop across each wet scrubber system and liquid flow rate to each wet scrubber used to comply with the emission limit in Table 1 or 2 to this rule for particulate matter, cadmium, or lead, and scrubber liquid flow rate and scrubber liquid pH for each wet scrubber used to comply with an emission limit in Table 1 or 2 to this rule for sulfur dioxide or hydrogen chloride.
- (d)(6)(A)(vi)(3)(a)(iii) If an electrostatic precipitator is used to comply with the rule, secondary voltage of the electrostatic precipitator collection plates and secondary amperage of the electrostatic precipitator collection plates, and effluent water flow rate at the outlet of the wet electrostatic precipitator.

- (d)(6)(A)(vi)(3)(a)(iv) If activated carbon injection is used to comply with the rule, sorbent flow rate and carrier gas flow rate or pressure drop, as applicable.
- (d)(6)(A)(vi)(3)(b) All daily average values recorded for the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, monitored and calculated as specified in (d)(2)(B)(vi).
- (d)(6)(A)(vi)(3)(c) 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 section (d)(9)(B).
- (d)(6)(A)(vi)(3)(d) For other control devices for which you must establish operating limits under section (d)(2)(C), 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.
- (d)(6)(A)(vii) *Other records for continuous monitoring systems.* You must keep the following records, as applicable:
- (d)(6)(A)(vii)(1) Keep records of any notifications to the Administrator in 40 CFR 60.4915(h)(1) of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.
- (d)(6)(A)(vii)(2) Keep records of any requests under (d)(5)(A)(ii)(5) that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen.
- (d)(6)(A)(vii)(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.
- (d)(6)(A)(viii) *Deviation Reports.* Records of any deviation reports submitted under (d)(6)(B)(v) and (vi).
- (d)(6)(A)(ix) *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.
- (d)(6)(A)(x) *Inspections, calibrations, and validation checks of monitoring devices.* Records of inspections, calibration, and validation checks of any monitoring devices as required under sections (d)(5)(A) and (d)(5)(B).

- (d)(6)(A)(xi) *Monitoring plan and performance evaluations for continuous monitoring systems.* Records of the monitoring plans required under (d)(8)(D), and records of performance evaluations required under (d)(9)(A)(ii)(4).
- (d)(6)(A)(xii) *Less frequent testing.* If, consistent with (d)(5)(A)(i)(3), you elect to conduct performance tests less frequently than annually, you must keep annual records that document that your emissions in the two previous consecutive years were at or below 75 percent of the applicable emission limit in Table 1 or 2 to this rule, and document that there were no changes in source operations or air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past 2 years.
- (d)(6)(A)(xiii) *Use of bypass stack.* Records indicating use of the bypass stack, including dates, times, and durations as required under section (d)(5)(B)(iv).
- (d)(6)(A)(xiv) If a malfunction occurs, you must keep a record of the information submitted in your annual report in section (d)(6)(B)(iii)(16).
- (d)(6)(B) You must submit the reports specified in paragraphs (d)(6)(B)(i) through (ix) of this section. See Table 3 to this rule for a summary of these reports.
- (d)(6)(B)(i) *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:
- (d)(6)(B)(i)(1) A final control plan as specified in sections (d)(7)(A)(i) and (d)(7)(F).
- (d)(6)(B)(i)(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 sections (d)(7)(C) and (d)(7)(D).
- (d)(6)(B)(i)(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 (d)(7)(E).
- (d)(6)(B)(i)(4) If you plan to close your SSI unit rather than comply with the state plan, submit a closure notification as specified in (d)(7)(J).
- (d)(6)(B)(ii) *Initial compliance report.* You must submit the following information no later than 60 days following the initial performance test.
- (d)(6)(B)(ii)(1) Company name, physical address, and mailing address.

- (d)(6)(B)(ii)(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (d)(6)(B)(ii)(3) Date of report.
- (d)(6)(B)(ii)(4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 1 or 2 to this rule.
- (d)(6)(B)(ii)(5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation.
- (d)(6)(B)(ii)(6) The values for the site-specific operating limits established pursuant to sections (d)(2)(B) and (d)(2)(C) and the calculations and methods, as applicable, used to establish each operating limit.
- (d)(6)(B)(ii)(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 (d)(2)(B)(ii).
- (d)(6)(B)(ii)(8) The results of the initial air pollution control device inspection required in sections (d)(8)(C)(i) and (C)(ii), including a description of repairs.
- (d)(6)(B)(ii)(9) The site-specific monitoring plan required under section (d)(8)(D), at least 60 days before your initial performance evaluation of your continuous monitoring system.
- (d)(6)(B)(ii)(10) The site-specific monitoring plan for your ash handling system required under section (d)(8)(D), at least 60 days before your initial performance test to demonstrate compliance with your fugitive ash emission limit.
- (d)(6)(B)(iii) *Annual compliance report.* You must submit an annual compliance report that includes the items listed in paragraphs (d)(6)(B)(iii)(1) through (iii)(16) of this section for the reporting period specified in paragraph (d)(6)(B)(iii)(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 (d)(6)(B)(ii) of this section. You must submit subsequent annual compliance reports no more than 12 months following the previous annual compliance report. (You may be required to submit these reports (or additional compliance information) more frequently by the title V operating permit required in section (d)(4)(A).
- (d)(6)(B)(iii)(1) Company name, physical address, and mailing address.
- (d)(6)(B)(iii)(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

- (d)(6)(B)(iii)(3) Date of report and beginning and ending dates of the reporting period.
- (d)(6)(B)(iii)(4) If a performance test was conducted during the reporting period, the results of that performance test.
- (d)(6)(B)(iii)(4)(a) If operating limits were established during the performance test, include the value for each operating limit and, as applicable, the method used to establish each operating limit, including calculations.
- (d)(6)(B)(iii)(4)(b) If activated carbon is used during the performance test, include the type of activated carbon used.
- (d)(6)(B)(iii)(5) For each pollutant and operating parameter recorded using a continuous monitoring system, the highest average value and lowest average value recorded during the reporting period, as follows:
- (d)(6)(B)(iii)(5)(a) For continuous emission monitoring systems and continuous automated sampling systems, report the highest and lowest 24-hour average emission value.
- (d)(6)(B)(iii)(5)(b) For continuous parameter monitoring systems, report the following values:
- (d)(6)(B)(iii)(5)(b)(i) For all operating parameters except scrubber liquid pH, the highest and lowest 12-hour average values.
- (d)(6)(B)(iii)(5)(b)(ii) For scrubber liquid pH, the highest and lowest 3-hour average values.
- (d)(6)(B)(iii)(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.
- (d)(6)(B)(iii)(7) Information for bag leak detection systems recorded under (d)(6)(A)(vi)(3)(c).
- (d)(6)(B)(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.
- (d)(6)(B)(iii)(9) If you elect to conduct performance tests less frequently as allowed in section (d)(9)(A)(i)(3) and did not conduct a performance test during the reporting period, you must include the dates of the last two performance tests, a comparison of the emission level you achieved in the last two performance tests to the 75 percent emission limit

threshold specified in section (d)(9)(A)(i)(3), and a statement as to whether there have been any process changes and whether the process change resulted in an increase in emissions.

- (d)(6)(B)(iii)(10) Documentation of periods when all qualified sewage sludge incineration unit operators were unavailable for more than 8 hours, but less than 2 weeks.
- (d)(6)(B)(iii)(11) Results of annual air pollution control device inspections recorded under section (d)(6)(A)(iv) for the reporting period, including a description of repairs.
- (d)(6)(B)(iii)(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.
- (d)(6)(B)(iii)(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.
- (d)(6)(B)(iii)(14) If there were no operator training deviations, a statement that there were no such deviations during the reporting period.
- (d)(6)(B)(iii)(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)(6)(B)(iii)(16) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction that occurred during the reporting period and that caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §60.11(d), including actions taken to correct a malfunction.
- (d)(6)(B)(iv) *Deviation reports.*
- (d)(6)(B)(iv)(1) You must submit a deviation report if:
- (d)(6)(B)(iv)(1)(a) Any recorded operating parameter level, based on the averaging time specified in Table 6 to this rule, is above the maximum operating limit or below the minimum operating limit established under this rule.

- (d)(6)(B)(iv)(1)(b) The bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period.
- (d)(6)(B)(iv)(1)(c) Any recorded 24-hour block average emissions level is above the emission limit, if a continuous monitoring system is used to comply with an emission limit.
- (d)(6)(B)(iv)(1)(d) There are visible emissions of combustion ash from an ash conveying system for more than 5 percent of the hourly observation period.
- (d)(6)(B)(iv)(1)(e) A performance test was conducted that deviated from any emission limit in Table 1 or 2 to this rule.
- (d)(6)(B)(iv)(1)(f) A continuous monitoring system was out of control.
- (d)(6)(B)(iv)(1)(g) You had a malfunction (*e.g.*, continuous monitoring system malfunction) that caused or may have caused any applicable emission limit to be exceeded.
- (d)(6)(B)(iv)(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).
- (d)(6)(B)(iv)(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)(6)(B)(iv)(3)(a) through (iv)(3)(h) of this section.
 - (d)(6)(B)(iv)(3)(a) Company name, physical address, and mailing address.
 - (d)(6)(B)(iv)(3)(b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
 - (d)(6)(B)(iv)(3)(c) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.
 - (d)(6)(B)(iv)(3)(d) The averaged and recorded data for those dates.
 - (d)(6)(B)(iv)(3)(e) Duration and cause of each deviation from the following:
 - (d)(6)(B)(iv)(3)(e)(i) Emission limits, emission standards, operating limits, and your corrective actions.
 - (d)(6)(B)(iv)(3)(e)(ii) Bypass events and your corrective actions.

- (d)(6)(B)(iv)(3)(f) Dates, times, and causes for monitor downtime incidents.
- (d)(6)(B)(iv)(3)(g) A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.
- (d)(6)(B)(iv)(3)(h) If there were periods during which the continuous monitoring system malfunctioned or was out of control, you must include the following information for each deviation from an emission limit or operating limit:
- (d)(6)(B)(iv)(3)(h)(i) The date and time that each malfunction started and stopped.
- (d)(6)(B)(iv)(3)(h)(ii) The date, time, and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.
- (d)(6)(B)(iv)(3)(h)(iii) 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)(6)(B)(iv)(3)(h)(iv) 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.
- (d)(6)(B)(iv)(3)(h)(v) 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.
- (d)(6)(B)(iv)(3)(h)(vi) 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.
- (d)(6)(B)(iv)(3)(h)(vii) 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.
- (d)(6)(B)(iv)(3)(h)(viii) An identification of each parameter and pollutant that was monitored at the SSI unit.
- (d)(6)(B)(iv)(3)(h)(ix) A brief description of the SSI unit.
- (d)(6)(B)(iv)(3)(h)(x) A brief description of the continuous monitoring system.

- (d)(6)(B)(iv)(3)(h)(xi) The date of the latest continuous monitoring system certification or audit.
- (d)(6)(B)(iv)(3)(h)(xii) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.
- (d)(6)(B)(iv)(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:
- (d)(6)(B)(iv)(4)(a) Company name, physical address, and mailing address.
- (d)(6)(B)(iv)(4)(b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (d)(6)(B)(iv)(4)(c) The total operating time of each affected source during the reporting period.
- (d)(6)(B)(iv)(4)(d) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.
- (d)(6)(B)(iv)(4)(e) The averaged and recorded data for those dates.
- (d)(6)(B)(iv)(4)(f) Duration and cause of each deviation from the following:
- (d)(6)(B)(iv)(4)(f)(i) Emission limits, emission standards, operating limits, and your corrective actions.
- (d)(6)(B)(iv)(4)(f)(ii) Bypass events and your corrective actions.
- (d)(6)(B)(iv)(4)(g) A copy of any performance test report that showed a deviation from the emission limits or standards.
- (d)(6)(B)(iv)(4)(h) A brief description of any malfunction reported in paragraph (d)(6)(B)(iv)(1)(g) of this section, including a description of actions taken during the malfunction to minimize emissions in accordance with 40 CFR 60.11(d) and to correct the malfunction.
- (d)(6)(B)(v) *Qualified operator deviation.*
- (d)(6)(B)(v)(1) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (d)(6)(B)(v)(1)(a) and (v)(1)(b) of this section.
- (d)(6)(B)(v)(1)(a) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (d)(6)(B)(v)(1)(a)(i) through (v)(1)(a)(iii) of this section.

- (d)(6)(B)(v)(1)(a)(i) A statement of what caused the deviation.
- (d)(6)(B)(v)(1)(a)(ii) A description of actions taken to ensure that a qualified operator is accessible.
- (d)(6)(B)(v)(1)(a)(iii) The date when you anticipate that a qualified operator will be available.
- (d)(6)(B)(v)(1)(b) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (d)(6)(B)(v)(1)(b)(i) through (v)(1)(b)(iii) of this section.
- (d)(6)(B)(v)(1)(b)(i) A description of actions taken to ensure that a qualified operator is accessible.
- (d)(6)(B)(v)(1)(b)(ii) The date when you anticipate that a qualified operator will be accessible.
- (d)(6)(B)(v)(1)(b)(iii) Request for approval from the Administrator to continue operation of the SSI unit.
- (d)(6)(B)(v)(2) If your unit was shut down by the Administrator, under the provisions of section (d)(3)(I)(ii)(2)(a), due to a failure to provide an accessible qualified operator, you must notify the Administrator within five days of meeting section (d)(3)(I)(ii)(2)(b) that you are resuming operation.
- (d)(6)(B)(vi) *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:
- (d)(6)(B)(vi)(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.
- (d)(6)(B)(vi)(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.

- (d)(6)(B)(vii) *Other notifications and reports required.* You must submit other notifications as provided by 40 CFR 60.7 and as follows:
- (d)(6)(B)(vii)(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.
- (d)(6)(B)(vii)(2) You must notify the Administrator at least 30 days prior to any performance test conducted to comply with the provisions of this rule, to afford the Administrator the opportunity to have an observer present.
- (d)(6)(B)(vii)(3) As specified in section (d)(5)(A)(i)(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 (d)(6)(B)(vii)(2) of this section.
- (d)(6)(B)(viii) *Report submission form.*
- (d)(6)(B)(viii)(1) Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.
- (d)(6)(B)(viii)(2) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in 40 CFR §63.2, conducted to demonstrate compliance with this rule, you must submit relative accuracy test audit (*i.e.*, reference method) data and performance test (*i.e.*, compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (*see* http://www.epa.gov/ttn/chief/ert/ert_tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's Web FIRE database.
- (d)(6)(B)(ix) *Changing report dates.* If the Administrator agrees, you may change the semiannual or annual reporting dates. See 40 CFR 60.19(c) for procedures to seek approval to change your reporting date.

TABLE 3: 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	<ol style="list-style-type: none"> 1. 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 2. Notification of any failure to meet an increment of progress. 3. Notification of any closure. 	§60.5235(a).
Initial compliance report	No later than 60 days following the initial performance test	<ol style="list-style-type: none"> 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. Complete test report for the initial performance test 5. Results of CMS^b performance evaluation 6. The values for the site-specific operating limits and the calculations and methods used to establish each operating limit 7. Documentation of installation of bag leak detection system for fabric filter 8. Results of initial air pollution control device inspection, including a description of repairs 9. The site-specific monitoring plan required under §60.5200 10. The site-specific monitoring plan for your ash handling system required under §60.5200 	§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	<ol style="list-style-type: none"> 1. Company name and address 2. Statement and signature by responsible official. 3. Date and beginning and ending dates of report. 4. 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. 5. 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 6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred 	§60.5235(c).

TABLE 3: SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS^a

Report	Due date	Contents	Reference
		7. If a fabric filter is used, the date, time, and duration of alarms	
		8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations	
		9. 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 50 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	
		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 pollution control device inspections, including description of repairs	
		12. If there were no periods during which your CMSs had malfunctions, a statement that there were no periods during which your CMSs had malfunctions	
		13. 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	
		14. If there were no operator training deviations, a statement that there were no such deviations	
		15. 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	<p><i>If using a CMS:</i></p> <ol style="list-style-type: none"> 1. Company name and address. 2. Statement by a responsible official. 3. The calendar dates and times your unit deviated from the emission limits or operating limits. 4. The averaged and recorded data for those dates. 5. Duration and cause of each deviation. 	§60.5235(d).

TABLE 3: SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS^a

Report	Due date	Contents	Reference
		6. Dates, times, and causes for monitor downtime incidents	
		7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels	
		8. For periods of CMS malfunction or when a CMS was out of control, you must include the information specified in §60.5235(d)(3)(viii)	
		<i>If not using a CMS:</i>	
		1. Company name and address	
		2. Statement by a responsible official	
		3. The total operating time of each affected SSI	
		4. The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits	
		5. The averaged and recorded data for those dates	
		6. Duration and cause of each deviation	
		7. A copy of any performance test report that showed a deviation from the emission limits or standards	
		8. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken	
Notification of qualified operator deviation (if all qualified operators are not accessible for 2 weeks or more)	Within 10 days of deviation	<ol style="list-style-type: none"> 1. Statement of cause of deviation 2. Description of actions taken to ensure that a qualified operator will be available. 3. 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	<ol style="list-style-type: none"> 1. Description of actions taken to ensure that a qualified operator is accessible. 2. The date when you anticipate that a qualified operator will be accessible. 3. Request for approval to continue operation. 	§60.5235(e).

TABLE 3: SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS^a

Report	Due date	Contents	Reference
Notification of resumed operation following shutdown (due to qualified operator deviation and as specified in §60.5155(b)(2)(f))	Within five days of obtaining a qualified operator and resuming operation	1. Notification that you have obtained a qualified operator and are resuming operation	§60.5235(e).
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	1. Description of the force majeure event 2. Rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure 3. Description of the measures taken or to be taken to minimize the delay. 4. 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	1. 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	1. Intent to conduct a performance test to comply with this rule	
Notification of intent to conduct a rescheduled performance test	At least 7 days prior to the date of a rescheduled performance test	1. Intent to conduct a rescheduled performance test to comply with this rule	

^aThis table is only a summary, see the referenced sections of the rule for the complete requirements.

^bCMS means continuous monitoring system.

(d)(7) Increments of Progress

(d)(7)(A) 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 (d)(7)(A)(i) and (ii) of this section.

(d)(7)(A)(i) Submit a final control plan.

(d)(7)(A)(ii) Achieve final compliance.

(d)(7)(B) Table 1 to this rule specifies compliance dates for each increment of progress.

(d)(7)(C) Your notification of achievement of increments of progress must include the three items specified in paragraphs (d)(7)(C)(i) through (iii) of this section.

(d)(7)(C)(i) Notification that the increment of progress has been achieved.

(d)(7)(C)(ii) Any items required to be submitted with each increment of progress.

(d)(7)(C)(iii) Signature of the owner or operator of the SSI unit.

TABLE 6: 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	March 21, 2014
Increment 2—Final compliance	March 21, 2015 ^b

^aSite-specific schedules can be used at the discretion of the state.

^bThe date can be no later than 3 years after the effective date of state plan approval or March 21, 2016 for SSI units that commenced construction on or before October 14, 2010.

(d)(7)(D) Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.

(d)(7)(E) 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 rule. 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.

- (d)(7)(F) For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (d)(7)(F)(i) and (ii) of this section.
- (d)(7)(F)(i) Submit the final control plan that includes the four items described in paragraphs (d)(7)(F)(i)(1) through (i)(4) of this section.
- (d)(7)(F)(i)(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 rule.
- (d)(7)(F)(i)(2) The type(s) of waste to be burned, if waste other than sewage sludge is burned in the unit.
- (d)(7)(F)(i)(3) The maximum design sewage sludge burning capacity.
- (d)(7)(F)(i)(4) If applicable, the petition for site-specific operating limits under (d)(2)(C).
- (d)(7)(F)(ii) Maintain an onsite copy of the final control plan.
- (d)(7)(G) 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.
- (d)(7)(H) If you close your SSI unit but will restart it prior to the final compliance date in your state plan, you must submit a final control plan and achieve final compliance.
- (d)(7)(I) 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.
- (d)(7)(J) If you plan to close your SSI unit permanently and not restart it, rather than comply with the state plan, submit a closure notification, including the date of closure, to the EPA and EQB by the date your final control plan is due.
- (d)(8) Initial Compliance Requirements**
- (d)(8)(A) To demonstrate initial compliance with the emission limits and standards in Table 1 or 2 to this rule, use the procedures specified in paragraph (d)(8)(A)(i) of this section. In lieu of using the procedures specified in paragraph (d)(8)(A)(i) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (d)(8)(A)(ii) of this section for particulate matter, hydrogen chloride, carbon monoxide,

dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and fugitive emissions from ash handling. You must meet the requirements of paragraphs (d)(8)(A)(i) and (d)(8)(A)(ii) of this section, as applicable, and paragraphs (d)(8)(A)(iii) through (A)(v) of this section, according to the performance testing, monitoring, and calibration requirements in (d)(5)(A)(i) and (ii).

- (d)(8)(A)(i) Demonstrate initial compliance using the performance test required in 40 CFR 60.8. You must demonstrate that your SSI unit meets the emission limits and standards specified in Table 1 or 2 to this rule for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, 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 or 2 to this rule and according to the testing, monitoring, and calibration requirements specified in (d)(5)(A)(i).
- (d)(8)(A)(i)(1) Except as provided in paragraph (d)(8)(A)(v) of this section, you must demonstrate that your SSI unit meets the emission limits and standards specified in Table 1 or 2 to this rule by your final compliance date (see Table 1 to this rule).
- (d)(8)(A)(i)(2) You may use the results from a performance test conducted within the 2 previous years that was conducted under the same conditions and demonstrated compliance with the emission limits and standards in Table 1 or 2 to this rule, provided no process changes have been made since you conducted that performance test. 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 1 or 2 to this rule. The performance test must have used the test methods specified in Table 1 or 2 to this rule.
- (d)(8)(A)(ii) Demonstrate initial compliance using a continuous emissions monitoring system or continuous automated sampling system. 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. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the Federal Register. Collect data as specified in (d)(5)(A)(ii)(6) and use the following procedures:

- (d)(8)(A)(ii)(1) To demonstrate initial compliance with the emission limits specified in Table 1 or 2 to this rule for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead, you may substitute the use of a continuous monitoring system in lieu of conducting the initial performance test required in paragraph (d)(8)(A)(i) of this section, as follows:
- (d)(8)(A)(ii)(1)(a) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (d)(8)(A)(ii)(1) of this section in lieu of conducting the initial performance test for that pollutant in paragraph (d)(8)(A)(i) of this section. For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value.
- (d)(8)(A)(ii)(1)(b) 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 (d)(8)(A)(i) of this section.
- (d)(8)(A)(ii)(2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in Table 1 or 2 to this rule, as described in paragraph (d)(8)(A)(ii)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in (d)(5)(A)(ii). You must measure emissions according to 40 CFR 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.
- (d)(8)(A)(ii)(3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in Table 1 or 2 to this rule, as described in paragraph (d)(9)(A)(ii)(1) of this section, you must:
- (d)(8)(A)(ii)(3)(a) Use the continuous automated sampling system specified in 40 CFR 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to 40 CFR 60.58b(p) and your monitoring plan.

- (d)(8)(A)(ii)(3)(a)(1) Use the procedures specified in 40 CFR 60.58b(p) to calculate 24-hour block averages to determine compliance with the mercury emission limit in Table 1 to this rule.
- (d)(8)(A)(ii)(3)(a)(2) Use the procedures specified in 40 CFR 60.58b(p) to calculate 2-week block averages to determine compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limit in Table 1 to this rule.
- (d)(8)(A)(ii)(3)(b) Comply with the provisions in 40 CFR 60.58b(q) to develop a monitoring plan. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of 40 CFR part 75 and Procedure 5 of appendix F of 40 CFR part 60.
- (d)(8)(A)(ii)(4) Except as provided in paragraph (d)(9)(A)(e) of this section, you must complete your initial performance evaluations required under your monitoring plan for any continuous emissions monitoring systems and continuous automated sampling systems by your final compliance date (see Table 1 to this rule). Your performance evaluation must be conducted using the procedures and acceptance criteria specified in (d)(8)(D)(i)(3).
- (d)(8)(A)(iii) To demonstrate initial compliance with the dioxins/furans toxic equivalency emission limit in Table 1 or 2 to this rule, determine dioxins/furans toxic equivalency as follows:
- (d)(8)(A)(iii)(a) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using EPA Method 23 at 40 CFR part 60, appendix A-7.
- (d)(8)(A)(iii)(b) Multiply the concentration of each dioxin/furan (tetra- through octachlorinated) isomer by its corresponding toxic equivalency factor specified in Table 5 to this rule.
- (d)(8)(A)(iii)(c) Sum the products calculated in accordance with paragraph (d)(8)(A)(iii)(b) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.
- (d)(8)(A)(iv) Submit an initial compliance report, as specified in (d)(6)(B)(ii).
- (d)(8)(A)(v) If you demonstrate initial compliance using the performance test specified in paragraph (A)(i) of this section, then the provisions of this paragraph (d)(8)(A)(v) 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 (d)(6)(B)(vii). 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 rule.

TABLE 5: TOXIC EQUIVALENCY FACTORS

Dioxin/furan isomer	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

(d)(8)(B) Operating limits.

(d)(8)(B)(i) You must establish the site-specific operating limits specified in paragraphs (d)(8)(B)(ii) through (viii) of this section or established in (d)(2)(C), as applicable, during your initial performance tests required in (d)(8)(A). You must meet the requirements in (d)(9)(B) to confirm these operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in (d)(9)(A). You must follow the data measurement and recording frequencies and data averaging times specified in Table 6 to this rule or as established in (d)(2)(C), and you must follow the testing, monitoring, and calibration requirements specified in sections (d)(5)(A) and (d)(5)(B)(i) or established in (d)(2)(C). You are not required to establish operating limits for the operating parameters listed in Table 6 to this rule for a control device if you use a continuous monitoring system to demonstrate compliance with the emission limits in Table 1 or 2 to this rule for the applicable pollutants, as follows:

(d)(8)(B)(i)(1) For a scrubber designed to control emissions of hydrogen chloride or sulfur dioxide, you are not required to establish an operating limit and monitor scrubber liquid flow rate or scrubber liquid pH if you use the continuous monitoring system specified in 40 CFR 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for hydrogen chloride or sulfur dioxide.

(d)(8)(B)(i)(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 scrubber liquid flow rate if you use the continuous monitoring system specified in 40 CFR 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, and lead.

(d)(8)(B)(i)(3) For an electrostatic precipitator designed to control emissions of particulate matter, cadmium, and lead, you are not required to establish an operating limit and monitor secondary voltage of the collection plates, secondary amperage of the collection plates, or effluent water flow rate at the outlet of the electrostatic precipitator if you use the continuous monitoring system specified in 40 CFR 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, lead, and cadmium.

(d)(8)(B)(i)(4) For an activated carbon injection system designed to control emissions of mercury, you are not required to establish an operating limit and monitor sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in 40 CFR 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for mercury.

- (d)(8)(B)(i)(5) For an activated carbon injection system designed to control emissions of dioxins/furans, you are not required to establish an operating limit and monitor sorbent injection rate and carrier gas flow rate (or carrier gas pressure drop) if you use the continuous monitoring system specified in 40 CFR 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for dioxins/furans (total mass basis or toxic equivalency basis).
- (d)(8)(B)(ii) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead, and cadmium emission limits in Table 1 or 2 to this rule, equal to the lowest 4-hour average pressure drop across each such wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter, lead, and cadmium emission limits.
- (d)(8)(B)(iii) Minimum scrubber liquid flow rate (measured at the inlet to each wet scrubber), equal to the lowest 4-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.
- (d)(8)(B)(iv) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits in Table 1 or 2 to this rule, equal to the lowest 1-hour average scrubber liquid pH measured during the most recent performance test demonstrating compliance with the sulfur dioxide and hydrogen chloride emission limits.
- (d)(8)(B)(v) Minimum combustion chamber operating temperature (or minimum afterburner temperature), equal to the lowest 4-hour average combustion chamber operating temperature (or afterburner temperature) measured during the most recent performance test demonstrating compliance with all applicable emission limits.
- (d)(8)(B)(vi) Minimum power input to the electrostatic precipitator collection plates, equal to the lowest 4-hour average secondary electric power measured during the most recent performance test demonstrating compliance with the particulate matter, lead, and cadmium emission limits. Power input must be calculated as the product of the secondary voltage and secondary amperage to the electrostatic precipitator collection plates. Both the secondary voltage and secondary amperage must be recorded during the performance test.
- (d)(8)(B)(vii) Minimum effluent water flow rate at the outlet of the electrostatic precipitator, equal to the lowest 4-hour average effluent water flow rate at the outlet of the electrostatic precipitator measured during the most recent performance test demonstrating compliance with the particulate matter, lead, and cadmium emission limits.

- (d)(8)(B)(viii) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (d)(9)(B)(viii)(1) through (viii)(3) of this section.
- (d)(8)(B)(viii)(1) Minimum mercury sorbent injection rate, equal to the lowest 4-hour average mercury sorbent injection rate measured during the most recent performance test demonstrating compliance with the mercury emission limit.
- (d)(8)(B)(viii)(2) Minimum dioxin/furan sorbent injection rate, equal to the lowest 4-hour average dioxin/furan sorbent injection rate measured during the most recent performance test demonstrating compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limit.
- (d)(8)(B)(viii)(3) Minimum carrier gas flow rate or minimum carrier gas pressure drop, as follows:
- (d)(8)(B)(viii)(3)(a) Minimum carrier gas flow rate, equal to the lowest 4-hour average carrier gas flow rate measured during the most recent performance test demonstrating compliance with the applicable emission limit.
- (d)(8)(B)(viii)(3)(b) Minimum carrier gas pressure drop, equal to the lowest 4-hour average carrier gas flow rate measured during the most recent performance test demonstrating compliance with the applicable emission limit.
- (d)(8)(C)(i) You must conduct an air pollution control device inspection according to (d)(5)(A)(iii) 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.
- (d)(8)(C)(ii) Within 10 operating days following the air pollution control device inspection under paragraph (d)(8)(C)(i) 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.

TABLE 6: 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	Data averaging period for compliance
All sewage sludge incineration units				
Combustion chamber operating temperature (not required if afterburner temperature is monitored)	Minimum combustion chamber operating temperature or afterburner temperature	Continuous	Every 15 minutes	12-hour block.
Fugitive emissions from ash handling	Site-specific operating requirements	Not applicable	No applicable	Not applicable.
Scrubber				
Pressure drop across each wet scrubber	Minimum pressure drop	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid flow rate	Minimum flow rate	Continuous	Every 15 minutes	12-hour block.
Scrubber liquid pH	Minimum pH	Continuous	Every 15 minutes	3-hour block.
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	Minimum power input to the electrostatic precipitator collection plates	Continuous	Hourly	12-hour block.
Secondary amperage of the electrostatic precipitator collection plates				
Effluent water flow rate at the outlet of the electrostatic precipitator	Minimum effluent water flow rate at the outlet of the electrostatic precipitator	Hourly	Hourly	12-hour block.
Activated carbon injection				
Mercury sorbent injection rate	Minimum mercury sorbent injection rate	Hourly	Hourly	12-hour block.
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	12-hour block.

**TABLE 6: 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	Data averaging period for compliance
Afterburner				
Temperature of the afterburner combustion chamber	Minimum temperature of the afterburner combustion chamber	Continuous	Every 15 minutes	12-hour block.

^aAs specified in 40 CFR 60.5190, you may use a continuous emissions monitoring system or continuous automated sampling system in lieu of establishing certain operating limits.

^bThis recording time refers to the minimum 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, you use hourly averages to calculate the 12-hour or 3-hour block average specified in this table for demonstrating compliance. You maintain records of 1-hour averages.

- (d)(8)(D) You must develop and submit to the Administrator for approval a site-specific monitoring plan for each continuous monitoring system required under this rule, according to the requirements in paragraphs (d)(8)(D) (i) through (iii) of this section. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under 40 CFR 60.13(i) and paragraph (d)(8)(D)(v) of this section. If you use a continuous automated sampling system to comply with the mercury or dioxin/furan (total mass basis or toxic equivalency basis) emission limits, you must develop your monitoring plan as specified in 40 CFR 60.58b(q), and you are not required to meet the requirements in paragraphs (d)(8)(D)(i) and (ii) of this section. You must also submit a site-specific monitoring plan for your ash handling system, as specified in paragraph (d)(8)(D)(iv) of this section. You must submit and update your monitoring plans as specified in paragraphs (d)(8)(D)(vi) through (vii) of this section.
- (d)(8)(D)(i) For each continuous monitoring system, your monitoring plan must address the elements and requirements specified in paragraphs (d)(8)(D) (i)(1) through (i)(8) of this section. You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.
- (d)(8)(D)(i)(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).
- (d)(8)(D)(i)(2) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.
- (d)(8)(D)(i)(3) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
- (d)(8)(D)(i)(3)(a) For continuous emissions monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:
- (d)(8)(D)(i)(3)(a)(i) The applicable requirements for continuous emissions monitoring systems specified in 40 CFR 60.13.
- (d)(8)(D)(i)(3)(a)(ii) The applicable performance specifications (*e.g.*, relative accuracy tests) in appendix B of 40 CFR part 60.
- (d)(8)(D)(i)(3)(a)(iii) The applicable procedures (*e.g.*, quarterly accuracy determinations and daily calibration drift tests) in appendix F of 40 CFR part 60.

- (d)(8)(D)(i)(3)(a)(iv) A discussion of how the occurrence and duration of out-of-control periods will affect the suitability of CEMS data, where out-of-control has the meaning given in section (d)(8)(D)(i)(7)(a) of this section.
- (d)(8)(D)(i)(3)(b) For continuous parameter monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:
- (d)(8)(D)(i)(3)(b)(i) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (d)(8)(D)(i)(3)(b)(i)(1) through (4) of this section.
- (d)(8)(D)(i)(3)(b)(i)(1) Install the flow sensor and other necessary equipment in a position that provides a representative flow.
- (d)(8)(D)(i)(3)(b)(i)(2) Use a flow sensor with a measurement sensitivity of no greater than 2 percent of the expected process flow rate.
- (d)(8)(D)(i)(3)(b)(i)(3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
- (d)(8)(D)(i)(3)(b)(i)(4) Conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
- (d)(8)(D)(i)(3)(b)(ii) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (d)(8)(D)(i)(3)(b)(ii)(1) through (6) of this section.
- (d)(8)(D)(i)(3)(b)(ii)(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (e.g., particulate matter scrubber pressure drop).
- (d)(8)(D)(i)(3)(b)(ii)(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.
- (d)(8)(D)(i)(3)(b)(ii)(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whichever is less.
- (d)(8)(D)(i)(3)(b)(ii)(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (e.g., check for pressure tap pluggage daily).

- (d)(8)(D)(i)(3)(b)(ii)(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
- (d)(8)(D)(i)(3)(b)(ii)(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in your monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.
- (d)(8)(D)(i)(3)(b)(iii) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (d)(8)(D)(i)(3)(b)(iii)(1) through (4) of this section.
- (d)(8)(D)(i)(3)(b)(iii)(1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.
- (d)(8)(D)(i)(3)(b)(iii)(2) Ensure the sample is properly mixed and representative of the fluid to be measured.
- (d)(8)(D)(i)(3)(b)(iii)(3) Conduct a performance evaluation of the pH monitoring system in accordance with your monitoring plan at least once each process operating day.
- (d)(8)(D)(i)(3)(b)(iii)(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the operating limit pH level) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than quarterly.
- (d)(8)(D)(i)(3)(b)(iv) If you have an operating limit that requires the use of a temperature measurement device, you must meet the requirements in paragraphs (d)(8)(D)(i)(3)(b)(iv)(1) through (4) of this section.
- (d)(8)(D)(i)(3)(b)(iv)(1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature.
- (d)(8)(D)(i)(3)(b)(iv)(2) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 1.0 percent of the temperature value, whichever is larger, for a noncryogenic temperature range.
- (d)(8)(D)(i)(3)(b)(iv)(3) Use a temperature sensor with a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit), or 2.5 percent of the temperature value, whichever is larger, for a cryogenic temperature range.

- (d)(8)(D)(i)(3)(b)(iv)(4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually.
- (d)(8)(D)(i)(3)(b)(v) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator, you must meet the requirements in paragraphs (d)(8)(D)(i)(3)(b)(v)(1) and (2) of this section.
- (d)(8)(D)(i)(3)(b)(v)(1) Install sensors to measure (secondary) voltage and current to the electrostatic precipitator collection plates.
- (d)(8)(D)(i)(3)(b)(v)(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
- (d)(8)(D)(i)(3)(b)(vi) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (d)(8)(D)(i)(3)(b)(vi)(1) and (2) of this section.
- (d)(8)(D)(i)(3)(b)(vi)(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.
- (d)(8)(D)(i)(3)(b)(vi)(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.
- (d)(8)(D)(i)(4) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 60.11(d).
- (d)(8)(D)(i)(5) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 60.13.
- (d)(8)(D)(i)(6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 60.7(b), (c), (c)(1), (c)(4), (d), (e), (f) and (g).
- (d)(8)(D)(i)(7) Provisions for periods when the continuous monitoring system is out of control, as follows:
- (d)(8)(D)(i)(7)(a) A continuous monitoring system is out of control if the conditions of paragraph (d)(8)(D)(i)(7)(a)(i) or (i)(7)(a)(ii) of this section are met.

- (d)(8)(D)(i)(7)(a)(i) 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.
- (d)(8)(D)(i)(7)(a)(ii) The continuous monitoring system fails a performance test audit (*e.g.*, cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.
- (d)(8)(D)(i)(7)(b) When the continuous monitoring system is out of control as specified in paragraph (d)(8)(D)(i)(7)(a) 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 40 CFR part 60. 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.
- (d)(8)(D)(i)(8) Schedule for conducting initial and periodic performance evaluations of your continuous monitoring systems.
- (d)(8)(D)(ii) If a bag leak detection system is used, your monitoring plan must include a description of the following items:
- (d)(8)(D)(ii)(1) Installation of the bag leak detection system in accordance with paragraphs (d)(8)(D)(ii)(1)(a) and (ii)(1)(b) of this section.
- (d)(8)(D)(ii)(1)(a) Install the bag leak detection sensor(s) in a position(s) that will be representative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (*e.g.*, for a positive pressure fabric filter) of the fabric filter.
- (d)(8)(D)(ii)(1)(b) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.
- (d)(8)(D)(ii)(2) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established. Use a bag leak detection system equipped with a system that will sound an alarm when the system detects an increase in relative particulate matter emissions over a preset level. The alarm must be located where it is observed readily and any alert is detected and recognized easily by plant operating personnel.

- (d)(8)(D)(ii)(3) Evaluations of the performance of the bag leak detection system, performed in accordance with your monitoring plan and consistent with the guidance provided in Fabric Filter Bag Leak Detection Guidance, EPA-454/R-98-015, September 1997 (incorporated by reference, see 40 CFR 60.17).
- (d)(8)(D)(ii)(4) Operation of the bag leak detection system, including quality assurance procedures.
- (d)(8)(D)(ii)(5) Maintenance of the bag leak detection system, including a routine maintenance schedule and spare parts inventory list.
- (d)(8)(D)(ii)(6) Recordkeeping (including record retention) of the bag leak detection system data. Use a bag leak detection system equipped with a device to continuously record the output signal from the sensor.
- (d)(8)(D)(iii) 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 to 40 CFR 60.13(c). For the purpose of this rule, the provisions of 40 CFR 60.13(c) also apply to the bag leak detection system. You must conduct the initial performance evaluation of each continuous monitoring system within 60 days of installation of the monitoring system
- (d)(8)(D)(iv) You must submit a monitoring plan specifying the ash handling system operating procedures that you will follow to ensure that you meet the fugitive emissions limit specified in Table 1 or 2 to this rule.
- (d)(8)(D)(v) You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the standards of this rule, subject to the provisions of paragraphs (d)(8)(D)(v)(1) through (v)(6) of this section.
- (d)(8)(D)(v)(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 over the duration of three performance test runs.
- (d)(8)(D)(v)(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.
- (d)(8)(D)(v)(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)(8)(D)(v)(3)(a) through (v)(3)(c) of this section:

- (d)(8)(D)(v)(3)(a) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.
- (d)(8)(D)(v)(3)(b) 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.
- (d)(8)(D)(v)(3)(c) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.
- (d)(8)(D)(v)(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:
- (d)(8)(D)(v)(4)(a) Notice of the information and findings upon which the intended disapproval is based.
- (d)(8)(D)(v)(4)(b) 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.
- (d)(8)(D)(v)(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 rule.
- (d)(8)(D)(v)(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 rule.
- (d)(8)(D)(vi) You must submit your monitoring plans required in paragraphs (d)(8)(D)(i) and (d)(8)(D)(ii) of this section at least 60 days before your initial performance evaluation of your continuous monitoring system(s).

(d)(8)(D)(vii) You must submit your monitoring plan for your ash handling system, as required in paragraph (d)(8)(D)(iv) of this section, at least 60 days before your initial compliance test date.

(d)(8)(D)(viii) You must update and resubmit your monitoring plan if there are any changes or potential changes in your monitoring procedures or if there is a process change, as defined in Rule 102 of RCAP.

(d)(9) Continuous Compliance Requirements

(d)(9)(A) To demonstrate continuous compliance with the emission limits and standards specified in Table 1 or 2 to this rule, use the procedures specified in paragraph (d)(9)(A)(i) of this section. In lieu of using the procedures specified in paragraph (d)(9)(A)(i) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (d)(9)(A)(ii) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, lead, and fugitive emissions from ash handling. You must meet the requirements of paragraphs (d)(9)(A)(i) and (d)(9)(A)(ii) of this section, as applicable, and paragraphs (d)(9)(A)(iii) through (v) of this section, according to the performance testing, monitoring, and calibration requirements in section (d)(5)(A)(i) and (ii). You may also petition the Administrator for alternative monitoring parameters as specified in paragraph (d)(9)(A)(vi) of this section.

(d)(9)(A)(i) Demonstrate continuous compliance using a performance test. Except as provided in paragraphs (d)(9)(A)(i)(3) and (d)(9)(A)(v) of this section, following the date that the initial performance test for each pollutant in Table 1 or 2 to this rule is completed, you must conduct a performance test for each such pollutant on an annual basis (between 11 and 13 calendar months following the previous performance test). The performance test must be conducted using the test methods, averaging methods, and minimum sampling volumes or durations specified in Table 1 or 2 to this rule and according to the testing, monitoring, and calibration requirements specified in (d)(5)(A)(i).

(d)(9)(A)(i)(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.

(d)(9)(A)(i)(2) You must repeat the performance test within 60 days of a process change, as defined in Rule 102 of RCAP.

(d)(9)(A)(i)(3) Except as specified in paragraphs (d)(9)(A)(i)(1) and (2) of this section, you can conduct performance tests less often for a given pollutant, as specified in paragraphs (d)(9)(A)(i)(3)(a) through (c) of this section.

- (d)(9)(A)(i)(3)(a) You can conduct performance tests less often if your performance tests for the pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit specified in Table 1 or 2 to this rule, and there are no changes in the operation of the affected source 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 37 months after the previous performance test.
- (d)(9)(A)(i)(3)(b) If your SSI unit continues to meet the emission limit for the pollutant, you may choose to conduct performance tests for the pollutant every third year if your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test.
- (d)(9)(A)(i)(3)(c) If a performance test shows emissions exceeded 75 percent of the emission limit for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over 2 consecutive years show compliance.
- (d)(9)(A)(ii) Demonstrate continuous compliance using a continuous emissions monitoring system or continuous automated sampling system. 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. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the Federal Register. Collect data as specified in (d)(9)(A)(ii)(6) and use the following procedures:
- (d)(9)(A)(ii)(1) To demonstrate continuous compliance with the emission limits for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass basis or toxic equivalency basis), mercury, nitrogen oxides, sulfur dioxide, cadmium, and lead, 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:

- (d)(9)(A)(ii)(1)(a) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (d)(9)(A)(ii)(1) of this section in lieu of conducting the annual performance test for that pollutant in paragraph (d)(9)(A)(i) of this section. For determining compliance with the carbon monoxide concentration limit using carbon monoxide CEMS, the correction to 7 percent oxygen does not apply during periods of startup or shutdown. Use the measured carbon monoxide concentration without correcting for oxygen concentration in averaging with other carbon monoxide concentrations (corrected to 7 percent oxygen) to determine the 24-hour average value.
- (d)(9)(A)(ii)(1)(b) 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 (d)(9)(A)(i) of this section.
- (d)(9)(A)(ii)(2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in paragraph (d)(9)(A)(ii)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in (d)(5)(A)(ii). You must measure emissions according to 40 CFR 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.
- (d)(9)(A)(ii)(3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (d)(9)(A)(ii)(1) of this section, you must:
- (d)(9)(A)(ii)(3)(a) Use the continuous automated sampling system specified in 40 CFR 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to 40 CFR 60.58b(p) and your monitoring plan.
- (d)(9)(A)(ii)(3)(a)(i) Use the procedures specified in 40 CFR 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 1 to this rule.
- (d)(9)(A)(ii)(3)(a)(ii) Use the procedures specified in 40 CFR 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limits in Table 1 to this rule.

- (d)(9)(A)(ii)(3)(b) Update your monitoring plan as specified in 40 CFR 60.4880(e). For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of 40 CFR part 75 and Procedure 5 of appendix F of 40 CFR part 60.
- (d)(9)(A)(ii)(4) Except as provided in paragraph (d)(9)(A)(v) of this section, you must complete your periodic performance evaluations required in your monitoring plan for any continuous emissions 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 (or according to the less frequent testing for a pollutant as provided in paragraph (d)(9)(A)(i)(3) of this section), you must complete the initial performance evaluation required under your monitoring plan in (d)(8)(D) for the continuous monitoring system prior to using the continuous emissions monitoring system to demonstrate compliance or continuous automated sampling system. Your performance evaluation must be conducted using the procedures and acceptance criteria specified in (d)(8)(D)(i)(3).
- (d)(9)(A)(iii) To demonstrate compliance with the dioxins/furans toxic equivalency emission limit in paragraph (d)(9)(A)(i) or (ii) of this section, you must determine dioxins/furans toxic equivalency as follows:
- (d)(9)(A)(iii)(1) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using Method 23 at 40 CFR part 60, appendix A-7.
- (d)(9)(A)(iii)(2) For each dioxin/furan (tetra- through octachlorinated) isomer measured in accordance with paragraph (d)(9)(A)(iii)(1) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in Table 5 to this rule.
- (d)(9)(A)(iii)(3) Sum the products calculated in accordance with paragraph (d)(9)(A)(iii)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.
- (d)(9)(A)(iv) You must submit an annual compliance report as specified in (d)(6)(B)(iii). You must submit a deviation report as specified in (d)(6)(B)(iv) for each instance that you did not meet each emission limit in Table 1 to this rule.
- (d)(9)(A)(v) If you demonstrate continuous compliance using a performance test, as specified in paragraph (d)(9)(A)(i) of this section, then the provisions of this paragraph (d)(9)(A)(v) 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 (d)(6)(B)(vii). 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 rule.

- (d)(9)(A)(vi) After any initial requests in (d)(8)(D) for alternative monitoring requirements for initial compliance, you may subsequently petition the Administrator for alternative monitoring parameters as specified in 40 CFR 60.13(i) and paragraph (d)(8)(D)(v).
- (d)(9)(B) You must continuously monitor your operating parameters as specified in paragraph (d)(9)(B)(i) of this section and meet the requirements of paragraphs (d)(9)(B)(ii) and (iii) of this section, according to the monitoring and calibration requirements in (d)(5)(B). You must confirm and re-establish your operating limits as specified in paragraph (d)(9)(B)(iv) of this section.
- (d)(9)(B)(i) You must continuously monitor the operating parameters specified in paragraphs (d)(9)(B)(i)(1) and (i)(2) of this section using the continuous monitoring equipment and according to the procedures specified in (d)(5)(B) or established in (d)(2)(C). To determine compliance, you must use the data averaging period specified in Table 6 to this rule (except for alarm time of the baghouse leak detection system) unless a different averaging period is established under (d)(2)(C).
- (d)(9)(B)(i)(1) You must demonstrate that the SSI unit meets the operating limits established according to sections (d)(2)(C) and (d)(8)(B)(i) and paragraph (d)(9)(B)(iv) of this section for each applicable operating parameter.
- (d)(9)(B)(i)(2) You must demonstrate that the SSI unit meets the operating limit for bag leak detection systems as follows:
- (d)(9)(B)(i)(2)(a) For a bag leak detection system, you must calculate the alarm time as follows:
- (d)(9)(B)(i)(2)(a)(i) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.
- (d)(9)(B)(i)(2)(a)(ii) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour.

- (d)(9)(B)(i)(2)(a)(iii) 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.
- (d)(9)(B)(i)(2)(b) Your maximum alarm time is equal to 5 percent of the operating time during a 6-month period, as specified in (d)(2)(B)(iii).
- (d)(9)(B)(ii) Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (d)(9)(B)(i) of this section constitutes a deviation from your operating limits established under this rule, 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 section (d)(6)(B)(iv) for each instance that you did not meet one of your operating limits established under this rule.
- (d)(9)(B)(iii) You must submit the annual compliance report specified in section (d)(6)(B)(iii) to demonstrate continuous compliance.
- (d)(9)(B)(iv) You must confirm your operating limits according to paragraph (d)(9)(B)(iv)(1) of this section or re-establish operating limits according to paragraph (d)(9)(B)(iv)(2) of this section. Your operating limits must be established so as to assure ongoing compliance with the emission limits. These requirements also apply to your operating requirements in your fugitive emissions monitoring plan specified in section (d)(2)(B)(iv).
- (d)(9)(B)(iv)(1) Your operating limits must be based on operating data recorded during any performance test required in (d)(9)(A)(i) or any performance evaluation required in section (d)(9)(A)(ii)(4).
- (d)(9)(B)(iv)(2) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward.
- (d)(9)(C) Air pollution control device inspections and necessary repairs.
- (d)(9)(C)(i) You must conduct an annual inspection of each air pollution control device used to comply with the emission limits, according to section (d)(5)(A)(iii), no later than 12 months following the previous annual air pollution control device inspection.
- (d)(9)(C)(ii) 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.

Rule 102 of RCAP

Definitions

Terms used but not defined in this rule are defined in the Clean Air Act and §60.2.

Affected source means a sewage sludge incineration unit as defined in 40 CFR 60.5250.

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.

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 monitoring system (CMS) means a continuous emissions monitoring system, continuous automated sampling system, continuous parameter 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 rule. 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., operating temperature, pressure, and power).

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.

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.

Modification (for the purposes of Rule 405(d)) means a change to an existing SSI unit later than September 21, 2011 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 existing 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.

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 (for the purposes of Rule 405(d)) 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 a significant permit revision, but only with respect to those pollutant-specific emission units for which the proposed permit revision is applicable, including but not limited to:

(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).

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. A SSI unit also includes, but is not limited to, the sewage sludge feed system, auxiliary fuel feed system, grate system, flue gas system, waste heat recovery equipment, if any, and bottom ash system. The SSI unit includes all ash handling systems connected to the bottom ash handling system. The combustion unit bottom ash system ends at the truck loading station or similar equipment that transfers the ash to final disposal. The SSI unit does not include air pollution control equipment or the stack.

Shutdown (for the purposes of Rule 405(d)) means the period of time after all sewage sludge has been combusted in the primary chamber.

Startup (for the purposes of Rule 405(d)) 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 isomer 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 rule lists the toxic equivalency factors.

You (for the purposes of Rule 405(d)) means the owner or operator of an affected SSI unit.