



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

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SEP 18 2013

Mr. Karl Brooks  
Regional Administrator  
U.S. EPA, Region VII  
11201 Renner Boulevard  
Lenexa, KS 66219

RE: Corrections to the Section 111(d)/129 State Plan for Sewage Sludge Incinerators in Missouri  
Project #2011-SSI-9

Dear Mr. Brooks:

The Missouri Department of Natural Resources (department) has made corrections to the Section 111(d)/129 State Plan for Sewage Sludge Incinerators in Missouri. Enclosed with this letter is the corrected version of the plan. Please replace the previously submitted plan with the enclosed corrected plan.

On February 5, 2013, the Missouri Air Conservation Commission (MACC) adopted the Section 111(d)/129 State Plan for Sewage Sludge Incinerators in Missouri, as well as the corresponding state rule, 10 CSR 10-6.191 Sewage Sludge Incinerators. On April 29, 2013, the department submitted the adopted plan and state rule to the U.S. Environmental Protection Agency (EPA) for inclusion in the amended Missouri State Plan for Designated Facilities and Pollutants. After submission to the EPA, the department became aware of errors in the submitted version of the state plan. At the August 29, 2013 MACC meeting, the commissioners were made aware of the corrections to the plan and the department's intention to provide these changes to the EPA.

The enclosed version of the state plan corrects the following errors:

- References to proposed state rule were replaced with current published state rule references.
- Summation error in Emission Inventory Table was corrected to remove double counting of Bissell Point emissions from the all affected source emission total. This correction occurs both in the plan text and in Appendix D.

Table 1 details the corrections made to the Section 111(d)/129 State Plan for Sewage Sludge Incinerators in Missouri.

Table 1: Detailed Corrections to the State Plan

| Section Number<br>Page Number | Submitted Version                                                                      | Corrected Version                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section II.<br>Page 2         | A copy of the proposed state rule, as of October 29, 2012, can be found in Appendix C. | A copy of the state rule, as published in the Code of State Regulations (CSR) on April 30, 2013, can be found in Appendix C. This rule's effective date is May 30, 2013. |
| Section IV.<br>Page 5         | Table 2: Row labeled "all affected source emissions total"                             | Table 2: Row labeled "all affected source emissions total" - Value for each pollutant in this row revised to remove double counted emissions.                            |
| Appendix D<br>Page 82         | Emission Inventory Table: Row labeled "all affected source emissions total"            | Emission Inventory Table: Row labeled "all affected source emissions total" - Value for each pollutant in this row revised to remove double counted emissions.           |

Table 2 and Table 3 of this letter show the emissions inventory tables in their original and corrected form.

Table 2. Original Emissions Inventory Table

| Site/Unit ID                                | Process Type    | Annual Actual Emissions (Based on 2011 Emission Factors and Throughputs, in tons per year) |              |              |              |                  |              |                |               |                 |
|---------------------------------------------|-----------------|--------------------------------------------------------------------------------------------|--------------|--------------|--------------|------------------|--------------|----------------|---------------|-----------------|
|                                             |                 | PM                                                                                         | Pb           | Cd           | Hg           | PCDD/PCDF (TMB)  | HCl          | NOx            | SO2           | CO              |
| <b>Blue River (095-0039)</b>                |                 |                                                                                            |              |              |              |                  |              |                |               |                 |
| EP001                                       | Multiple Hearth | <i>0.654</i>                                                                               | 0.061        | 0.038        | 0.005        | 9.506E-06        | 0.020        | <i>5.325</i>   | 0.204         | <i>0.613</i>    |
| <b>Bissell Point (510-0053)</b>             |                 |                                                                                            |              |              |              |                  |              |                |               |                 |
| EP02*                                       | Multiple Hearth | -                                                                                          | -            | -            | -            | -                | -            | -              | -             | -               |
| EP03                                        | Multiple Hearth | <i>1.523</i>                                                                               | <i>0.010</i> | 0.156        | 0.019        | 3.919E-05        | 0.084        | <i>18.012</i>  | <i>0.467</i>  | <i>89.015</i>   |
| EP04                                        | Multiple Hearth | <i>1.000</i>                                                                               | <i>0.006</i> | 0.126        | 0.015        | 3.167E-05        | 0.068        | <i>14.290</i>  | <i>3.639</i>  | <i>87.732</i>   |
| EP05                                        | Multiple Hearth | <i>0.612</i>                                                                               | <i>0.002</i> | 0.069        | 0.008        | 1.725E-05        | 0.037        | <i>8.316</i>   | <i>0.931</i>  | <i>61.806</i>   |
| EP06                                        | Multiple Hearth | <i>0.804</i>                                                                               | <i>0.001</i> | 0.090        | 0.011        | 2.266E-05        | 0.049        | <i>10.934</i>  | <i>0.337</i>  | <i>60.166</i>   |
| EP07                                        | Multiple Hearth | <i>4.338</i>                                                                               | <i>0.017</i> | 0.268        | 0.032        | 6.724E-05        | 0.145        | <i>29.028</i>  | <i>10.093</i> | <i>259.657</i>  |
| <b>Bissell Point Emission Totals</b>        |                 | <i>8.278</i>                                                                               | <i>0.036</i> | 0.708        | 0.085        | 1.780E-04        | 0.383        | <i>80.581</i>  | <i>15.467</i> | <i>558.376</i>  |
| <b>Lemay (189-0217)</b>                     |                 |                                                                                            |              |              |              |                  |              |                |               |                 |
| EP 1-4                                      | Multiple Hearth | 1.953                                                                                      | 0.022        | 0.329        | 0.039        | 8.257E-05        | 0.178        | 44.394         | 1.776         | 275.240         |
| <b>Rock Creek (095-0150)</b>                |                 |                                                                                            |              |              |              |                  |              |                |               |                 |
| EP1                                         | Fluidized Bed   | 0.302                                                                                      | <i>0.000</i> | 0.003        | 0.002        | 9.480E-09        | 0.069        | 1.167          | 0.206         | <i>0.261</i>    |
| <b>All Affected Sources-Emission Totals</b> |                 | <i>19.466</i>                                                                              | <i>0.156</i> | <i>1.786</i> | <i>0.215</i> | <i>4.481E-04</i> | <i>1.032</i> | <i>212.048</i> | <i>33.120</i> | <i>1392.867</i> |

\*Bissell Point -EP02 is currently inactive. *Italicized/Bolded values are based upon site specific data.* Other values are based upon AP-42/FIRE data.

Table 3. Corrected Emissions Inventory Table

| Site/Unit ID                                | Process Type    | Annual Actual Emissions (Based on 2011 Emission Factors and Throughputs, in tons per year) |              |              |              |                  |              |                |               |                |
|---------------------------------------------|-----------------|--------------------------------------------------------------------------------------------|--------------|--------------|--------------|------------------|--------------|----------------|---------------|----------------|
|                                             |                 | PM                                                                                         | Pb           | Cd           | Hg           | PCDD/PCDF (TMB)  | HCl          | NOx            | SO2           | CO             |
| <b>Blue River (095-0039)</b>                |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP001                                       | Multiple Hearth | <i>0.654</i>                                                                               | 0.061        | 0.038        | 0.005        | 9.506E-06        | 0.020        | <i>5.325</i>   | 0.204         | <i>0.613</i>   |
| <b>Bissell Point (510-0053)</b>             |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP02*                                       | Multiple Hearth | -                                                                                          | -            | -            | -            | -                | -            | -              | -             | -              |
| EP03                                        | Multiple Hearth | <i>1.523</i>                                                                               | <i>0.010</i> | 0.156        | 0.019        | 3.919E-05        | 0.084        | <i>18.012</i>  | <i>0.467</i>  | <i>89.015</i>  |
| EP04                                        | Multiple Hearth | <i>1.000</i>                                                                               | <i>0.006</i> | 0.126        | 0.015        | 3.167E-05        | 0.068        | <i>14.290</i>  | <i>3.639</i>  | <i>87.732</i>  |
| EP05                                        | Multiple Hearth | <i>0.612</i>                                                                               | <i>0.002</i> | 0.069        | 0.008        | 1.725E-05        | 0.037        | <i>8.316</i>   | <i>0.931</i>  | <i>61.806</i>  |
| EP06                                        | Multiple Hearth | <i>0.804</i>                                                                               | <i>0.001</i> | 0.090        | 0.011        | 2.266E-05        | 0.049        | <i>10.934</i>  | <i>0.337</i>  | <i>60.166</i>  |
| EP07                                        | Multiple Hearth | <i>4.338</i>                                                                               | <i>0.017</i> | 0.268        | 0.032        | 6.724E-05        | 0.145        | <i>29.028</i>  | <i>10.093</i> | <i>259.657</i> |
| <b>Bissell Point Emission Totals</b>        |                 | <i>8.278</i>                                                                               | <i>0.036</i> | 0.708        | 0.085        | 1.780E-04        | 0.383        | <i>80.581</i>  | <i>15.467</i> | <i>558.376</i> |
| <b>Lemay (189-0217)</b>                     |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP 1-4                                      | Multiple Hearth | 1.953                                                                                      | 0.022        | 0.329        | 0.039        | 8.257E-05        | 0.178        | 44.394         | 1.776         | 275.240        |
| <b>Rock Creek (095-0150)</b>                |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP1                                         | Fluidized Bed   | 0.302                                                                                      | <i>0.000</i> | 0.003        | 0.002        | 9.480E-09        | 0.069        | 1.167          | 0.206         | <i>0.261</i>   |
| <b>All Affected Sources-Emission Totals</b> |                 | <i>11.188</i>                                                                              | <i>0.120</i> | <i>1.078</i> | <i>0.131</i> | <i>2.701E-04</i> | <i>0.649</i> | <i>131.467</i> | <i>17.653</i> | <i>834.491</i> |

\*Bissell Point -EP02 is currently inactive. *Italicized/Bolded values are based upon site specific data.* Other values are based upon AP-42/FIRE data.

Mr. Karl Brooks  
Page Three

Thank you for your attention to this matter. If you have any questions regarding this correction, please do not hesitate to contact Wendy Vit at the Missouri Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102, or by telephone at (573) 751-7840.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Original signed by Kyra L. Moore

Kyra L. Moore  
Director

KLM:ajc

Enclosures:

Copy of corrected plan

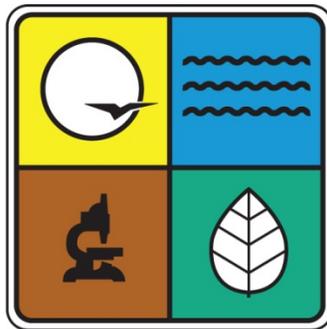
c: Missouri Air Conservation Commission  
Project #2011-SSI-9  
Project #2011-SSI-6



# SECTION 111(D)/129 STATE PLAN FOR SEWAGE SLUDGE INCINCERATORS IN MISSOURI

A Missouri Section 111(d)/129 State Plan Revision

Prepared for the  
Missouri Air Conservation Commission



## **MISSOURI DEPARTMENT OF NATURAL RESOURCES**

Adopted: February 5, 2013

Corrected: September 13, 2013

**Division of Environmental Quality  
Air Pollution Control Program  
P.O. Box 176  
1659 East Elm Street  
Jefferson City, Missouri 65102-0176  
Phone (573) 751-4817**



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- A. 40 CFR 60.5000, Subpart Mmmm Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units (includes Model Rule) Source: 76 FR 15372, Mar. 21, 2011, unless otherwise noted.
- B. Missouri Air Conservation Law, sections 643.010 -643.070, RSMo
- C. State Rule: 10 CSR 10-6.191 Sewage Sludge Incinerators
- D. Tables
- E. Notices of Public Hearings
- F. Maps

## **I. Introduction**

On March 21, 2011, the U.S. Environmental Protection Agency (EPA) established emission guidelines and compliance times for existing Sewage Sludge Incineration (SSI) units. The emission guidelines and compliance times are codified in 40 CFR 60, Subpart Mmmm, which can be referenced in Appendix A. The Clean Air Act requires that state regulatory agencies implement the emission guidelines and compliance times using a state plan developed under sections 111(d) and 129 of the Clean Air Act. Section 111(d) establishes general requirements and procedures on state plan submittals for the control of designated pollutants. Section 111(d) allows for the individual unit's useful life expectancy to be taken into account with regards to the final compliance date; however, section 129 does not. Section 129 requires emission guidelines to be promulgated for all categories of solid waste incineration units, including SSI's. Section 129 overrides the flexible nature of section 111(d), in that it mandates that all plan requirements be at least as protective and restrictive as the promulgated emission guidelines. This includes fixed final compliance date, fixed compliance schedules and title V permitting requirements for all affected sources. Section 129 also requires that state plans be submitted to EPA within one (1) year after EPA's promulgation of the emission guidelines and compliance times.

State plans must contain specific information and the legal mechanisms necessary to implement the emission guidelines and compliance times. The requirements as codified in 40 CFR 60.5015 are as follows.

- A demonstration of the state's legal authority to carry out the sections 111(d) and 129 state plan and identification of enforceable mechanisms for implementation.
- An inventory of sources in the state affected by the emission guidelines, including to the best of the state's knowledge, SSI units that have shut down and are capable of restarting.
- An inventory of emissions information for affected SSI units operating in the state.
- Emission limits, emission standards, operator training and qualification requirements, and operating limits for affected SSI units that are at least as protective as the emission guidelines.
- Compliance schedules for all affected SSI units, with a final compliance date no later than March 21, 2016 or three (3) years after the effective date of state plan approval, whichever is earlier.
- Testing, monitoring, and inspection requirements at least as protective as those in the emission guidelines.

- Performance testing, reporting, and recordkeeping requirements at least as protective as those in the emission guidelines.
- Certification that the public hearing on the state plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.
- Provision for state progress reports to EPA.

Prior to submittal to EPA, the state must make available to the public the state plan and provide opportunity for public comment. The state must submit the final plan to EPA. The EPA then has one year to approve or disapprove the state plan. Plan approval or disapproval will be published in the Federal Register. If a plan is disapproved, EPA will state the reason for disapproval in the Federal Register and give the state the opportunity to respond to EPA's concerns and submit a revised plan.

## **II. Demonstration of Legal Authority and Identification of Enforceable State Mechanism for Implementing the Emission Guidelines.**

The Air Conservation Commission of the State of Missouri is the air pollution control agency for the state. The commission was created to maintain the purity of the air resources of the state to protect the health, general welfare, and physical property of the people, maximum employment, and the full industrial development of the state by preventing, abating, and controlling air pollution by all practical and economically feasible methods. The Missouri Air Conservation Commission, more commonly referred to as the Commission or MACC, has the authority, pursuant to chapter 536, Revised Statutes of Missouri (RSMo), to promulgate rules and regulations to establish standards and guidelines to ensure that the State of Missouri is in compliance with the provisions of the federal Clean Air Act. The specific powers and duties of the MACC are outlined in section 643.050, RSMo. A copy of the Missouri Air Conservation Law, sections 643.010-643.070, RSMo, can be found in Appendix B.

The State of Missouri will use a state rulemaking as the legal instrument to enforce these emission guidelines and compliance times. Missouri's state rule incorporates by reference the promulgated emission guidelines and model rule; therefore it is as protective as the federal regulation. The state rule is 10 CSR 10-6.191 Sewage Sludge Incinerators. This rule will apply to the entire state. A copy of the state rule, as published in the Code of State Regulations (CSR) on April 30, 2013, can be found in Appendix C. This rule's effective date is May 30, 2013.

## **III. Source Inventory of Affected Sewage Sludge Incinerators.**

The emission guidelines in this plan apply to existing SSI units for which construction commenced on or before October 14, 2010. The applicability of affected units is detailed

in 10 CSR 10-6.191 section (1), found in Appendix C. The definition of sewage sludge incineration unit is defined for this purpose in section (2) of 10 CSR 10-6.191, in Appendix C. Any exemptions are also detailed in section (1) of 10 CSR 10-6.191. The emission guidelines apply to both fluidized bed and multiple hearth process designs of incinerators, specifically ones designed to incinerate sewage sludge located at a wastewater treatment facility.

Source inventory information was initially generated using the EPA’s inventory database as promulgated with the federal rulemaking. EPA’s database is comprised of information collection requests and surveys that were compiled using a base year of 2009. The EPA created this database to determine the baseline emissions for existing units at the time of promulgation.

The Air Pollution Control Program (Air Program) maintains an emission inventory database for the purposes of air resource planning, permitting, and compliance. The database contains equipment and emission information for facilities with construction and/or operating permits. The data is collected via annual Emission Inventory Questionnaires (EIQs), is quality assured for use by the Air Program, and the data is forwarded to EPA according to the requirements of the Air Emissions Reporting Rule (AERR). The Air Program’s database was queried for Waste Water Treatment Plants/Facilities (WWTP/WWTF) having sewage sludge incinerators and then checked for applicability with the emission guidelines. The affected source lists from the Air Program’s inventory and the EPA’s database were consistent.

The Air Program also contacted other programs within the Division of Environmental Quality, including the Solid Waste Management Program, the Hazardous Waste Management Program, the Water Pollution Control Program, regional/satellite offices, and local agencies to verify that all sources potentially affected by the emission guidelines were included in the inventory. No additional sources were identified in this communication.

A listing of the affected sources is shown in the following table, Table 1. The information includes: facility name, site name, State ID, FIPS (Federal Information Processing Standards) ID, Plant ID, address, process type and number of units. There are currently 4 facilities with 14 incineration units affected by this regulation in the State of Missouri.

Table 1: Source Inventory

| State | FIPS | PLANT | Facility Name                         | Site Name                        | Owner Name                            | Address                | City,State,Zip         | County           | #ofUnits | Process Type    |
|-------|------|-------|---------------------------------------|----------------------------------|---------------------------------------|------------------------|------------------------|------------------|----------|-----------------|
| 29    | 095  | 0039  | Blue River Treatment Plant            | Hawthorne                        | City of Kansas City (MO)              | 7300 Hawthorn Rd       | Kansas City,MO 64120   | Jackson          | 3        | Multiple Hearth |
| 29    | 510  | 0053  | Metropolitan St. Louis Sewer District | Bissell Point WW Treatment Plant | Metropolitan St. Louis Sewer District | 10 East Grand Avenue   | St. Louis,MO 63147     | St. Louis City   | 6        | Multiple Hearth |
| 29    | 189  | 0217  | Metropolitan St. Louis Sewer District | Lemay WW Treatment Plant         | Metropolitan St. Louis Sewer District | 201 Hoffmeister Avenue | St. Louis,MO 63125     | St. Louis County | 4        | Multiple Hearth |
| 29    | 095  | 0150  | Rock Creek Treatment Plant            | Independence                     | City of Independence                  | 9600 Northledge        | Independence, MO 64053 | Jackson          | 1        | Fluidized Bed   |

Little Blue Valley (095-0186), Atherton WWTP's SSI (EU6), was identified by EPA in its 2009 inventory. It has been removed from the affected source inventory as the facility is removing the existing SSI (EU6) from operation and replacing it with a new SSI (EU16). This is stated in the Construction Permit # 082011-003, which was signed and became effective on August 9, 2011. An excerpt from Permit # 082011-003 states,

“The existing coal-fired sewage sludge incinerator has a capacity of 36 dry tons per day (dtpd) and was designed for a 40 MGD (million gallons/day) wastewater treatment facility. In 2003, the AWWTP received a construction permit to increase the capacity of the wastewater treatment process from 40 MGD to 52 MGD. The AWWTP has forecasted that the facility will reach 52 MGD by 2020. In order to meet this demand, the AWWTP has proposed to replace its 36 dtpd incinerator with a 72 dtpd fluidized bed incinerator (EU16) that utilizes natural gas and diesel as supplementary fuels. The maximum hourly design rate of the incinerator will be 3.0 dry tons sewage sludge per hour. As a result of this project, the existing Zimpro LPO system and the sewage sludge incinerator (E06) that uses coal as a supplemental fuel will be removed from operation.”

The new incinerator, EU 16, will be regulated by the NSPS (New Source Performance Standards), 40 CFR 60, Subpart LLLL, and is therefore not included in this 111(d)/129 plan.

Maps depicting the locations of affected sources are included for reference in Appendix F.

#### **IV. Emission Inventory of Affected Sewage Sludge Incinerators.**

An emissions inventory is included for the applicable incinerators. Calculations utilize emission factors and throughputs provided in the facilities' annual Emissions Inventory Questionnaires (EIQ). In some cases the emission factors were taken from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 2.2 “Sewage Sludge Incineration” (January 1995), and the EPA's webFIRE, Factor Information Retrieval System. All verified, site specific emission factors (such as from stack testing/CEMS) were used first, with the AP-42 factors being used when site specific factors were unavailable. For ease of reference, all of the emission factors utilized in the emissions calculations are included in Appendix D.

The total annual throughput for each facility, in tons of sludge per year, and emission factor, in pounds of pollutant per ton of sludge, were used to calculate annual actual emissions, in tons per year. Most facilities supply this information via their EIQ, which is required to be submitted and/or updated annually depending on facility permit type.

All of the values used for this plan are based on the 2011 calendar year of emissions. Submitted EIQ data was verified with the individual affected sources through phone communication with the Air Quality Analysis (AQA) section of the Air Program in August 2012. This was done as a quality assurance check of the data used for this emission inventory, to update source information and to document any changes made to the source emission inventory. The total annual actual emissions for the affected sources are included in the following table, Table 2. The pollutants accounted for in the emission

inventory are: particulate matter (PM), carbon monoxide (CO), cadmium (Cd), lead (Pb), mercury (Hg), sulfur dioxide (SO<sub>2</sub>), hydrogen chloride (HCl), dioxins/furans (Total Mass Basis, TMB, or Toxic Equivalency, TEQ), and nitrogen oxides (NO<sub>x</sub>).

Table 2: Emission Inventory

| Site/Unit ID                                | Process Type    | Annual Actual Emissions (Based on 2011 Emission Factors and Throughputs, in tons per year) |              |              |              |                  |              |                 |                 |                |
|---------------------------------------------|-----------------|--------------------------------------------------------------------------------------------|--------------|--------------|--------------|------------------|--------------|-----------------|-----------------|----------------|
|                                             |                 | PM                                                                                         | Pb           | Cd           | Hg           | PCDD/PCDF (TMB)  | HCl          | NO <sub>x</sub> | SO <sub>2</sub> | CO             |
| <b>Blue River (095-0039)</b>                |                 |                                                                                            |              |              |              |                  |              |                 |                 |                |
| EP001                                       | Multiple Hearth | <i>0.654</i>                                                                               | 0.061        | 0.038        | 0.005        | 9.506E-06        | 0.020        | 5.325           | 0.204           | <i>0.613</i>   |
| <b>Bissell Point (510-0053)</b>             |                 |                                                                                            |              |              |              |                  |              |                 |                 |                |
| EP02*                                       | Multiple Hearth | -                                                                                          | -            | -            | -            | -                | -            | -               | -               | -              |
| EP03                                        | Multiple Hearth | <i>1.523</i>                                                                               | <i>0.010</i> | 0.156        | 0.019        | 3.919E-05        | 0.084        | <i>18.012</i>   | <i>0.467</i>    | <i>89.015</i>  |
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| <b>Bissell Point Emission Totals</b>        |                 | <b>8.278</b>                                                                               | <b>0.036</b> | 0.708        | 0.085        | 1.780E-04        | 0.383        | <b>80.581</b>   | <b>15.467</b>   | <b>558.376</b> |
| <b>Lemay (189-0217)</b>                     |                 |                                                                                            |              |              |              |                  |              |                 |                 |                |
| EP 1-4                                      | Multiple Hearth | 1.953                                                                                      | 0.022        | 0.329        | 0.039        | 8.257E-05        | 0.178        | 44.394          | 1.776           | 275.240        |
| <b>Rock Creek (095-0150)</b>                |                 |                                                                                            |              |              |              |                  |              |                 |                 |                |
| EP1                                         | Fluidized Bed   | 0.302                                                                                      | <i>0.000</i> | 0.003        | 0.002        | 9.480E-09        | 0.069        | 1.167           | 0.206           | <i>0.261</i>   |
| <b>All Affected Sources-Emission Totals</b> |                 | <b>11.188</b>                                                                              | <b>0.120</b> | <b>1.078</b> | <b>0.131</b> | <b>2.701E-04</b> | <b>0.649</b> | <b>131.467</b>  | <b>17.653</b>   | <b>834.491</b> |

\*Bissell Point - EP02 is currently inactive. *Italicized/Bolded values are based upon site specific data.* Other values are based upon AP-42/FIRE data.

Bissell Point (510-0053) has an incinerator, EP-02, that is reported as inactive, with its last reported active emissions year being 2003; however, it is still capable of restarting. Therefore, if Bissell Point restarts EP-02 (Incinerator 1), it will also be regulated by the emission guidelines in this plan and the corresponding state rule. If the incinerator is restarted, it will need to be in compliance by the final compliance date or the unit's startup date, whichever is later. It would also be required to meet the increments of progress if it is restarted before the final compliance date. The exact requirements that apply to this situation can be found in section 60.5120 of the Model Rule, in Appendix A.

## V. Emission Limits.

Rule 10 CSR 10-6.191 and this plan establish emission limits for all nine (9) designated pollutants listed in the emission guidelines. These pollutants, as listed in the emission inventory, are: PM, CO, Cd, Pb, Hg, SO<sub>2</sub>, HCl, dioxins/furans (TMB or TEQ), and NO<sub>x</sub>. All of the limits are in units of concentration. Missouri's sewage sludge incinerator rule is at least as protective as the emission guidelines because it primarily incorporates by reference the federal emission guidelines at 40 CFR 60, Subpart M. As required by section 129 of the Clean Air Act, the emission limits are identical to those listed in the promulgated emission guidelines. These emission limits are found in subsection (3)(C) of rule 10 CSR 10-6.191, located in Appendix C. Table 3 summarizes the emission limits for all units as follows.

Table 3: Emission Limits

| Pollutant       | Units                       | Emission limit for MH incinerators | Emission limit for FB incinerators |
|-----------------|-----------------------------|------------------------------------|------------------------------------|
| Cd              | mg/dscm @ 7% O <sub>2</sub> | 0.095                              | 0.0016                             |
| CO              | ppmvd @ 7% O <sub>2</sub>   | 3,800                              | 64                                 |
| HCl             | ppmvd @ 7% O <sub>2</sub>   | 1.2                                | 0.51                               |
| Hg              | mg/dscm @ 7% O <sub>2</sub> | 0.28                               | 0.037                              |
| NO <sub>x</sub> | ppmvd @ 7% O <sub>2</sub>   | 220                                | 150                                |
| Pb              | mg/dscm @ 7% O <sub>2</sub> | 0.30                               | 0.0074                             |
| PCDD/PCDF, TEQ  | ng/dscm @ 7% O <sub>2</sub> | 0.32                               | 0.10                               |
| PCDD/PCDF, TMB  | ng/dscm @ 7% O <sub>2</sub> | 5.0                                | 1.2                                |
| PM              | mg/dscm @ 7% O <sub>2</sub> | 80                                 | 18                                 |
| SO <sub>2</sub> | ppmvd @ 7% O <sub>2</sub>   | 26                                 | 15                                 |

**VI. Compliance Schedules.**

In subsection (3)(H) of 10 CSR 10-6.191, found in Appendix C, are the two increments of progress that must be met by all units that are not expected to be in compliance within one year of the effective date of state plan approval. The first increment is the submission of a final control plan dictating how compliance will be achieved. The second is the final compliance date; the final date for all sources, regardless of the unit’s useful life expectancy, to be in compliance with the emission limits. Table 4 summarizes the increments of progress as follows.

Table 4: Increments of Progress

| Increments of Progress      |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| Control Plan Submittal Date | One year after effective date of State Rule, 10 CSR 10-6.191                                    |
| Final Compliance Date       | March 21, 2016 or three years after effective date of state plan approval, whichever is earlier |

Additional details on these requirements can be found in the CFR, sections 60.5085-5125, in Appendix A.

**VII. Testing, Monitoring, and Inspection Requirements.**

Owners or operators of SSI shall follow the testing, monitoring, and inspection requirements as stated in subsections (3)(D)-(3)(F) of rule 10 CSR 10-6.191, found in Appendix C. Initial compliance and continuous compliance determinations, periodic performance tests and monitoring of specific operating parameters are among the

requirements for applicable SSIs. Any necessary equipment repairs shall comply with the requirements of subsection (3)(D) of state rule 10 CSR 10-6.191.

### **VIII. Reporting and Recordkeeping Requirements.**

Owners or operators of SSI shall follow the reporting and recordkeeping requirements listed in section (4) of state rule 10 CSR 10-6.191, located in Appendix C. Required reports may include but are not limited to: an initial compliance report, deviation report, and increment of progress report. The increment of progress report is required when the facility is not able to be in compliance within one year of the state plan's effective approval date, as stated in Section VI. Compliance Schedules. Each facility must maintain records of the performance test and specified operating parameters for five (5) years. The facility must submit annual reports to the Air Program if it continues to be in compliance and semiannual reports if it exceeds emission standards or operating parameter limits.

### **IX. Operator Training and Qualification Requirements.**

SSI operators shall meet the requirements for operator training and qualification as listed in subsection (3)(B) of rule 10 CSR 10-6.191, found in Appendix C. Each facility is required to have at least one trained and qualified SSI operator on duty or on call. In order to be considered a trained and qualified SSI operator, an individual must pass an SSI operator training course that meets the requirements specified in the state rule. Each facility is required to develop site-specific information regarding SSI operation. Each employee who is involved in the operation of the SSI must review the operating information developed for the SSI each year.

### **X. Title V Permitting Requirements.**

All SSI units subject to the EPA-approved and effective 111(d)/129 state plan are required to apply for and obtain a title V operating permit. If an 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 following dates: within one year of the effective date of state plan approval or March 21, 2014. Specific details regarding permitting requirements are listed in subsection (3)(G) of state rule 10 CSR 10-6.191, located in Appendix C.

### **XI. Public Hearings.**

In accordance with 40 CFR 60.5015, the Air Program is required to hold a public hearing prior to adoption of this state plan and the subsequent submittal to the EPA. The Air Program will notify the public and other interested parties of an upcoming public hearing

and comment period thirty (30) days prior to holding such hearing for this state plan as follows:

- The public comment period for the 111(d)/129 state plan opened when it was posted on the Department of Natural Resources' Air Pollution Control Program website on November 1, 2012, and closed on December 13, 2012, seven (7) days after the public hearing.
- The public comment period for 10 CSR 10-6.191 began when it was published in the *Missouri Register* on October 1, 2012 and closed on December 13, 2012.
- The public hearing on the state rulemaking and 111(d)/129 plan will be held on December 6, 2012, beginning at 9:00 am at the Elm Street Conference Center, in Bennett Springs Conference Room, 1730 East Elm Street, Jefferson City, MO 65101.
- Notice of availability of the state rulemaking and 111(d) plan was posted on the Department of Natural Resources' Air Pollution Control Program website on November 2, 2012: <http://dnr.mo.gov/env/apcp/public-notice.htm>

A screenshot of the online public notice with date stamp is included in Appendix E.

## **XII. State Progress Reports to EPA.**

A semi-annual report must be submitted by the Air Program to the EPA regarding the progress of implementation and enforcement of the emission guidelines. Progress reports will include compliance status, enforcement actions, increments of progress, identification of sources that have shut down or started operation, emission inventory information for sources that have started operation, emission inventory and compliance information, and copies of technical reports on all performance testing and monitoring, including concurrent process data.

## **XIII. Final Compliance Date.**

All applicable sources identified in the source inventory are subject to the state plan and must be in compliance no later than the earlier of the following dates: three years after the effective date of state plan approval or March 21, 2016.

# APPENDIX A

40 CFR 60.5000, Subpart MMMM Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units  
Referencing 76 FR 15372 (as promulgated March 21, 2011)

**INTRODUCTION**

**60.5000 What is the purpose of this subpart?**

This subpart establishes emission guidelines and compliance schedules for the control of emissions from sewage sludge incineration (SSI) units. The pollutants addressed by these emission guidelines are listed in Tables 2 and 3 to this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part. To the extent any requirement of this subpart is inconsistent with the requirements of subpart A of this part, the requirements of this subpart will apply.

**60.5005 Am I affected by this subpart?**

- (a) If you are the Administrator of an air quality program in a state or United States protectorate with one or more SSI units that commenced construction on or before October 14, 2010, you must submit a state plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.
- (b) You must submit the state plan to EPA by March 21, 2012.

**60.5010 Is a state plan required for all states?**

No. You are not required to submit a state plan if there are no SSI units for which construction commenced on or before October 14, 2010 in your state, and you submit a negative declaration letter in place of the state plan.

**60.5015 What must I include in my state plan?**

- (a) You must include the nine items described in paragraphs (a)(1) through (a)(9) of this section in your state plan.
  - (1) Inventory of affected SSI units, including those that have ceased operation but have not been dismantled.
  - (2) Inventory of emissions from affected SSI units in your state.
  - (3) Compliance schedules for each affected SSI unit.
  - (4) Emission limits, emission standards, operator training and qualification requirements, and operating limits for affected SSI units that are at least as protective as the emission guidelines contained in this subpart.
  - (5) Performance testing, recordkeeping, and reporting requirements.
  - (6) Certification that the hearing on the state plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.
  - (7) Provision for state progress reports to EPA.
  - (8) Identification of enforceable state mechanisms that you selected for implementing the emission guidelines of this subpart.
  - (9) Demonstration of your state's legal authority to carry out the sections 111(d) and 129 state plan.

(b) Your state plan may deviate from the format and content of the emission guidelines contained in this subpart. However, if your state plan does deviate in content, you must demonstrate that your state plan is at least as protective as the emission guidelines contained in this subpart. Your state plan must address regulatory applicability, increments of progress for retrofit, operator training and qualification, emission limits and standards, performance testing, operating limits, monitoring, and recordkeeping and reporting.

(c) You must follow the requirements of subpart B of this part (Adoption and Submittal of state plans for Designated Facilities) in your state plan.

**60.5020 Is there an approval process for my state plan?**

Yes. The EPA will review your state plan according to § 60.27.

**60.5025 What if my state plan is not approvable?**

If you do not submit an approvable state plan (or a negative declaration letter) by March 21, 2013, EPA will develop a Federal plan according to § 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of SSI units not covered by an approved state plan must comply with the Federal plan. The Federal plan is an interim action and will be automatically withdrawn when your state plan is approved.

**60.5030 Is there an approval process for a negative declaration letter?**

No. The EPA has no formal review process for negative declaration letters. Once your negative declaration letter has been received, EPA will place a copy in the public docket and publish a notice in the FEDERAL REGISTER. If, at a later date, a SSI unit for which construction commenced on or before October 14, 2010 is found in your state, the Federal plan implementing the emission guidelines contained in this subpart would automatically apply to that SSI unit until your state plan is approved.

**60.5035 What compliance schedule must I include in my state plan?**

(a) For SSI units that commenced construction on or before October 14, 2010, your state plan must include compliance schedules that require SSI units to achieve final compliance as expeditiously as practicable after approval of the state plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (a)(2) of this section.

(1) March 21, 2016.

(2) Three years after the effective date of state plan approval.

(b) For compliance schedules that extend more than 1 year following the effective date of state plan approval, state plans must include dates for enforceable increments of progress as specified in § 60.5090.

**60.5040 Are there any state plan requirements for this subpart that apply instead of the requirements specified in subpart B?**

Yes. Subpart B establishes general requirements for developing and processing section 111(d) state plans. This subpart applies instead of the requirements in subpart B of this part, as specified in paragraphs (a) and (b) of this section:

(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all SSI units to

comply by the dates specified in § 60.5035. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in § 60.24(f).

(b) State plans developed to implement this subpart are required to include two increments of progress for the affected SSI units. These two minimum increments are the final control plan submittal date and final compliance date in § 60.21(h)(1) and (5). This applies instead of the requirement of § 60.24(e)(1) that would require a state plan to include all five increments of progress for all SSI units.

**60.5045 In lieu of a state plan submittal, are there other acceptable option(s) for a state to meet its section 111(d)/129 (b)(2) obligations?**

Yes, a state may meet its Clean Air Act section 111(d)/129 obligations by submitting an acceptable written request for delegation of the Federal plan that meets the requirements of this section. This is the only other option for a state to meet its section 111(d)/129 obligations.

(a) An acceptable Federal plan delegation request must include the following:

(1) A demonstration of adequate resources and legal authority to administer and enforce the Federal plan.

(2) The items under § 60.5015(a)(1), (a)(2), and (a)(7).

(3) Certification that the hearing on the state delegation request, similar to the hearing for a state plan submittal, was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(4) A commitment to enter into a Memorandum of Agreement with the Regional Administrator that sets forth the terms, conditions, and effective date of the delegation and that serves as the mechanism for the transfer of authority. Additional guidance and information is given in EPA's Delegation Manual, Item 7-139, Implementation and Enforcement of 111(d)(2) and 111(d)/(2)/129 (b)(3) Federal plans.

(b) A state with an already approved SSI Clean Air Act section 111(d)/129 state plan is not precluded from receiving EPA approval of a delegation request for the revised Federal plan, provided the requirements of paragraph (a) of this section are met, and at the time of the delegation request, the state also requests withdrawal of EPA's previous state plan approval.

(c) A state's Clean Air Act section 111(d)/129 obligations are separate from its obligations under title V of the Clean Air Act.

**60.5050 What authorities will not be delegated to state, local, or tribal agencies?**

The authorities that will not be delegated to state, local, or tribal agencies are specified in paragraphs (a) through (g) of this section.

(a) Approval of alternatives to the emission limits and standards in Tables 2 and 3 to this subpart and operating limits established under § 60.5175 or § 60.5190.

(b) Approval of major alternatives to test methods.

(c) Approval of major alternatives to monitoring.

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

(e) The requirements in § 60.5175.

(f) The requirements in § 60.5155(b)(2).

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

**60.5055 Does this subpart directly affect SSI unit owners and operators in my state?**

- (a) No. This subpart does not directly affect SSI unit owners and operators in your state. However, SSI unit owners and operators must comply with the state plan you develop to implement the emission guidelines contained in this subpart. States may choose to incorporate the model rule text directly in their state plan.
- (b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by March 21, 2012, EPA will implement and enforce a Federal plan, as provided in § 60.5025, to ensure that each unit within your state that commenced construction on or before October 14, 2010 reaches compliance with all the provisions of this subpart by the dates specified in § 60.5035.

**APPLICABILITY OF STATE PLANS**

**60.5060 What SSI units must I address in my state plan?**

- (a) Your state plan must address SSI units that meet all three criteria described in paragraphs (a)(1) through (3) of this section.
  - (1) SSI units in your state that commenced construction on or before October 14, 2010.
  - (2) SSI units that meet the definition of a SSI unit as defined in § 60.5250.
  - (3) SSI units not exempt under § 60.5065.
- (b) 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 subpart LLLL of this part and the state plan no longer applies to that unit.
- (c) 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 your state plan, subpart LLLL of this part does not apply to that unit. Such changes do not qualify as modifications under subpart LLLL of this part.

**60.5065 What SSI units are exempt from my state plan?**

This subpart exempts combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge. These units may be subject to another subpart of this part (e.g., subpart CCCC of this part). The owner or operator of such a combustion unit must notify the Administrator of an exemption claim under this section.

**USE OF MODEL RULE**

**60.5070 What is the “model rule” in this subpart?**

- (a) The model rule is the portion of these emission guidelines (§§ 60.5085 through 60.5250) that addresses the regulatory requirements applicable to SSI units. The model rule provides these requirements in regulation format. You must develop a state plan that is at least as protective as the model rule. You may use the model rule language as part of your state plan. Alternative language may be used in your state plan if you demonstrate that the alternative language is at least as protective as the model rule contained in this subpart.

(b) In the model rule of §§ 60.5085 through 60.5250, ‘‘you’’ and ‘‘Administrator’’ have the meaning specified in § 60.5250.

**60.5075 How does the model rule relate to the required elements of my state plan?**

Use the model rule to satisfy the state plan requirements specified in § 60.5015(a)(3) through (a)(5).

**60.5080 What are the principal components of the model rule?**

The model rule contains the nine major components listed in paragraphs (a) through (i) of this section.

- (a) Increments of progress toward compliance.
- (b) Operator training and qualification.
- (c) Emission limits, emission standards, and operating limits.
- (d) Initial compliance requirements.
- (e) Continuous compliance requirements.
- (f) Performance testing, monitoring, and calibration requirements.
- (g) Recordkeeping and reporting.
- (h) Definitions.
- (i) Tables.

**MODEL RULE—INCREMENTS OF PROGRESS**

**60.5085 What are my requirements for meeting increments of progress and achieving final compliance?**

If you plan to achieve compliance more than 1 year following the effective date of state plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

- (a) Submit a final control plan.
- (b) Achieve final compliance.

**60.5090 When must I complete each increment of progress?**

Table 1 to this subpart specifies compliance dates for each increment of progress.

**60.5095 What must I include in the notifications of achievement of increments of progress?**

Your notification of achievement of increments of progress must include the three items specified in paragraphs (a) through (c) of this section.

- (a) Notification that the increment of progress has been achieved.
- (b) Any items required to be submitted with each increment of progress.
- (c) Signature of the owner or operator of the SSI unit.

**60.5100 When must I submit the notifications of achievement of increments of progress?**

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

**60.5105 What if I do not meet an increment of progress?**

If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 to this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.

**60.5110 How do I comply with the increment of progress for submittal of a control plan?**

For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.

- (a) Submit the final control plan that includes the four items described in paragraphs (a)(1) through (a)(4) of this section.
  - (1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limits and standards and other requirements of this subpart.
  - (2) The type(s) of waste to be burned, if waste other than sewage sludge is burned in the unit.
  - (3) The maximum design sewage sludge burning capacity.
  - (4) If applicable, the petition for site-specific operating limits under Sec. 60.5175.
- (b) Maintain an onsite copy of the final control plan.

**60.5115 How do I comply with the increment of progress for achieving final compliance?**

For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected SSI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.

**60.5120 What must I do if I close my SSI unit and then restart it?**

- (a) If you close your SSI unit but will restart it prior to the final compliance date in your state plan, you must meet the increments of progress specified in Sec. 60.5085.
- (b) If you close your SSI unit but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limits, emission standards, and operating limits on the date your unit restarts operation.

**60.5125 What must I do if I plan to permanently close my SSI unit and not restart it?**

If you plan to close your SSI unit rather than comply with the state plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

## MODEL RULE—OPERATOR TRAINING AND QUALIFICATION

### **60.5130 What are the operator training and qualification requirements?**

- (a) 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 Sec. 60.5155.
- (b) Operator training and qualification must be obtained through a state-approved program or by completing the requirements included in paragraph (c) of this section.
- (c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (c)(3) of this section.
  - (1) Training on the 10 subjects listed in paragraphs (c)(1)(i) through (c)(1)(x) of this section.
    - (i) Environmental concerns, including types of emissions.
    - (ii) Basic combustion principles, including products of combustion.
    - (iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, sewage sludge feeding, and shutdown procedures.
    - (iv) Combustion controls and monitoring.
    - (v) Operation of air pollution control equipment and factors affecting performance (if applicable).
    - (vi) Inspection and maintenance of the incinerator and air pollution control devices.
    - (vii) Actions to prevent malfunctions or to prevent conditions that may lead to malfunctions.
    - (viii) Bottom and fly ash characteristics and handling procedures.
    - (ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.
    - (x) Pollution prevention.
  - (2) An examination designed and administered by the state-approved program.
  - (3) Written material covering the training course topics that may serve as reference material following completion of the course.

### **60.5135 When must the operator training course be completed?**

The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section.

- (a) The final compliance date (Increment 2).
- (b) Six months after your SSI unit startup.

- (c) Six months after an employee assumes responsibility for operating the SSI unit or assumes responsibility for supervising the operation of the SSI unit.

**60.5140 How do I obtain my operator qualification?**

- (a) You must obtain operator qualification by completing a training course that satisfies the criteria under Sec. 60.5130(b).
- (b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under Sec. 60.5130(c)(2).

**60.5145 How do I maintain my operator qualification?**

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

- (a) Update of regulations.
- (b) Incinerator operation, including startup and shutdown procedures, sewage sludge feeding, and ash handling.
- (c) Inspection and maintenance.
- (d) Prevention of malfunctions or conditions that may lead to malfunction.
- (e) Discussion of operating problems encountered by attendees.

**60.5150 How do I renew my lapsed operator qualification?**

You must renew a lapsed operator qualification before you begin operation of a SSI unit by one of the two methods specified in paragraphs (a) and (b) of this section.

- (a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in Sec. 60.5145.
- (b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in Sec. 60.5140(a).

**60.5155 What if all the qualified operators are temporarily not accessible?**

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

- (a) When a qualified operator is not accessible for more than 8 hours, the SSI unit may be operated for less than 2 weeks by other plant personnel who are familiar with the operation of the SSI unit and who have completed a review of the information specified in Sec. 60.5160 within the past 12 months. However, you must record the period when a qualified operator was not accessible and include this deviation in the annual report as specified under Sec. 60.5235(d).
- (b) When a qualified operator is not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (b)(2) of this section.
  - (1) Notify the Administrator of this deviation in writing within 10 days. In the notice, state what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.

- (2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible, and requesting approval from the Administrator to continue operation of the SSI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section.
  - (i) If the Administrator notifies you that your request to continue operation of the SSI unit is disapproved, the SSI unit may continue operation for 30 days, and then must cease operation.
  - (ii) Operation of the unit may resume if a qualified operator is accessible as required under Sec. 60.5130(a). You must notify the Administrator within 5 days of having resumed operations and of having a qualified operator accessible.

**60.5160 What site-specific documentation is required and how often must it be reviewed by qualified operators and plant personnel?**

- (a) You must maintain at the facility the documentation of the operator training procedures specified under Sec. 60.5230(c)(1) and make the documentation readily accessible to all SSI unit operators.
- (b) You must establish a program for reviewing the information listed in Sec. 60.5230(c)(1) with each qualified incinerator operator and other plant personnel who may operate the unit according to the provisions of Sec. 60.5155(a), according to the following schedule:
  - (1) The initial review of the information listed in Sec. 60.5230(c)(1) must be conducted within 6 months after the effective date of this subpart or prior to an employee's assumption of responsibilities for operation of the SSI unit, whichever date is later.
  - (2) Subsequent annual reviews of the information listed in Sec. 60.5230(c)(1) must be conducted no later than 12 months following the previous review.

**MODEL RULE—EMISSION LIMITS, EMISSION STANDARDS, AND OPERATING LIMITS AND REQUIREMENTS**

**60.5165 What emission limits and standards must I meet and by when?**

You must meet the emission limits and standards specified in Table 2 or 3 to this subpart by the final compliance date under the approved state plan, Federal plan, or delegation, as applicable. The emission limits and standards apply at all times the unit is operating 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).

**60.5170 What operating limits and requirements must I meet and by when?**

You must meet, as applicable, the operating limits and requirements specified in paragraphs (a) through (d) and (h) of this section, according to the schedule specified in paragraph (e) 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 4 to this subpart. You must comply with the operating requirements in paragraph (f) of this section and the requirements in paragraph (g) of this section for meeting any new operating limits, re-established in Sec. 60.5210. 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).

- (a) You must meet a site-specific operating limit for minimum operating temperature of the combustion chamber (or afterburner combustion chamber) that you establish in Sec. 60.5190.
- (b) If you use a wet scrubber, electrostatic precipitator, activated carbon injection, or afterburner to comply with an emission limit, you must meet the site-specific operating limits that you establish in Sec. 60.5190 for each operating parameter associated with each air pollution control device.
- (c) If you use a fabric filter to comply with the emission limits, you must install the bag leak detection system specified in Sec. Sec. 60.5200(b) and 60.5225(b)(3)(i) and operate the bag leak detection system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must calculate the alarm time as specified in Sec. 60.5210(a)(2)(i).
- (d) You must meet the operating requirements in your site-specific fugitive emission monitoring plan, submitted as specified in Sec. 60.5200(d) to ensure that your ash handling system will meet the emission standard for fugitive emissions from ash handling.
- (e) You must meet the operating limits and requirements specified in paragraphs (a) through (d) of this section by the final compliance date under the approved state plan, Federal plan, or delegation, as applicable.
- (f) You must monitor the feed rate and moisture content of the sewage sludge fed to the sewage sludge incinerator, as specified in paragraphs (f)(1) and (f)(2) of this section.
  - (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 Sec. 60.5230(f)(3)(ii).
  - (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 Sec. 60.5230(f)(3)(ii).
- (g) For the operating limits and requirements specified in paragraphs (a) through (d) and (h) of this section, you must meet any new operating limits and requirements, re-established according to Sec. 60.5210(d).
- (h) 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 2 or 3 to this subpart, you must meet any site-specific operating limits or requirements that you establish as required in Sec. 60.5175.

**60.5175 How do I establish operating limits if I do not use a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or if I limit emissions in some other manner, to comply with the emission limits?**

If you use an air pollution control device other than a wet scrubber, fabric filter, electrostatic precipitator, activated carbon injection, or afterburner, or limit emissions in some other manner

(e.g., materials balance) to comply with the emission limits in Sec. 60.5165, you must meet the requirements in paragraphs (a) and (b) of this section.

- (a) Meet the applicable operating limits and requirements in Sec. 60.4850, and establish applicable operating limits according to Sec. 60.5190.
- (b) Petition the Administrator for specific operating parameters, operating limits, and averaging periods to be established during the initial performance test and to be monitored continuously thereafter.
  - (1) You 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 subpart.
  - (2) Your petition must include the five items listed in paragraphs (b)(2)(i) through (b)(2)(v) of this section.
    - (i) Identification of the specific parameters you propose to monitor.
    - (ii) A discussion of the relationship between these parameters and emissions of regulated pollutants, identifying how emissions of regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.
    - (iii) A discussion of how you will establish the upper and/or lower values for these parameters that will establish the operating limits on these parameters, including a discussion of the averaging periods associated with those parameters for determining compliance.
    - (iv) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.
    - (v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

**60.5180 Do the emission limits, emission standards, and operating limits apply during periods of startup, shutdown, and malfunction?**

The emission limits and standards apply at all times 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 O<sub>2</sub>) to determine the 24-hour average value.

**60.5181 How do I establish an affirmative defense for exceedance of an emission limit or standard during malfunction?**

In response to an action to enforce the numerical emission standards set forth in paragraph Sec. 60.5165, 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 Sec. 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.

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

- (1) The excess emissions:
  - (i) 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
  - (ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices, and
  - (iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for, and
  - (iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance, and
- (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
- (5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health, and
- (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

- (7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs, and
  - (8) At all times, the affected facility was operated in a manner consistent with good practices for minimizing emissions, and
  - (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.
- (b) 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 Sec. 60.5165 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.

## **MODEL RULE—INITIAL COMPLIANCE REQUIREMENTS**

### **60.5185 How and when do I demonstrate initial compliance with the emission limits and standards?**

To demonstrate initial compliance with the emission limits and standards in Table 2 or 3 to this subpart, use the procedures specified in paragraph (a) of this section. In lieu of using the procedures specified in paragraph (a) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (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 (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in Sec. 60.5220(a) and (b).

- (a) Demonstrate initial compliance using the performance test required in Sec. 60.8. You must demonstrate that your SSI unit meets the emission limits and standards specified in Table 2 or 3 to this subpart for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (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 2 or 3 to this subpart and according to the testing, monitoring, and calibration requirements specified in Sec. 60.5220(a).

- (1) Except as provided in paragraph (e) of this section, you must demonstrate that your SSI unit meets the emission limits and standards specified in Table 2 or 3 to this subpart by your final compliance date (see Table 1 to this subpart).
  - (2) You may use the results from a performance test conducted within the 2 previous years that was conducted under the same conditions and demonstrated compliance with the emission limits and standards in Table 2 or 3 to this subpart, 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 2 or 3 to this subpart. The performance test must have used the test methods specified in Table 2 or 3 to this subpart.
- (b) Demonstrate initial compliance using a continuous emissions monitoring system 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 Sec. 60.5220(b)(6) and use the following procedures:
- (1) To demonstrate initial compliance with the emission limits specified in Table 2 or 3 to this subpart 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 (a) of this section, as follows:
    - (i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(1) of this section in lieu of conducting the initial performance test for that pollutant in paragraph (a) 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.
    - (ii) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the

- annual mercury or dioxin/furan performance test in paragraph (a) of this section.
- (2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in Table 2 or 3 to this subpart, as described in paragraph (b)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in Sec. 60.5220(b). You must measure emissions according to Sec. 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour arithmetic average emission concentrations, calculated using Equation 19-19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A-7.
  - (3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in Table 2 or 3 to this subpart, as described in paragraph (b)(1) of this section, you must:
    - (i) Use the continuous automated sampling system specified in Sec. 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to Sec. 60.58b(p) and your monitoring plan.
      - (A) Use the procedures specified in Sec. 60.58b(p) to calculate 24-hour block averages to determine compliance with the mercury emission limit in Table 2 to this subpart.
      - (B) Use the procedures specified in Sec. 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 2 to this subpart.
    - (ii) Comply with the provisions in Sec. 60.58b(q) to develop a monitoring plan. For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 5 of appendix F of this part.
  - (4) Except as provided in paragraph (e) of this section, you must complete your initial performance evaluations required under your monitoring plan for any continuous emissions monitoring systems and continuous automated sampling systems by your final compliance date (see Table 1 to this subpart). Your performance evaluation must be conducted using the procedures and acceptance criteria specified in Sec. 60.5200(a)(3).
- (c) To demonstrate initial compliance with the dioxins/furans toxic equivalency emission limit in Table 2 or 3 to this subpart, determine dioxins/furans toxic equivalency as follows:
- (1) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using EPA Method 23 at 40 CFR part 60, appendix A-7.
  - (2) Multiply the concentration of each dioxin/furan (tetra- through octachlorinated) isomer by its corresponding toxic equivalency factor specified in Table 5 to this subpart. (3) Sum the products calculated in accordance

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

- (d) Submit an initial compliance report, as specified in Sec. 60.5235(b).
- (e) If you demonstrate initial compliance using the performance test specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in Sec. 60.5235(g). You must conduct the initial performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the initial performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.

**60.5190 How do I establish my operating limits?**

- (a) You must establish the site-specific operating limits specified in paragraphs (b) through (h) of this section or established in Sec. 60.5175, as applicable, during your initial performance tests required in Sec. 60.5185. You must meet the requirements in Sec. 60.5210(d) to confirm these operating limits or re-establish new operating limits using operating data recorded during any performance tests or performance evaluations required in Sec. 60.5205. You must follow the data measurement and recording frequencies and data averaging times specified in Table 4 to this subpart or as established in Sec. 60.5175, and you must follow the testing, monitoring, and calibration requirements specified in Sec. Sec. 60.5220 and 60.5225 or established in Sec. 60.5175. You are not required to establish operating limits for the operating parameters listed in Table 4 to this subpart for a control device if you use a continuous monitoring system to demonstrate compliance with the emission limits in Table 2 or 3 to this subpart for the applicable pollutants, as follows:
  - (1) For a scrubber designed to control emissions of hydrogen chloride 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 Sec. Sec. 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for hydrogen chloride or sulfur dioxide.
  - (2) For a scrubber designed to control emissions of particulate matter, cadmium, and lead, you are not required to establish an operating limit and monitor pressure drop across the scrubber or scrubber liquid flow rate if you use the continuous monitoring system specified in Sec. Sec. 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, cadmium, and lead.
  - (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 Sec. Sec. 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for particulate matter, lead, and cadmium.
- (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 Sec. Sec. 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for mercury.
  - (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 Sec. Sec. 60.4865(b) and 60.4885(b) to demonstrate compliance with the emission limit for dioxins/furans (total mass basis or toxic equivalency basis).
- (b) Minimum pressure drop across each wet scrubber used to meet the particulate matter, lead, and cadmium emission limits in Table 2 or 3 to this subpart, 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.
  - (c) 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) Minimum scrubber liquid pH for each wet scrubber used to meet the sulfur dioxide or hydrogen chloride emission limits in Table 2 or 3 to this subpart, 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.
  - (e) 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.
  - (f) 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.
  - (g) 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.

- (h) For activated carbon injection, establish the site-specific operating limits specified in paragraphs (h)(1) through (h)(3) of this section.
  - (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.
  - (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.
  - (3) Minimum carrier gas flow rate or minimum carrier gas pressure drop, as follows:
    - (i) 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.
    - (ii) 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.

**60.5195 By what date must I conduct the initial air pollution control device inspection and make any necessary repairs?**

- (a) You must conduct an air pollution control device inspection according to Sec. 60.5220(c) by the final compliance date under the approved state plan, Federal plan, or delegation, as applicable. For air pollution control devices installed after the final compliance date, you must conduct the air pollution control device inspection within 60 days after installation of the control device.
- (b) Within 10 operating days following the air pollution control device inspection under paragraph (a) of this section, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the SSI unit must be completed.

**60.5200 How do I develop a site-specific monitoring plan for my continuous monitoring, bag leak detection, and ash handling systems, and by what date must I conduct an initial performance evaluation?**

You must develop and submit to the Administrator for approval a site-specific monitoring plan for each continuous monitoring system required under this subpart, according to the requirements in paragraphs (a) through (c) of this section. This requirement also applies to you if you petition the Administrator for alternative monitoring parameters under Sec. 60.13(i) and paragraph (e) 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 Sec. 60.58b(q), and you are not required to meet the requirements in paragraphs (a) and (b) of this section. You must also submit a site-specific monitoring plan for your ash handling

system, as specified in paragraph (d) of this section. You must submit and update your monitoring plans as specified in paragraphs (f) through (h) of this section.

- (a) For each continuous monitoring system, your monitoring plan must address the elements and requirements specified in paragraphs (a)(1) through (a)(8) of this section. You must operate and maintain the continuous monitoring system in continuous operation according to the site-specific monitoring plan.
  - (1) Installation of the continuous monitoring system sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device).
  - (2) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer and the data collection and reduction systems.
  - (3) Performance evaluation procedures and acceptance criteria (e.g., calibrations).
    - (i) For continuous emissions monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:
      - (A) The applicable requirements for continuous emissions monitoring systems specified in Sec. 60.13.
      - (B) The applicable performance specifications (e.g., relative accuracy tests) in appendix B of this part.
      - (C) The applicable procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) in appendix F of this part.
      - (D) 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 (a)(7)(i) of this section.
    - (ii) For continuous parameter monitoring systems, your performance evaluation and acceptance criteria must include, but is not limited to, the following:
      - (A) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(A)(1) through (4) of this section.
        - (1) Install the flow sensor and other necessary equipment in a position that provides a representative flow.
        - (2) Use a flow sensor with a measurement sensitivity of no greater than 2 percent of the expected process flow rate.
        - (3) Minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

- (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.
- (B) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(B)(1) through (6) of this section.
- (1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (e.g., particulate matter scrubber pressure drop).
  - (2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.
  - (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.
  - (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).
  - (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.
  - (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.
- (C) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (a)(3)(ii)(C)(1) through (4) of this section.
- (1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.
  - (2) Ensure the sample is properly mixed and representative of the fluid to be measured.
  - (3) Conduct a performance evaluation of the pH monitoring system in accordance with your

- monitoring plan at least once each process operating day.
- (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) If you have an operating limit that requires the use of a temperature measurement device, you must meet the requirements in paragraphs (a)(3)(ii)(D)(1) through (4) of this section.
- (1) Install the temperature sensor and other necessary equipment in a position that provides a representative temperature.
  - (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 non-cryogenic temperature range.
  - (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.
  - (4) Conduct a temperature measurement device performance evaluation at the time of each performance test but no less frequently than annually.
- (E) 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 (a)(3)(ii)(E)(1) and (2) of this section.
- (1) Install sensors to measure (secondary) voltage and current to the electrostatic precipitator collection plates.
  - (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.
- (F) 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 (a)(3)(ii)(F)(1) and (2) of this section.

- (1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.
  - (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.
- (4) Ongoing operation and maintenance procedures in accordance with the general requirements of Sec. 60.11(d).
- (5) Ongoing data quality assurance procedures in accordance with the general requirements of Sec. 60.13.
- (6) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of Sec. 60.7(b), (c), (c)(1), (c)(4), (d), (e), (f) and (g).
- (7) Provisions for periods when the continuous monitoring system is out of control, as follows:
  - (i) A continuous monitoring system is out of control if the conditions of paragraph (a)(7)(i)(A) or (a)(7)(i)(B) of this section are met.
    - (A) The zero (low-level), mid-level (if applicable), or high-level calibration drift exceeds two times the applicable calibration drift specification in the applicable performance specification or in the relevant standard.
    - (B) The continuous monitoring system fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit.
  - (ii) When the continuous monitoring system is out of control as specified in paragraph (a)(7)(i) of this section, you must take the necessary corrective action and must repeat all necessary tests that indicate that the system is out of control. You must take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour you conduct a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits.
- (8) Schedule for conducting initial and periodic performance evaluations of your continuous monitoring systems.
- (b) If a bag leak detection system is used, your monitoring plan must include a description of the following items:
  - (1) Installation of the bag leak detection system in accordance with paragraphs (b)(1)(i) and (ii) of this section.
    - (i) 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.
- (ii) 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.
- (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.
  - (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 Sec. 60.17).
  - (4) Operation of the bag leak detection system, including quality assurance procedures.
  - (5) Maintenance of the bag leak detection system, including a routine maintenance schedule and spare parts inventory list.
  - (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.
- (c) You must conduct an initial performance evaluation of each continuous monitoring system and bag leak detection system, as applicable, in accordance with your monitoring plan and to Sec. 60.13(c). For the purpose of this subpart, the provisions of Sec. 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) 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 2 or 3 to this subpart.
  - (e) You may submit an application to the Administrator for approval of alternate monitoring requirements to demonstrate compliance with the standards of this subpart, subject to the provisions of paragraphs (e)(1) through (e)(6) of this section.
    - (1) The Administrator will not approve averaging periods other than those specified in this section, unless you document, using data or information, that the longer averaging period will ensure that emissions do not exceed levels achieved over the duration of three performance test runs.
    - (2) If the application to use an alternate monitoring requirement is approved, you must continue to use the original monitoring requirement until approval is received to use another monitoring requirement.
    - (3) You must submit the application for approval of alternate monitoring requirements no later than the notification of performance test. The

application must contain the information specified in paragraphs (e)(3)(i) through (e)(3)(iii) of this section:

- (i) Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.
  - (ii) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach and technique, the averaging period for the limit, and how the limit is to be calculated.
  - (iii) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard.
- (4) The Administrator will notify you of the approval or denial of the application within 90 calendar days after receipt of the original request, or within 60 calendar days of the receipt of any supplementary information, whichever is later. The Administrator will not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standard. Before disapproving any alternate monitoring application, the Administrator will provide the following:
- (i) Notice of the information and findings upon which the intended disapproval is based.
  - (ii) Notice of opportunity for you to present additional supporting information before final action is taken on the application. This notice will specify how much additional time is allowed for you to provide additional supporting information.
- (5) You are responsible for submitting any supporting information in a timely manner to enable the Administrator to consider the application prior to the performance test. Neither submittal of an application, nor the Administrator's failure to approve or disapprove the application relieves you of the responsibility to comply with any provision of this subpart.
- (6) The Administrator may decide at any time, on a case-by-case basis, that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subpart.
- (f) You must submit your monitoring plans required in paragraphs (a) and (b) of this section at least 60 days before your initial performance evaluation of your continuous monitoring system(s).
- (g) You must submit your monitoring plan for your ash handling system, as required in paragraph (d) of this section, at least 60 days before your initial compliance test date.
- (h) 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 Sec. 60.5250.

## **MODEL RULE—CONTINUOUS COMPLIANCE REQUIREMENTS**

**60.5205 How and when do I demonstrate continuous compliance with the emission limits and standards?**

To demonstrate continuous compliance with the emission limits and standards specified in Table 2 or 3 to this subpart, use the procedures specified in paragraph (a) of this section. In lieu of using the procedures specified in paragraph (a) of this section, you have the option to demonstrate initial compliance using the procedures specified in paragraph (b) of this section for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (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 (a) and (b) of this section, as applicable, and paragraphs (c) through (e) of this section, according to the performance testing, monitoring, and calibration requirements in § 60.5220(a) and (b).

You may also petition the Administrator for alternative monitoring parameters as specified in paragraph (f) of this section.

- (a) Demonstrate continuous compliance using a performance test. Except as provided in paragraphs (a)(3) and (e) of this section, following the date that the initial performance test for each pollutant in Table 2 or 3 to this subpart 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 2 or 3 to this subpart and according to the testing, monitoring, and calibration requirements specified in § 60.5220(a).
  - (1) You may conduct a repeat performance test at any time to establish new values for the operating limits to apply from that point forward. The Administrator may request a repeat performance test at any time.
  - (2) You must repeat the performance test within 60 days of a process change, as defined in § 60.5250.
  - (3) Except as specified in paragraphs (a)(1) and (2) of this section, you can conduct performance tests less often for a given pollutant, as specified in paragraphs (a)(3)(i) through (iii) of this section.
    - (i) 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 2 or 3 to this subpart, 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.
    - (ii) 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.

- (iii) 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.
- (b) 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 § 60.5220(b)(6) and use the following procedures:
- (1) To demonstrate continuous compliance with the emission limits for particulate matter, hydrogen chloride, carbon monoxide, dioxins/furans (total mass 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:
    - (i) You may substitute the use of a continuous emissions monitoring system for any pollutant specified in paragraph (b)(1) of this section in lieu of conducting the annual performance test for that pollutant in paragraph (a) of this section. 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.
    - (ii) You may substitute the use of a continuous automated sampling system for mercury or dioxins/furans in lieu of conducting the annual mercury or dioxin/furan performance test in paragraph (a) of this section.
  - (2) If you use a continuous emissions monitoring system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must use the continuous emissions monitoring system and follow the requirements specified in § 60.5220(b). You must measure emissions according to § 60.13 to calculate 1-hour arithmetic averages, corrected to 7 percent oxygen (or carbon dioxide). You must demonstrate initial compliance using a 24-hour block average of these 1-hour

- arithmetic average emission concentrations, calculated using Equation 19–19 in section 12.4.1 of Method 19 of 40 CFR part 60, appendix A–7.
- (3) If you use a continuous automated sampling system to demonstrate compliance with an applicable emission limit in paragraph (b)(1) of this section, you must:
- (i) Use the continuous automated sampling system specified in § 60.58b(p) and (q), and measure and calculate average emissions corrected to 7 percent oxygen (or carbon dioxide) according to § 60.58b(p) and your monitoring plan.
    - (A) Use the procedures specified in § 60.58b(p) to calculate 24-hour averages to determine compliance with the mercury emission limit in Table 2 to this subpart.
    - (B) Use the procedures specified in § 60.58b(p) to calculate 2-week averages to determine compliance with the dioxin/furan (total mass basis or toxic equivalency basis) emission limits in Table 2 to this subpart.
  - (ii) Update your monitoring plan as specified in § 60.4880(e). For mercury continuous automated sampling systems, you must use Performance Specification 12B of appendix B of part 75 and Procedure 5 of appendix F of this part.
- (4) Except as provided in paragraph(e) of this section, you must complete your periodic performance evaluations required in your monitoring plan for any continuous emissions monitoring systems 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 (a)(3) of this section), you must complete the initial performance evaluation required under your monitoring plan in § 60.5200 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 § 60.5200(a)(3).
- (c) To demonstrate compliance with the dioxins/furans toxic equivalency emission limit in paragraph (a) or (b) of this section, you must determine dioxins/furans toxic equivalency as follows:
- (1) Measure the concentration of each dioxin/furan tetra- through octachlorinated-isomer emitted using Method 23 at 40 CFR part 60, appendix A–7.
  - (2) For each dioxin/furan (tetra through octachlorinated) isomer measured in accordance with paragraph (c)(1) of this section, multiply the isomer concentration by its corresponding toxic equivalency factor specified in Table 5 to this subpart. (3) Sum the products calculated in accordance with paragraph (c)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

- (d) You must submit an annual compliance report as specified in § 60.5235(c). You must submit a deviation report as specified in § 60.5235(d) for each instance that you did not meet each emission limit in Table 2 to this subpart.
- (e) If you demonstrate continuous compliance using a performance test, as specified in paragraph (a) of this section, then the provisions of this paragraph (e) apply. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure, you must notify the Administrator in writing as specified in § 60.5235(g). You must conduct the performance test as soon as practicable after the force majeure occurs. The Administrator will determine whether or not to grant the extension to the performance test deadline, and will notify you in writing of approval or disapproval of the request for an extension as soon as practicable. Until an extension of the performance test deadline has been approved by the Administrator, you remain strictly subject to the requirements of this subpart.
- (f) After any initial requests in § 60.5200 for alternative monitoring requirements for initial compliance, you may subsequently petition the Administrator for alternative monitoring parameters as specified in §§ 60.13(i) and 60.5200(e).

**60.5210 How do I demonstrate continuous compliance with my operating limits?**

You must continuously monitor your operating parameters as specified in paragraph (a) of this section and meet the requirements of paragraphs (b) and (c) of this section, according to the monitoring and calibration requirements in § 60.5225. You must confirm and re-establish your operating limits as specified in paragraph (d) of this section.

- (a) You must continuously monitor the operating parameters specified in paragraphs (a)(1) and (a)(2) of this section using the continuous monitoring equipment and according to the procedures specified in § 60.5225 or established in § 60.5175. To determine compliance, you must use the data averaging period specified in Table 4 to this subpart (except for alarm time of the baghouse leak detection system) unless a different averaging period is established under § 60.5175.
  - (1) You must demonstrate that the SSI unit meets the operating limits established according to §§ 60.5175 and 60.5190 and paragraph (d) of this section for each applicable operating parameter.
  - (2) You must demonstrate that the SSI unit meets the operating limit for bag leak detection systems as follows:
    - (i) For a bag leak detection system, you must calculate the alarm time as follows:
      - (A) If inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted.
      - (B) If corrective action is required, each alarm time shall be counted as a minimum of 1 hour.
      - (C) If you take longer than 1 hour to initiate corrective action, each alarm time (i.e., time that the alarm sounds) is counted as the actual amount of time taken by you to initiate corrective action.
    - (ii) Your maximum alarm time is equal to 5 percent of the operating time during a 6-month period, as specified in § 60.5170(c).

- (b) Operation above the established maximum, below the established minimum, or outside the allowable range of the operating limits specified in paragraph (a) of this section constitutes a deviation from your operating limits established under this subpart, except during performance tests conducted to determine compliance with the emission and operating limits or to establish new operating limits. You must submit the deviation report specified in § 60.5235(d) for each instance that you did not meet one of your operating limits established under this subpart.
- (c) You must submit the annual compliance report specified in § 60.5235(c) to demonstrate continuous compliance.
- (d) You must confirm your operating limits according to paragraph (d)(1) of this section or re-establish operating limits according to paragraph (d)(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 § 60.5170(d).
  - (1) Your operating limits must be based on operating data recorded during any performance test required in § 60.5205(a) or any performance evaluation required in § 60.5205(b)(4).
  - (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.

**60.5215 By what date must I conduct annual air pollution control device inspections and make any necessary repairs?**

- (a) You must conduct an annual inspection of each air pollution control device used to comply with the emission limits, according to § 60.5220(c), no later than 12 months following the previous annual air pollution control device inspection.
- (b) Within 10 operating days following an air pollution control device inspection, all necessary repairs must be completed unless you obtain written approval from the Administrator establishing a date whereby all necessary repairs of the affected SSI unit must be completed.

**MODEL RULE—PERFORMANCE TESTING, MONITORING, AND CALIBRATION REQUIREMENTS**

**60.5220 What are the performance testing, monitoring, and calibration requirements for compliance with the emission limits and standards?**

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

- (a) Performance testing requirements.
  - (1) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations, as specified in § 60.8(c). Emissions in excess of the emission limits or

- standards during periods of startup, shutdown, and malfunction are considered deviations from the applicable emission limits or standards.
- (2) You must document that the dry sludge burned during the performance test is representative of the sludge burned under normal operating conditions by:
    - (i) Maintaining a log of the quantity of sewage sludge burned during the performance test by continuously monitoring and recording the average hourly rate that sewage sludge is fed to the incinerator.
    - (ii) 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.
  - (3) All performance tests must be conducted using the test methods, minimum sampling volume, observation period, and averaging method specified in Table 2 or 3 to this subpart.
  - (4) Method 1 at 40 CFR part 60, appendix A must be used to select the sampling location and number of traverse points.
  - (5) Method 3A or 3B at 40 CFR part 60, appendix A–2 must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B at 40 CFR part 60, appendix A–2 must be used simultaneously with each method.
  - (6) All pollutant concentrations must be adjusted to 7 percent oxygen using Equation 1 of this section:

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

Where:

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

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

$(20.9 - 7)$  = 20.9 percent oxygen - 7 percent oxygen (defined oxygen correction basis).

20.9 = Oxygen concentration in air, percent.

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

- (7) Performance tests must be conducted and data reduced in accordance with the test methods and procedures contained in this subpart unless the Administrator does one of the following.
  - (i) Specifies or approves, in specific cases, the use of a method with minor changes in methodology.
  - (ii) Approves the use of an equivalent method.
  - (iii) Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance.
  - (iv) Waives the requirement for performance tests because you have demonstrated by other means to the Administrator's satisfaction that the affected SSI unit is in compliance with the standard.
  - (v) Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in

this paragraph is construed to abrogate the Administrator's authority to require testing under section 114 of the Clean Air Act.

- (8) You must provide the Administrator at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Administrator the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, you must notify the Administrator as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Administrator by mutual agreement.
  - (9) You must provide, or cause to be provided, performance testing facilities as follows:
    - (i) Sampling ports adequate for the test methods applicable to the SSI unit, as follows:
      - (A) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures.
      - (B) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
    - (ii) Safe sampling platform(s).
    - (iii) Safe access to sampling platform(s).
    - (iv) Utilities for sampling and testing equipment.
  - (10) Unless otherwise specified in this subpart, each performance test must consist of three separate runs using the applicable test method. Each run must be conducted for the time and under the conditions specified in the applicable standard. Compliance with each emission limit must be determined by calculating the arithmetic mean of the three runs. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond your control, compliance may, upon the Administrator's approval, be determined using the arithmetic mean of the results of the two other runs.
  - (11) During each test run specified in paragraph (a)(1) of this section, you must operate your sewage sludge incinerator at a minimum of 85 percent of your maximum permitted capacity.
- (b) Continuous monitor requirements. You must meet the following requirements, as applicable, when using a continuous monitoring system to demonstrate compliance with the emission limits in Table 2 or 3 to this subpart. The option to use a continuous emissions monitoring system for hydrogen chloride, dioxins/furans, cadmium, or lead takes effect on the date a final performance specification applicable to hydrogen chloride, dioxins/furans, cadmium, or lead is published in the FEDERAL REGISTER. If you elect to use a continuous

emissions monitoring system instead of conducting annual performance testing, you must meet the requirements of paragraphs (b)(1) through (b)(6) of this section. If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must meet the requirements of paragraph (b)(7) of this section. The option to use a continuous automated sampling system for dioxins/furans takes effect on the date a final performance specification for such a continuous automated sampling system is published in the FEDERAL REGISTER.

- (1) You must notify the Administrator 1 month before starting use of the continuous emissions monitoring system.
- (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.
- (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:
  - (i) Section 60.13 of subpart A of this part.
  - (ii) The following performance specifications of appendix B of this part, as applicable:
    - (A) For particulate matter, Performance Specification 11 of appendix B of this part.
    - (B) For hydrogen chloride, Performance Specification 15 of appendix B of this part.
    - (C) For carbon monoxide, Performance Specification 4B of appendix B of this part with spans appropriate to the applicable emission limit.
    - (D) [Reserved]
    - (E) For mercury, Performance Specification 12A of appendix B of this part.
    - (F) For nitrogen oxides, Performance Specification 2 of appendix B of this part.
    - (G) For sulfur dioxide, Performance Specification 2 of appendix B of this part.
  - (iii) For continuous emissions monitoring systems, the quality assurance procedures (e.g., quarterly accuracy determinations and daily calibration drift tests) of appendix F of this part specified in paragraphs (b)(3)(iii)(A) through (b)(3)(iii)(G) of this section. For each pollutant, the span value of the continuous emissions monitoring system is two times the applicable emission limit, expressed as a concentration.
    - (A) For particulate matter, Procedure 2 in appendix F of this part.
    - (B) For hydrogen chloride, Procedure 1 in appendix F of this part except that the Relative Accuracy Test Audit requirements of Procedure 1 shall be replaced with the validation requirements and criteria of sections 11.1.1 and

- 12.0 of Performance Specification 15 of appendix B of this part.
- (C) For carbon monoxide, Procedure 1 in appendix F of this part.
  - (D) [Reserved]
  - (E) For mercury, Procedures 5 in appendix F of this part.
  - (F) For nitrogen oxides, Procedure 1 in appendix F of this part.
  - (G) For sulfur dioxide, Procedure 1 in appendix F of this part.
- (iv) 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.
- (4) During each relative accuracy test run of the continuous emissions monitoring system using the performance specifications in paragraph (b)(3)(ii) of this section, emission data for each regulated pollutant and oxygen (or carbon dioxide as established in (b)(5) of this section) must be collected concurrently (or within a 30- to 60-minute period) by both the continuous emissions monitoring systems and the test methods specified in paragraph (b)(4)(i) through (b)(4)(viii) of this section. Relative accuracy testing must be at representative operating conditions while the SSI unit is charging sewage sludge.
- (i) For particulate matter, Method 5 at 40 CFR part 60, appendix A–3 or Method 26A or 29 at 40 CFR part 60, appendix A–8 shall be used.
  - (ii) For hydrogen chloride, Method 26 or 26A at 40 CFR part 60, appendix A–8, shall be used, as specified in Tables 1 and 2 to this subpart.
  - (iii) For carbon monoxide, Method 10, 10A, or 10B at 40 CFR part 60, appendix A–4, shall be used.
  - (iv) For dioxins/furans, Method 23 at 40 CFR part 60, appendix A–7, shall be used.
  - (v) For mercury, cadmium, and lead, Method 29 at 40 CFR part 60, appendix A–8, 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.
  - (vi) For nitrogen oxides, Method 7 or 7E at 40 CFR part 60, appendix A–4, shall be used.
  - (vii) For sulfur dioxide, Method 6 or 6C at 40 CFR part 60, appendix A–4, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 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.
- (viii) For oxygen (or carbon dioxide as established in (b)(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 § 60.17), as applicable, must be used.
- (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 (b)(5)(i) through (b)(5)(iv) of this section. This relationship may be re-established during subsequent performance tests.
- (i) The fuel factor equation in Method 3B at 40 CFR part 60, appendix A–2 must be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3A or 3B at 50 CFR part 60, appendix A–2, or as an alternative ANSI/ASME PTC 19.10–1981 (incorporated by reference, see § 60.17), as applicable, must be used to determine the oxygen concentration at the same location as the carbon dioxide monitor.
  - (ii) Samples must be taken for at least 30 minutes in each hour.
  - (iii) Each sample must represent a 1-hour average.
  - (iv) A minimum of three runs must be performed.
- (6) You must operate the continuous monitoring system and collect data with the continuous monitoring system as follows:
- (i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (b)(6)(ii) of this section, except for periods of monitoring system malfunctions that occur during periods specified in § 60.5200(a)(7)(i), 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.
  - (ii) You must collect continuous emissions monitoring system data in accordance with § 60.13(e)(2).
  - (iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in a deviation report.
  - (iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.4880(a)(7)(i), 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 § 60.5250, constitute a deviation from the monitoring requirements and must be reported in a deviation report.

- (v) You must use all the data collected during all periods except those periods specified in paragraphs (b)(6)(iii) and (b)(6)(iv) of this section in assessing the operation of the control device and associated control system.
- (7) If you elect to use a continuous automated sampling system instead of conducting annual performance testing, you must:
  - (i) Install, calibrate, maintain, and operate a continuous automated sampling system according to the site-specific monitoring plan developed in § 60.58b(p)(1) through (p)(6), (p)(9), (p)(10), and (q).
  - (ii) Collect data according to § 60.58b(p)(5) and paragraph (b)(6) of this section.
- (c) Air pollution control device inspections. You must conduct air pollution control device inspections that include, at a minimum, the following:
  - (1) Inspect air pollution control device(s) for proper operation.
  - (2) Generally observe that the equipment is maintained in good operating condition.
  - (3) Develop a site-specific monitoring plan according to the requirements in § 60.5200. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 60.13(i).
- (d) Bypass stack. Use of the bypass stack at any time that sewage sludge is being charged to the SSI unit is an emissions standards deviation for all pollutants listed in Table 2 or 3 to this subpart. The use of the bypass stack during a performance test invalidates the performance test.

**60.5225 What are the monitoring and calibration requirements for compliance with my operating limits?**

- (a) You must install, operate, calibrate, and maintain the continuous parameter monitoring systems according to the requirements in paragraphs (a)(1) and (2) of this section.
  - (1) Meet the following general requirements for flow, pressure, pH, and operating temperature measurement devices:
    - (i) You must collect data using the continuous monitoring system at all times the affected SSI unit is operating and at the intervals specified in paragraph (a)(1)(ii) of this section, except for periods of monitoring system malfunctions that occur during periods specified defined in § 60.5200(a)(7)(i), 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.

- (ii) You must collect continuous parameter monitoring system data in accordance with § 60.13(e)(2).
  - (iii) Any data collected during monitoring system malfunctions, repairs associated with monitoring system malfunctions, or required monitoring system quality assurance or control activities must not be included in calculations used to report emissions or operating levels. Any such periods must be reported in your annual deviation report.
  - (iv) Any data collected during periods when the monitoring system is out of control as specified in § 60.5200(a)(7)(i) must not be included in calculations used to report emissions or operating levels. Any such periods that do not coincide with a monitoring system malfunction, as defined in § 60.5250, constitute a deviation from the monitoring requirements and must be reported in a deviation report.
  - (v) You must use all the data collected during all periods except those periods specified in paragraphs (a)(1)(iii) and (a)(1)(iv) of this section in assessing the operation of the control device and associated control system.
  - (vi) Record the results of each inspection, calibration, and validation check.
- (2) Operate and maintain your continuous monitoring system according to your monitoring plan required under § 60.4880. Additionally:
- (i) For carrier gas flow rate monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.4885, you must demonstrate that the system is maintained within  $\pm 5$  percent accuracy, according to the procedures in appendix A to part 75 of this chapter.
  - (ii) For carrier gas pressure drop monitors (for activated carbon injection), during the performance test conducted pursuant to § 60.4885, you must demonstrate that the system is maintained within  $\pm 5$  percent accuracy.
- (b) You must operate and maintain your bag leak detection system in continuous operation according to your monitoring plan required under § 60.4880. Additionally:
- (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.
  - (2) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.
  - (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:

- (i) 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.
  - (ii) Sealing off defective bags or filter media.
  - (iii) Replacing defective bags or filter media or otherwise repairing the control device.
  - (iv) Sealing off a defective fabric filter compartment.
  - (v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.
  - (vi) Shutting down the process producing the particulate matter emissions.
- (c) You must operate and maintain the continuous parameter monitoring systems specified in paragraphs (a) and (b) of this section in continuous operation according to your monitoring plan required under § 60.4880.
- (d) If your SSI unit has a bypass stack, you must install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time, and duration.

## **MODEL RULE—RECORDKEEPING AND REPORTING**

### **60.5230 What records must I keep?**

You must maintain the items (as applicable) specified in paragraphs (a) through (n) of this section for a period of at least 5 years. All records must be available on site in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

- (a) Date. Calendar date of each record.
- (b) Increments of progress. Copies of the final control plan and any additional notifications, reported under § 60.5235.
- (c) Operator Training. Documentation of the operator training procedures and records specified in paragraphs (c)(1) through (c)(4) of this section. You must make available and readily accessible at the facility at all times for all SSI unit operators the documentation specified in paragraph (c)(1) of this section.
  - (1) Documentation of the following operator training procedures and information:
    - (i) Summary of the applicable standards under this subpart.
    - (ii) Procedures for receiving, handling, and feeding sewage sludge.
    - (iii) Incinerator startup, shutdown, and malfunction preventative and corrective procedures.
    - (iv) Procedures for maintaining proper combustion air supply levels.
    - (v) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.

- (vi) Monitoring procedures for demonstrating compliance with the incinerator operating limits.
  - (vii) Reporting and recordkeeping procedures.
  - (viii) Procedures for handling ash.
  - (ix) A list of the materials burned during the performance test, if in addition to sewage sludge.
  - (x) For each qualified operator and other plant personnel who may operate the unit according to the provisions of § 60.5155(a), the phone and/or pager number at which they can be reached during operating hours.
- (2) Records showing the names of SSI unit operators and other plant personnel who may operate the unit according to the provisions of § 60.5155(a), as follows:
- (i) Records showing the names of SSI unit operators and other plant personnel who have completed review of the information in paragraph (c)(1) of this section as required by § 60.5160(b), including the date of the initial review and all subsequent annual reviews.
  - (ii) Records showing the names of the SSI operators who have completed the operator training requirements under § 60.5130, met the criteria for qualification under § 60.5140, and maintained or renewed their qualification under § 60.5145 or § 60.5150. Records must include documentation of training, including the dates of their initial qualification and all subsequent renewals of such qualifications.
- (3) Records showing the periods when no qualified operators were accessible for more than 8 hours, but less than 2 weeks, as required in § 60.5155(a).
- (4) Records showing the periods when no qualified operators were accessible for 2 weeks or more along with copies of reports submitted as required in § 60.5155(b).
- (d) Air pollution control device inspections. Records of the results of initial and annual air pollution control device inspections conducted as specified in §§ 60.5195 and 60.5220(c), including any required maintenance and any repairs not completed within 10 days of an inspection or the timeframe established by the Administrator.
- (e) Performance test reports.
- (1) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable.
  - (2) Retain a copy of the complete performance test report, including calculations.
  - (3) Keep a record of the hourly dry sludge feed rate measured during performance test runs as specified in § 60.5220(a)(2)(i).
  - (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 §

60.5220(a)(2)(ii) for each grab sample taken of the sewage sludge burned during the performance test.

- (f) Continuous monitoring data. Records of the following data, as applicable:
- (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.
  - (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.
  - (3) For continuous parameter monitoring systems:
    - (i) All 1-hour average values recorded for the following operating parameters, as applicable:
      - (A) Combustion chamber operating temperature (or afterburner temperature).
      - (B) 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 2 or 3 to this subpart 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 2 or 3 to this subpart for sulfur dioxide or hydrogen chloride.
      - (C) 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) If activated carbon injection is used to comply with the rule, sorbent flow rate and carrier gas flow rate or pressure drop, as applicable.
    - (ii) 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 § 60.5170(f).
    - (iii) If a fabric filter is used to comply with the rule, the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in § 60.5210.
    - (iv) For other control devices for which you must establish operating limits under § 60.5175, you must maintain data collected for all operating parameters used to determine compliance with the operating limits, at the frequencies specified in your monitoring plan.

- (g) Other records for continuous monitoring systems. You must keep the following records, as applicable:
  - (1) Keep records of any notifications to the Administrator in § 60.4915(h)(1) of starting or stopping use of a continuous monitoring system for determining compliance with any emissions limit.
  - (2) Keep records of any requests under § 60.5220(b)(5) that compliance with the emission limits be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen.
  - (3) If activated carbon injection is used to comply with the rule, the type of sorbent used and any changes in the type of sorbent used.
- (h) Deviation Reports. Records of any deviation reports submitted under § 60.5235(e) and (f).
  - (i) Equipment specifications and operation and maintenance requirements. Equipment specifications and related operation and maintenance requirements received from vendors for the incinerator, emission controls, and monitoring equipment.
- (j) Inspections, calibrations, and validation checks of monitoring devices. Records of inspections, calibration, and validation checks of any monitoring devices as required under §§ 60.5220 and 60.5225.
- (k) Monitoring plan and performance evaluations for continuous monitoring systems. Records of the monitoring plans required under § 60.5200, and records of performance evaluations required under § 60.5205(b)(5).
- (l) Less frequent testing. If, consistent with 60.5205(a)(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 subpart, 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.
- (m) Use of bypass stack. Records indicating use of the bypass stack, including dates, times, and durations as required under § 60.5225(d).
- (n) If a malfunction occurs, you must keep a record of the information submitted in your annual report in § 60.5235(c)(16).

**60.5235 What reports must I submit?**

You must submit the reports specified in paragraphs (a) through (i) of this section. See Table 6 to this subpart for a summary of these reports.

- (a) Increments of progress report. If you plan to achieve compliance more than 1 year following the effective date of state plan approval, you must submit the following reports, as applicable:
  - (1) A final control plan as specified in §§ 60.5085(a) and 60.5110.
  - (2) You must submit your notification of achievement of increments of progress no later than 10 business days after the compliance date for the increment as specified in §§ 60.5095 and 60.5100.

- (3) If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment, as specified in § 60.5105.
  - (4) If you plan to close your SSI unit rather than comply with the state plan, submit a closure notification as specified in § 60.5125.
- (b) Initial compliance report. You must submit the following information no later than 60 days following the initial performance test.
- (1) Company name, physical address, and mailing address.
  - (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
  - (3) Date of report.
  - (4) The complete test report for the initial performance test results obtained by using the test methods specified in Table 2 or 3 to this subpart.
  - (5) If an initial performance evaluation of a continuous monitoring system was conducted, the results of that initial performance evaluation.
  - (6) The values for the site-specific operating limits established pursuant to §§ 60.5170 and 60.5175 and the calculations and methods, as applicable, used to establish each operating limit.
  - (7) If you are using a fabric filter to comply with the emission limits, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by § 60.5170(b).
  - (8) The results of the initial air pollution control device inspection required in § 60.5195, including a description of repairs.
  - (9) The site-specific monitoring plan required under § 60.5200, at least 60 days before your initial performance evaluation of your continuous monitoring system.
  - (10) The site-specific monitoring plan for your ash handling system required under § 60.5200, at least 60 days before your initial performance test to demonstrate compliance with your fugitive ash emission limit.
- (c) Annual compliance report. You must submit an annual compliance report that includes the items listed in paragraphs (c)(1) through (c)(16) of this section for the reporting period specified in paragraph (c)(3) of this section. You must submit your first annual compliance report no later than 12 months following the submission of the initial compliance report in paragraph (b) of this section. You must submit subsequent annual compliance reports no more than 12 months following the previous annual compliance report. (You may be required to submit these reports (or additional compliance information) more frequently by the title V operating permit required in § 60.5240.)
- (1) Company name, physical address, and mailing address.
  - (2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
  - (3) Date of report and beginning and ending dates of the reporting period.
  - (4) If a performance test was conducted during the reporting period, the results of that performance test.
    - (i) If operating limits were established during the performance test, include the value for each operating limit and, as applicable, the

- method used to establish each operating limit, including calculations.
- (ii) If activated carbon is used during the performance test, include the type of activated carbon used.
- (5) For each pollutant and operating parameter recorded using a continuous monitoring system, the highest average value and lowest average value recorded during the reporting period, as follows:
- (i) For continuous emission monitoring systems and continuous automated sampling systems, report the highest and lowest 24-hour average emission value.
  - (ii) For continuous parameter monitoring systems, report the following values:
    - (A) For all operating parameters except scrubber liquid pH, the highest and lowest 12-hour average values.
    - (B) For scrubber liquid pH, the highest and lowest 3-hour average values.
- (6) If there are no deviations during the reporting period from any emission limit, emission standard, or operating limit that applies to you, a statement that there were no deviations from the emission limits, emission standard, or operating limits.
- (7) Information for bag leak detection systems recorded under § 60.5230(f)(3)(iii).
- (8) If a performance evaluation of a continuous monitoring system was conducted, the results of that performance evaluation. If new operating limits were established during the performance evaluation, include your calculations for establishing those operating limits.
- (9) If you elect to conduct performance tests less frequently as allowed in § 60.5205(a)(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 § 60.5205(a)(3), and a statement as to whether there have been any process changes and whether the process change resulted in an increase in emissions.
- (10) Documentation of periods when all qualified sewage sludge incineration unit operators were unavailable for more than 8 hours, but less than 2 weeks.
- (11) Results of annual air pollution control device inspections recorded under § 60.5230(d) for the reporting period, including a description of repairs.
- (12) If there were no periods during the reporting period when your continuous monitoring systems had a malfunction, a statement that there were no periods during which your continuous monitoring systems had a malfunction.
- (13) If there were no periods during the reporting period when a continuous monitoring system was out of control, a statement that there were no

periods during which your continuous monitoring systems were out of control.

- (14) If there were no operator training deviations, a statement that there were no such deviations during the reporting period.
  - (15) If you did not make revisions to your site-specific monitoring plan during the reporting period, a statement that you did not make any revisions to your site-specific monitoring plan during the reporting period. If you made revisions to your site-specific monitoring plan during the reporting period, a copy of the revised plan.
  - (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) Deviation reports.
- (1) You must submit a deviation report if:
    - (i) Any recorded operating parameter level, based on the averaging time specified in Table 4 to this subpart, is above the maximum operating limit or below the minimum operating limit established under this subpart.
    - (ii) The bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period.
    - (iii) 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.
    - (iv) There are visible emissions of combustion ash from an ash conveying system for more than 5 percent of the hourly observation period.
    - (v) A performance test was conducted that deviated from any emission limit in Table 2 or 3 to this subpart.
    - (vi) A continuous monitoring system was out of control.
    - (vii) You had a malfunction (e.g., continuous monitoring system malfunction) that caused or may have caused any applicable emission limit to be exceeded.
  - (2) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).
  - (3) For each deviation where you are using a continuous monitoring system to comply with an associated emission limit or operating limit, report the items described in paragraphs (d)(3)(i) through (d)(3)(viii) of this section.
    - (i) Company name, physical address, and mailing address.

- (ii) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
- (iii) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.
- (iv) The averaged and recorded data for those dates.
- (v) Duration and cause of each deviation from the following:
  - (A) Emission limits, emission standards, operating limits, and your corrective actions.
  - (B) Bypass events and your corrective actions.
- (vi) Dates, times, and causes for monitor downtime incidents.
- (vii) A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.
- (viii) If there were periods during which the continuous monitoring system malfunctioned or was out of control, you must include the following information for each deviation from an emission limit or operating limit:
  - (A) The date and time that each malfunction started and stopped.
  - (B) The date, time, and duration that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.
  - (C) The date, time, and duration that each continuous monitoring system was out of control, including start and end dates and hours and descriptions of corrective actions taken.
  - (D) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction, during a period when the system was out of control, or during another period.
  - (E) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.
  - (F) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.
  - (G) A summary of the total duration of continuous monitoring system downtime during the reporting period, and the total duration of continuous monitoring system downtime as a percent of the total operating time of the SSI unit at which the continuous monitoring system downtime occurred during that reporting period.
  - (H) An identification of each parameter and pollutant that was monitored at the SSI unit.
  - (I) A brief description of the SSI unit.
  - (J) A brief description of the continuous monitoring system.

- (K) The date of the latest continuous monitoring system certification or audit.
  - (L) A description of any changes in continuous monitoring system, processes, or controls since the last reporting period.
- (4) For each deviation where you are not using a continuous monitoring system to comply with the associated emission limit or operating limit, report the following items:.
- (i) Company name, physical address, and mailing address.
  - (ii) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
  - (iii) The total operating time of each affected source during the reporting period.
  - (iv) The calendar dates and times your unit deviated from the emission limits, emission standards, or operating limits requirements.
  - (v) The averaged and recorded data for those dates.
  - (vi) Duration and cause of each deviation from the following:
    - (A) Emission limits, emission standards, operating limits, and your corrective actions.
    - (B) Bypass events and your corrective actions.
  - (vii) A copy of any performance test report that showed a deviation from the emission limits or standards.
  - (viii) A brief description of any malfunction reported in paragraph (d)(1)(vii) of this section, including a description of actions taken during the malfunction to minimize emissions in accordance with § 60.11(d) and to correct the malfunction.
- (e) Qualified operator deviation.
- (1) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (e)(1)(i) and (e)(1)(ii) of this section.
- (i) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (e)(1)(i)(A) through (e)(1)(i)(C) of this section.
    - (A) A statement of what caused the deviation.
    - (B) A description of actions taken to ensure that a qualified operator is accessible.
    - (C) The date when you anticipate that a qualified operator will be available.
  - (ii) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (e)(1)(ii)(A) through (e)(1)(ii)(C) of this section.
    - (A) A description of actions taken to ensure that a qualified operator is accessible.
    - (B) The date when you anticipate that a qualified operator will be accessible.
    - (C) Request for approval from the Administrator to continue operation of the SSI unit.

- (2) If your unit was shut down by the Administrator, under the provisions of § 60.5155(b)(2)(i), due to a failure to provide an accessible qualified operator, you must notify the Administrator within five days of meeting § 60.5155(b)(2)(ii) that you are resuming operation.
- (f) Notification of a force majeure. If a force majeure is about to occur, occurs, or has occurred for which you intend to assert a claim of force majeure:
  - (1) You must notify the Administrator, in writing as soon as practicable following the date you first knew, or through due diligence, should have known that the event may cause or caused a delay in conducting a performance test beyond the regulatory deadline, but the notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification must occur as soon as practicable.
  - (2) You must provide to the Administrator a written description of the force majeure event and a rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which you propose to conduct the performance test.
- (g) Other notifications and reports required. You must submit other notifications as provided by § 60.7 and as follows:
  - (1) You must notify the Administrator 1 month before starting or stopping use of a continuous monitoring system for determining compliance with any emission limit.
  - (2) You must notify the Administrator at least 30 days prior to any performance test conducted to comply with the provisions of this subpart, to afford the Administrator the opportunity to have an observer present.
  - (3) As specified in § 60.5220(a)(8), you must notify the Administrator at least 7 days prior to the date of a rescheduled performance test for which notification was previously made in paragraph (g)(2) of this section.
- (h) Report submission form.
  - (1) Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.
  - (2) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in § 63.2, conducted to demonstrate compliance with this subpart, 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/ertltool.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 WebFIRE database.
    - (i) Changing report dates. If the Administrator agrees, you may change the semiannual or annual reporting dates. See § 60.19(c) for procedures to seek approval to change your reporting date.

## MODEL RULE—TITLE V OPERATING PERMITS

### **60.5240 Am I required to apply for and obtain a Title V operating permit for my existing SSI unit?**

Yes, if you are subject to an applicable EPA-approved and effective 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 § 60.5065.

### **60.5245 When must I submit a title V permit application for my existing SSI unit?**

- (a) If your existing SSI unit is not subject to an earlier permit application deadline, a complete title V permit application must be submitted on or before the earlier of the dates specified in paragraphs (a)(1) through (a)(3) of this section. (See sections 129 (e), 503(c), 503(d), and 502(a) of the Clean Air Act and 40 CFR 70.5(a)(1)(i) and 40 CFR 71.5(a)(1)(i).)
  - (1) 12 months after the effective date of any applicable EPA-approved Clean Air Act section 111(d)/129 state or tribal plan.
  - (2) 12 months after the effective date of any applicable Federal plan.
  - (3) March 21, 2014.
- (b) For any existing unit not subject to an earlier permit application deadline, the application deadline of 36 months after the promulgation of this subpart applies regardless of whether or when any applicable Federal plan is effective, or whether or when any applicable Clean Air Act section 111(d)/129 state or tribal plan is approved by EPA and becomes effective.
- (c) If your existing unit is subject to title V as a result of some triggering requirement(s) other than those specified in paragraphs (a) and (b) of this section (for example, a unit may be a major source or part of a major source), then your unit may be required to apply for a title V permit prior to the deadlines specified in paragraphs (a) and (b). If more than one requirement triggers a source's obligation to apply for a title V permit, the 12-month timeframe for filing a title V permit application is triggered by the requirement which first causes the source to be subject to title V. (See section 503(c) of the Clean Air Act and 40 CFR 70.3(a) and (b), 40 CFR 70.5(a)(1)(i), 40 CFR 71.3(a) and (b), and 40 CFR 71.5(a)(1)(i).)
- (d) A “complete” title V permit application is one that has been determined or deemed complete by the relevant permitting authority under section 503(d) of the Clean Air Act and 40 CFR 70.5(a)(2) or 40 CFR 71.5(a)(2). You must submit a complete permit application by the relevant application deadline in order to operate after this date in compliance with Federal law. (See sections 503(d) and 502(a) of the Clean Air Act and 40 CFR 70.7(b) and 40 CFR 71.7(b).)

## MODEL RULE—DEFINITIONS

### **60.5250 What definitions must I know?**

Terms used but not defined in this subpart are defined in the Clean Air Act and Sec. 60.2. *Administrator* means:

- (1) For units covered by the Federal plan, the Administrator of the EPA or his/her authorized representative.
- (2) For units covered by an approved state plan, the director of the state air pollution control agency or his/her authorized representative.

*Affected source* means a sewage sludge incineration unit as defined in Sec. 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.

*Auxiliary fuel* means natural gas, liquefied petroleum gas, fuel oil, or diesel fuel.

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

*Bypass stack* means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

*Calendar year* means 365 consecutive days starting on January 1 and ending on December 31.

*Continuous automated sampling system* means the total equipment and procedures for automated sample collection and sample recovery/analysis to determine a pollutant concentration or emission rate by collecting a single integrated sample(s) or multiple integrated sample(s) of the pollutant (or diluent gas) for subsequent on- or off-site analysis; integrated sample(s) collected are representative of the emissions for the sample time as specified by the applicable requirement.

*Continuous emissions monitoring system* means a monitoring system for continuously measuring and recording the emissions of a pollutant from an affected facility.

*Continuous monitoring system (CMS)* means a continuous emissions monitoring system, continuous automated sampling system, continuous parameter monitoring system or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by this subpart. The term refers to the total equipment used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

*Continuous parameter monitoring system* means a monitoring system for continuously measuring and recording operating conditions associated with air pollution control device systems (e.g., operating temperature, pressure, and power).

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limit, operating limit, or operator qualification and accessibility requirements.
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

*Dioxins/furans* means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

*Electrostatic precipitator or wet electrostatic precipitator* means an air pollution control device that uses both electrical forces and, if applicable, water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

*Existing sewage sludge incineration unit* means a sewage sludge incineration unit the construction of which is commenced on or before October 14, 2010.

*Fabric filter* means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

*Fluidized bed incinerator* means an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

*Modification* 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* 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* means the period of time after all sewage sludge has been combusted in the primary chamber.

*Solid waste* means any garbage, refuse, sewage sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

*Standard conditions*, when referring to units of measure, means a temperature of 68 °F (20 °C) and a pressure of 1 atmosphere (101.3 kilopascals).

*Startup* means the period of time between the activation, including the firing of fuels (e.g., natural gas or distillate oil), of the system and the first feed to the unit.

*Toxic equivalency* means the product of the concentration of an individual dioxin 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 subpart lists the toxic equivalency factors.

*Wet scrubber* means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquid to collect particulate matter (including non-vaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

*You* means the owner or operator of an affected SSI unit.

TABLE 1 TO SUBPART MMMM OF PART 60—  
MODEL RULE—INCREMENTS OF PROGRESS  
AND COMPLIANCE SCHEDULES FOR EXISTING  
SEWAGE SLUDGE INCINERATION UNITS

| Comply with these increments of progress                                | By these dates*                                                                             |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Increment 1—Submit final control plan.<br>Increment 2—Final compliance. | (Dates to be specified in state plan)<br>(Dates to be specified in state plan) <sup>b</sup> |

\* Site-specific schedules can be used at the discretion of the state.

<sup>b</sup> The 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.

TABLE 2 TO SUBPART MMMM OF PART 60—MODEL RULE—EMISSION LIMITS AND STANDARDS FOR EXISTING FLUIDIZED BED SEWAGE SLUDGE INCINERATION UNITS

| For the air pollutant                                                                          | You must meet this emission limit*                                                                                                                                 | 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<br>Dioxins/furans (toxic equivalency basis) <sup>b</sup> | 1.2 nanograms per dry standard cubic meter (total mass basis); or<br>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) <sup>c</sup> , 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). <sup>c</sup> |
| 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. <sup>c</sup>                                               |
| 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).                                                                                           |

\* All emission limits are measured at 7 percent oxygen, dry basis at standard conditions.

<sup>b</sup> You 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.

<sup>c</sup> Incorporated by reference, see §60.17.

TABLE 3 TO SUBPART MMMM OF PART 60—MODEL RULE—EMISSION LIMITS AND STANDARDS FOR EXISTING MULTIPLE HEARTH SEWAGE SLUDGE INCINERATION UNITS

| For the air pollutant                                 | You must meet this emission limit <sup>a</sup>                                                                                                                     | 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).                                                                                |
| 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) <sup>b</sup> | 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), <sup>c</sup> 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). <sup>c</sup> |
| 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 ANSASME PTC 19.10-1981). <sup>c</sup>                                                |
| Cadmium                                               | 0.005 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).                                                                                           |

<sup>a</sup>All emission limits are measured at 7 percent oxygen, dry basis at standard conditions.

<sup>b</sup>You 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.

<sup>c</sup>Incorporated by reference, see § 60.17.

TABLE 4 TO SUBPART MMMM OF PART 60—MODEL RULE—OPERATING PARAMETERS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS<sup>a</sup>

| For these operating parameters                                                                   | You must establish these operating limits                                                                                                                 | And monitor using these minimum frequencies |                             |                                      |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------|--------------------------------------|
|                                                                                                  |                                                                                                                                                           | Data measurement                            | Data recording <sup>b</sup> | Data averaging period for compliance |
| <b>All sewage sludge incineration units</b>                                                      |                                                                                                                                                           |                                             |                             |                                      |
| 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.                      |
| <b>Scrubber</b>                                                                                  |                                                                                                                                                           |                                             |                             |                                      |
| 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.                        |
| <b>Fabric Filter</b>                                                                             |                                                                                                                                                           |                                             |                             |                                      |
| 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) |                                             |                             |                                      |
| <b>Electrostatic precipitator</b>                                                                |                                                                                                                                                           |                                             |                             |                                      |
| 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.                       |
| <b>Activated carbon injection</b>                                                                |                                                                                                                                                           |                                             |                             |                                      |
| 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.                       |
| <b>Afterburner</b>                                                                               |                                                                                                                                                           |                                             |                             |                                      |
| Temperature of the afterburner combustion chamber.                                               | Minimum temperature of the afterburner combustion chamber.                                                                                                | Continuous                                  | Every 15 minutes            | 12-hour block.                       |

<sup>a</sup>As specified in § 60.5190, you may use a continuous emissions monitoring system or continuous automated sampling system in lieu of establishing certain operating limits.

<sup>b</sup>This 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.

TABLE 5 TO SUBPART MMMM OF PART 60—MODEL RULE—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                   |

TABLE 6 TO SUBPART MMMM OF PART 60—MODEL RULE—SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS\*

| Report                        | Due date                                                                                                                                                                        | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Reference    |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Increments of progress report | No later than 10 business days after the compliance date for the increment.                                                                                                     | 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.<br>2. Notification of any failure to meet an increment of progress.<br>3. Notification of any closure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | § 60.5229(a) |
| Initial compliance report     | No later than 60 days following the initial performance test.                                                                                                                   | 1. Company name and address.<br>2. Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.<br>3. Date of report.<br>4. Complete test report for the initial performance test.<br>5. Results of CMS <sup>2</sup> performance evaluation.<br>6. The values for the site-specific operating limits and the calculations and methods used to establish each operating limit.<br>7. Documentation of installation of bag leak detection system for fabric filter.<br>8. Results of initial air pollution control device inspection, including a description of repairs.<br>9. The site-specific monitoring plan required under § 60.5200.<br>10. The site-specific monitoring plan for your ash handling system required under § 60.5200.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | § 60.5229(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. | 1. Company name and address.<br>2. Statement and signature by responsible official.<br>3. Date and beginning and ending dates of report.<br>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.<br>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.<br>6. If no deviations from emission limits, emission standards, or operating limits occurred, a statement that no deviations occurred.<br>7. If a fabric filter is used, the date, time, and duration of alarms.<br>8. If a performance evaluation of a CMS was conducted, the results, including any new operating limits and their associated calculations.<br>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.<br>10. Documentation of periods when all qualified SSI unit operators were unavailable for more than 8 hours but less than 2 weeks.<br>11. Results of annual pollution control device inspections, including description of repairs.<br>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. | § 60.5229(c) |

|                                                                                                                                    |                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 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>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.</p> <p>14. If there were no operator training deviations, a statement that there were no such deviations.</p> <p>15. Information on monitoring plan revisions, including a copy of any revised monitoring plan.</p> <p>If using a CMS:</p> <ol style="list-style-type: none"> <li>1. Company name and address.</li> <li>2. Statement by a responsible official.</li> <li>3. The calendar dates and times your unit deviated from the emission limits or operating limits.</li> <li>4. The averaged and recorded data for those dates.</li> <li>5. Duration and cause of each deviation.</li> <li>6. Dates, times, and causes for monitor downtime incidents.</li> <li>7. A copy of the operating parameter monitoring data during each deviation and any test report that documents the emission levels.</li> <li>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)(vii).</li> </ol> <p>If not using a CMS:</p> <ol style="list-style-type: none"> <li>1. Company name and address.</li> <li>2. Statement by a responsible official.</li> <li>3. The total operating time of each affected SSI.</li> <li>4. The calendar dates and times your unit deviated from the emission limits, emission standard, or operating limits.</li> <li>5. The averaged and recorded data for those dates.</li> <li>6. Duration and cause of each deviation.</li> <li>7. A copy of any performance test report that showed a deviation from the emission limits or standards.</li> <li>8. A brief description of any malfunction, a description of actions taken during the malfunction to minimize emissions, and corrective action taken.</li> </ol> | § 60.5235(f). |
| 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"> <li>1. Statement of cause of deviation</li> <li>2. Description of actions taken to ensure that a qualified operator will be available.</li> <li>3. The date when a qualified operator will be accessible.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | § 60.5235(e). |
| Notification of status of qualified operator deviation.                                                                            | Every 4 weeks following notification of deviation.                                                                                                                                             | <ol style="list-style-type: none"> <li>1. Description of actions taken to ensure that a qualified operator is accessible ...</li> <li>2. The date when you anticipate that a qualified operator will be accessible.</li> <li>3. Request for approval to continue operation.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | § 60.5235(e). |
| Notification of resumed operation following shutdown (due to qualified operator deviation and as specified in § 60.5155(b)(2)(i)). | Within five days of obtaining a qualified operator and resuming operation.                                                                                                                     | <ol style="list-style-type: none"> <li>1. Notification that you have obtained a qualified operator and are resuming operation.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | § 60.5235(e). |

TABLE 6 TO SUBPART MMMM OF PART 60—MODEL RULE—SUMMARY OF REPORTING REQUIREMENTS FOR EXISTING SEWAGE SLUDGE INCINERATION UNITS <sup>a</sup>—Continued

| Report                                                           | Due date                                                                                                                                                                                                                                                                                                                                                                                                                                         | Contents                                                                                                                                                                                                                                                                                                                                                                                                             | Reference     |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Notification of a force majeure                                  | As soon as practicable following the date you first knew, or through due diligence should have known that the event may cause or 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. | <ol style="list-style-type: none"> <li>1. Description of the force majeure event</li> <li>2. Rationale for attributing the delay in conducting the performance test beyond the regulatory deadline to the force majeure.</li> <li>3. Description of the measures taken or to be taken to minimize the delay.</li> <li>4. Identification of the date by which you propose to conduct the performance test.</li> </ol> | § 60.5235(f). |
| Notification of intent to start or stop use of a CMS.            | 1 month before starting or stopping use of a CMS.                                                                                                                                                                                                                                                                                                                                                                                                | <ol style="list-style-type: none"> <li>1. Intent to start or stop use of a CMS</li> </ol>                                                                                                                                                                                                                                                                                                                            | § 60.5235(g). |
| Notification of intent to conduct a performance test.            | At least 30 days prior to the performance test.                                                                                                                                                                                                                                                                                                                                                                                                  | <ol style="list-style-type: none"> <li>1. Intent to conduct a performance test to comply with this subpart.</li> </ol>                                                                                                                                                                                                                                                                                               |               |
| Notification of intent to conduct a rescheduled performance test | At least 7 days prior to the date of a rescheduled performance test.                                                                                                                                                                                                                                                                                                                                                                             | <ol style="list-style-type: none"> <li>1. Intent to conduct a rescheduled performance test to comply with this subpart.</li> </ol>                                                                                                                                                                                                                                                                                   |               |

<sup>a</sup> This table is only a summary, see the referenced sections of the rule for the complete requirements.  
<sup>b</sup> CMS means continuous monitoring system.



# APPENDIX B

## Missouri Air Conservation Law, sections 643.010 -643.070, RSMo

643.010. This chapter shall be known and may be cited as the "Missouri Air Conservation Law".

(L. 1965 p. 335 § 1)

\*Transferred 1986; formerly 203.010

### **Definitions.**

643.020. When used in this chapter and in standards, rules and regulations promulgated under authority of this chapter, the following words and phrases mean:

- (1) "AHERA", Asbestos Hazard Emergency Response Act of 1986 (P.L. 99-519);
- (2) "Abatement project designer", an individual who designs or plans AHERA asbestos abatement;
- (3) "Air cleaning device", any method, process, or equipment which removes, reduces, or renders less obnoxious air contaminants discharged into ambient air;
- (4) "Air contaminant", any particulate matter or any gas or vapor or any combination thereof;
- (5) "Air contaminant source", any and all sources of air contaminants whether privately or publicly owned or operated;
- (6) "Air pollution", the presence in the ambient air of one or more air contaminants in quantities, of characteristics and of a duration which directly and proximately cause or contribute to injury to human, plant, or animal life or health or to property or which unreasonably interferes with the enjoyment of life or use of property;
- (7) "Ambient air", all space outside of buildings, stacks, or exterior ducts;
- (8) "Area of the state", any geographical area designated by the commission;
- (9) "Asbestos", the asbestiform varieties of chrysotile, crocidolite, amosite, anthophyllite, tremolite and actinolite;
- (10) "Asbestos abatement", the encapsulation, enclosure or removal of asbestos-containing materials in or from a building or air contaminant source, or preparation of friable asbestos-containing material prior to demolition;
- (11) "Asbestos abatement contractor", any person who by agreement, contractual or otherwise, conducts asbestos abatement projects at a location other than his own place of business;
- (12) "Asbestos abatement projects", an activity undertaken to encapsulate, enclose or remove one hundred sixty square feet or two hundred sixty linear feet or thirty-five cubic feet or more of regulated asbestos-containing materials from buildings and other air contaminant sources, or to demolish buildings and other air contaminant sources containing one hundred sixty square feet or two hundred sixty linear feet or thirty-five cubic feet or more of regulated asbestos-containing materials;
- (13) "Asbestos abatement supervisor", an individual who directs, controls, or supervises others in asbestos abatement projects;
- (14) "Asbestos abatement worker", an individual who engages in asbestos abatement projects;
- (15) "Asbestos air sampling professional", an individual who by qualifications and experience is proficient in asbestos abatement air monitoring. The individual shall

conduct, oversee or be responsible for air monitoring of asbestos abatement projects before, during and after the project has been completed;

(16) "Asbestos air sampling technician", an individual who has been trained by an air sampling professional to do air monitoring. Such individual conducts air monitoring of an asbestos abatement project before, during and after the project has been completed;

(17) "Asbestos-containing material", any material or product which contains more than one percent asbestos;

(18) "Class A source", either a class A1, A2 or A3 source as defined in this section;

(19) "Class A1 source", any air contaminant source with the potential to emit equal to or greater than one hundred tons per year of an air contaminant;

(20) "Class A2 source", any air contaminant source, which is not a class A1 source, and with the potential, air cleaning devices not considered, to emit equal to or greater than one hundred tons per year of an air contaminant;

(21) "Class A3 source", any air contaminant source which emits or has the potential to emit, ten tons per year or more of any hazardous air pollutant or twenty-five tons of any combination of hazardous air pollutants, or as defined pursuant to Section 112 of the federal Clean Air Act, as amended, 42 U.S.C. 7412;

(22) "Class B source", any air contaminant source with the potential, air cleaning devices not considered, to emit equal to or greater than the de minimis amounts of an air contaminant established by the commission, but not a class A source;

(23) "Commission", the air conservation commission of the state of Missouri created in section 643.040;

(24) "Competent person", as defined in the United States Occupational Safety and Health Administration's (OSHA) standard 29 CFR 1926.1101(b). Such person shall also be a certified asbestos abatement supervisor;

(25) "Conference, conciliation and persuasion", a process of verbal or written communications consisting of meetings, reports, correspondence or telephone conferences between authorized representatives of the department and the alleged violator. The process shall, at a minimum, consist of one offer to meet with the alleged violator tendered by the department. During any such meeting, the department and the alleged violator shall negotiate in good faith to eliminate the alleged violation and shall attempt to agree upon a plan to achieve compliance;

(26) "De minimis source", any air contaminant source with a potential to emit an air contaminant, air cleaning devices not considered, less than that established by the commission as de minimis for the air contaminant;

(27) "Department", the department of natural resources of the state of Missouri;

(28) "Director", the director of the department of natural resources;

(29) "Emergency asbestos project", an asbestos project that must be undertaken immediately to prevent imminent, severe, human exposure or to restore essential facility operation;

(30) "Emission", the discharge or release into the atmosphere of one or more air contaminants;

(31) "Emission control regulations", limitations on the emission of air contaminants into the ambient air;

(32) "Friable asbestos-containing material", any material containing more than one percent, as determined by either the method specified in appendix E, section 1 Polarized

Light Microscopy in 40 CFR Part 61, Subpart M or EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials, asbestos that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure;

(33) "Grinding", to reduce to powder or small fragments and includes mechanical chipping or drilling;

(34) "Inspector", an individual who collects and assimilates information used to determine whether asbestos-containing material is present in a building or other air contaminant sources;

(35) "Management planner", an individual, under AHERA, who devises and writes plans for asbestos abatement;

(36) "Minor violation", a violation which possesses a small potential to harm the environment or human health or cause pollution, was not knowingly committed, and is not defined by the United States Environmental Protection Agency as other than minor;

(37) "Nonattainment area", any area designated by the governor as a "nonattainment area" as defined in the federal Clean Air Act, as amended, 42 U.S.C. 7501;

(38) "Nonfriable asbestos-containing material", any material containing more than one percent asbestos as determined by either the method specified in appendix E, section 1 Polarized Light Microscopy in 40 CFR Part 61, Subpart M or EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure;

(39) "Person", any individual, partnership, copartnership, firm, company, or public or private corporation, association, joint stock company, trust, estate, political subdivision, or any agency, board, department, or bureau of the state or federal government, or any other legal entity whatever which is recognized by law as the subject of rights and duties;

(40) "Regulated asbestos-containing material" or "RACM":

(a) Friable asbestos-containing material;

(b) Category I nonfriable asbestos-containing material that will be or has been subjected to sanding, grinding, cutting, or abrading; or

(c) Category II nonfriable asbestos-containing material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations;

(41) "School district", seven-director districts, urban school districts, and metropolitan school districts, as defined in section 160.011;

(42) "Small business", for the purpose of sections 643.010 to 643.355, a small business shall include any business regulated under this chapter, which is not a class A source and which employs less than one hundred people and emits less than fifty tons of any regulated pollutant per year and less than seventy-five tons of all regulated pollutants or as otherwise defined by the commission by rule.

(L. 1965 p. 335 § 2, A.L. 1972 H.B. 1184, A.L. 1988 H.B. 1187, A.L. 1989 H.B. 77, et al., A.L. 1992 S.B. 544, A.L. 1993 S.B. 80, et al., A.L. 1994 S.B. 590, A.L. 2011 H.B. 89)

\*Transferred 1986; formerly 203.020

CROSS REFERENCE:

Nonseverability clause, 640.099

### **Intent of law--commission to control air pollution.**

643.030. The discharge into the ambient air of air contaminants so as to cause or contribute to air pollution is contrary to the public policy of Missouri and in violation of

this chapter. It is the intent and purpose of this chapter to maintain purity of the air resources of the state to protect the health, general welfare and physical property of the people, maximum employment and the full industrial development of the state. The commission shall seek the accomplishment of this objective through the prevention, abatement and control of air pollution by all practical and economically feasible methods.

(L. 1965 p. 335 § 3)

\*Transferred 1986; formerly 203.030

**Air conservation commission created--members, terms, expenses, meetings.**

643.040. 1. There is created hereby an air pollution control agency to be known as the "Air Conservation Commission of the State of Missouri", whose domicile for the purposes of sections 643.010 to 643.355 is the department of natural resources of the state of Missouri. The commission shall consist of seven members appointed by the governor, with the advice and consent of the senate. No more than four of the members shall belong to the same political party and no two members shall be a resident of and domiciled in the same senatorial district. At the first meeting of the commission and at yearly intervals thereafter, the members shall select from among themselves a chairman and a vice chairman.

2. All members shall be representative of the general interest of the public and shall have an interest in and knowledge of air conservation and the effects and control of air contaminants. At least three of such members shall represent agricultural, industrial and labor interests, respectively. The governor shall not appoint any other person who has a substantial interest as defined in section 105.450 in any business entity regulated under this chapter or any business entity which would be regulated under this chapter if located in Missouri. The commission shall establish rules of procedure which specify when members shall exempt themselves from participating in discussions and from voting on issues before the commission due to potential conflict of interest.

3. The members' terms of office shall be four years and until their successors are selected and qualified, except that the terms of those first appointed shall be staggered to expire at intervals of one, two and three years after the date of appointment as designated by the governor at the time of appointment. There is no limitation of the number of terms any appointed member may serve. If a vacancy occurs the governor may appoint a member for the remaining portion of the unexpired term created by the vacancy. The governor may remove any appointed member for cause. The members of the commission shall be reimbursed for travel and other expenses actually and necessarily incurred in the performance of their duties.

4. The commission shall hold at least nine regular meetings each year and such additional regular meetings as the chairman deems desirable at a place and time to be fixed by the chairman. Special meetings may be called by three members of the commission upon delivery of written notice to each member of the commission. Reasonable written notice of all meetings shall be given to all members of the commission. Four members of the commission shall constitute a quorum. All powers and duties conferred upon members of the commission shall be exercised personally by the members and not by alternates or representatives. All actions of the commission shall be taken at meetings open to the public, except as provided in chapter 610. Any member absent from four regular commission meetings per calendar year for any cause whatsoever shall be deemed to

have resigned and the vacancy shall be filled immediately in accordance with subsection 1 and subsection 3 of this section.

(L. 1965 p. 335 § 4, A.L. 1972 H.B. 1184, A.L. 1992 S.B. 544, A.L. 1994 S.B. 590, A.L. 1998 H.B. 1601, et al., A.L. 2011 H.B. 89)

\*Transferred 1986; formerly 203.040

CROSS REFERENCE:

Nonseverability clause, 640.099

### **Powers and duties of commission--rules, procedure.**

643.050. 1. In addition to any other powers vested in it by law the commission shall have the following powers:

(1) Adopt, promulgate, amend and repeal rules and regulations consistent with the general intent and purposes of sections 643.010 to 643.355, chapter 536, and Titles V and VI of the federal Clean Air Act, as amended, 42 U.S.C. 7661, et seq., including but not limited to:

- (a) Regulation of use of equipment known to be a source of air contamination;
- (b) Establishment of maximum quantities of air contaminants that may be emitted from any air contaminant source; and
- (c) Regulations necessary to enforce the provisions of Title VI of the Clean Air Act, as amended, 42 U.S.C. 7671, et seq., regarding any Class I or Class II substances as defined therein;

(2) After holding public hearings in accordance with section 643.070, establish areas of the state and prescribe air quality standards for such areas giving due recognition to variations, if any, in the characteristics of different areas of the state which may be deemed by the commission to be relevant;

(3) (a) To require persons engaged in operations which result in air pollution to monitor or test emissions and to file reports containing information relating to rate, period of emission and composition of effluent;

(b) Require submission to the director for approval of plans and specifications for any article, machine, equipment, device, or other contrivance specified by regulation the use of which may cause or control the issuance of air contaminants; but any person responsible for complying with the standards established under sections 643.010 to 643.355 shall determine, unless found by the director to be inadequate, the means, methods, processes, equipment and operation to meet the established standards;

(4) Hold hearings upon appeals from orders of the director or from any other actions or determinations of the director hereunder for which provision is made for appeal, and in connection therewith, issue subpoenas requiring the attendance of witnesses and the production of evidence reasonably relating to the hearing;

(5) Enter such order or determination as may be necessary to effectuate the purposes of sections 643.010 to 643.355. In making its orders and determinations hereunder, the commission shall exercise a sound discretion in weighing the equities involved and the advantages and disadvantages to the person involved and to those affected by air contaminants emitted by such person as set out in section 643.030. If any small business, as defined by section 643.020, requests information on what would constitute compliance with the requirements of sections 643.010 to 643.355 or any order or determination of the department or commission, the department shall respond with written criteria to inform the small business of the actions necessary for compliance. No enforcement action shall

be undertaken by the department or commission until the small business has had a period of time, negotiated with the department, to achieve compliance;

(6) Cause to be instituted in a court of competent jurisdiction legal proceedings to compel compliance with any final order or determination entered by the commission or the director;

(7) Settle or compromise in its discretion, as it may deem advantageous to the state, any suit for recovery of any penalty or for compelling compliance with the provisions of any rule;

(8) Develop such facts and make such investigations as are consistent with the purposes of sections 643.010 to 643.355, and, in connection therewith, to enter or authorize any representative of the department to enter at all reasonable times and upon reasonable notice in or upon any private or public property for the purpose of inspecting or investigating any condition which the commission or director shall have probable cause to believe to be an air contaminant source or upon any private or public property having material information relevant to said air contaminant source. The results of any such investigation shall be reduced to writing, and a copy thereof shall be furnished to the owner or operator of the property. No person shall refuse entry or access, requested for purposes of inspection under this provision, to an authorized representative of the department who presents appropriate credentials, nor obstruct or hamper the representative in carrying out the inspection. A suitably restricted search warrant, upon a showing of probable cause in writing and upon oath, shall be issued by any judge having jurisdiction to any such representative for the purpose of enabling him to make such inspection;

(9) Secure necessary scientific, technical, administrative and operational services, including laboratory facilities, by contract or otherwise, with any educational institution, experiment station, or any board, department, or other agency of any political subdivision or state or the federal government;

(10) Classify and identify air contaminants; and

(11) Hold public hearings as required by sections 643.010 to 643.355.

2. No rule or portion of a rule promulgated under the authority of this chapter shall become effective unless it has been promulgated pursuant to the provisions of section 536.024.

3. The commission shall have the following duties with respect to the prevention, abatement and control of air pollution:

(1) Prepare and develop a general comprehensive plan for the prevention, abatement and control of air pollution;

(2) Encourage voluntary cooperation by persons or affected groups to achieve the purposes of sections 643.010 to 643.355;

(3) Encourage political subdivisions to handle air pollution problems within their respective jurisdictions to the extent possible and practicable and provide assistance to political subdivisions;

(4) Encourage and conduct studies, investigations and research;

(5) Collect and disseminate information and conduct education and training programs;

(6) Advise, consult and cooperate with other agencies of the state, political subdivisions, industries, other states and the federal government, and with interested persons or groups;

(7) Represent the state of Missouri in all matters pertaining to interstate air pollution including the negotiations of interstate compacts or agreements.

4. Nothing contained in sections 643.010 to 643.355 shall be deemed to grant to the commission or department any jurisdiction or authority with respect to air pollution existing solely within commercial and industrial plants, works, or shops or to affect any aspect of employer-employee relationships as to health and safety hazards.

5. Any information relating to secret processes or methods of manufacture or production discovered through any communication required under this section shall be kept confidential.

(L. 1965 p. 335 § 5, A.L. 1972 H.B. 1184, A.L. 1992 S.B. 544, A.L. 1993 S.B. 52, A.L. 1995 S.B. 3, A.L. 2011 H.B. 89)

\*Transferred 1986; formerly 203.050

CROSS REFERENCE:

Nonseverability clause, 640.099

**Commission may adopt rules for compliance with federal law--suspension, reinstatement--exemption, limitations.**

643.055. 1. Other provisions of law notwithstanding, the Missouri air conservation commission shall have the authority to promulgate rules and regulations, pursuant to chapter 536, to establish standards and guidelines to ensure that the state of Missouri is in compliance with the provisions of the federal Clean Air Act, as amended (42 U.S.C. Section 7401, et seq.). The standards and guidelines so established shall not be any stricter than those required under the provisions of the federal Clean Air Act, as amended; nor shall those standards and guidelines be enforced in any area of the state prior to the time required by the federal Clean Air Act, as amended. The restrictions of this section shall not apply to the parts of a state implementation plan developed by the commission to bring a nonattainment area into compliance and to maintain compliance when needed to have a United States Environmental Protection Agency approved state implementation plan. The determination of which parts of a state implementation plan are not subject to the restrictions of this section shall be based upon specific findings of fact by the air conservation commission as to the rules, regulations and criteria that are needed to have a United States Environmental Protection Agency approved plan.

2. The Missouri air conservation commission shall also have the authority to grant exceptions and variances from the rules set under subsection 1 of this section when the person applying for the exception or variance can show that compliance with such rules:

(1) Would cause economic hardship; or

(2) Is physically impossible; or

(3) Is more detrimental to the environment than the variance would be; or

(4) Is impractical or of insignificant value under the existing conditions.

(L. 1979 S.B. 21 § 1, A.L. 1992 S.B. 544, A.L. 1994 S.B. 590)

\*Transferred 1986; formerly 203.055

**Powers and duties of director.**

643.060. In addition to any other powers vested by law, the director shall have the following powers and duties:

- (1) Retain, employ, provide for, and compensate, within appropriations available therefor, such consultants, assistants, deputies, clerks, and other employees on a full- or part-time basis as may be necessary to carry out the provisions of sections 643.010 to 643.355 and prescribe the times at which they shall be appointed and their powers and duties;
- (2) Accept, receive and administer grants or other funds or gifts from public and private agencies including the federal government for the purpose of carrying out any of the functions of sections 643.010 to 643.355. The director shall apply for all available grants and funds authorized and distributed pursuant to Title XI of the federal Clean Air Act, as amended, 29 U.S.C. 1662e, for training, assistance and payments to eligible individuals. The director shall report annually to the governor and the general assembly the amount of revenue received under Title XI of the Clean Air Act and the distribution of such funds to eligible persons. Funds received by the director pursuant to this section shall be deposited with the state treasurer and held and disbursed by him in accordance with the appropriations of the general assembly. The director is authorized to enter into contracts as he may deem necessary for carrying out the provisions of sections 643.010 to 643.355;
- (3) Budget and receive duly appropriated moneys for expenditures to carry out the provisions and purposes of sections 643.010 to 643.355;
- (4) Administer and enforce sections 643.010 to 643.355, investigate complaints, issue orders and take all actions necessary to implement sections 643.010 to 643.355;
- (5) Receive and act upon reports, plans, specifications and applications submitted under rules promulgated by the commission. Any person aggrieved by any action of the director under this provision shall be entitled to a hearing before the commission as provided in section 643.080. The commission may sustain, reverse, or modify any action of the director taken under this provision, or make such other order as the commission shall deem appropriate under the circumstances.

(L. 1965 p. 335 § 6, A.L. 1972 H.B. 1184, A.L. 1992 S.B. 544, A.L. 2011 H.B. 89)

\*Transferred 1986; formerly 203.060

CROSS REFERENCE:

Nonseverability clause, 640.099

### **Commission to adopt rules, notice--public hearing.**

643.070. 1. The commission shall adopt rules pursuant to chapter 536. The commission shall notify any air pollution control agency with a certificate of authority which may be affected by the rule and any person who has previously requested notice when the proposed rulemaking is submitted to the secretary of state for publication in the Missouri Register. In addition, any interested persons, whether or not heard, may submit, within seven days subsequent to the hearings, a written statement of their views. The commission may solicit the views, in writing, of persons who may be affected by, or interested in, proposed rules and regulations, or standards. Any person heard or represented at the hearing or making written request for notice shall be given written notice of the action of the commission with respect to the subject thereof.

2. Rules shall be approved after public hearing and shall be approved in writing by at least four members of the commission.

3. Any rule or any amendment or repeal thereof which is adopted by the commission may differ in its terms and provisions for particular types and conditions of air pollution or air contamination, for particular air contaminant sources, and for particular areas of the state.  
(L. 1965 p. 335 § 7, A.L. 1972 H.B. 1184, A.L. 1992 S.B. 544, A.L. 1993 S.B. 52)  
\*Transferred 1986; formerly 203.070

# APPENDIX C

## State Rule: 10 CSR 10-6.191

### **10 CSR 10-6.191 Sewage Sludge Incinerators.**

*PURPOSE: This rule incorporates by reference the federal regulatory requirements for existing sewage sludge incineration units in Missouri. The evidence supporting the need for this proposed rulemaking, per 536.016, RSMo, is **Federal Register** Notice 76 FR 15372, dated March 21, 2011.*

- (1) Applicability.
  - (A) This rule applies to each sewage sludge incineration (SSI) unit, as defined in section (2) of this rule, for which construction was commenced on or before October 14, 2010, except as provided in subsection (1)(C) of this rule.
  - (B) If the owner or operator of an SSI unit makes physical or operational changes to an SSI unit for which construction commenced on or before September 21, 2011, primarily to comply with this rule, 10 CSR 10-6.070 New Source Performance Regulations does not apply to that unit.
  - (C) Exemptions to this rule are as follows:
    1. Combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge. Owners or operators of combustion units claiming exemption under this paragraph must notify the director; and
    2. Any SSI unit that becomes subject to 10 CSR 10-6.070 New Source Performance Regulations because the owner or operator made changes after September 21, 2011, that meet the definition of modification, as defined in section (2) of this rule.
- (2) Definitions.
  - (A) The provisions of 40 CFR 60.5250, promulgated as of July 1, 2011, shall apply and are hereby incorporated by reference in this rule, as published by the Office of Federal Register, U.S. National Archives and Records, 700 Pennsylvania Avenue NW, Washington, DC 20408. This rule does not incorporate any subsequent amendments or additions.
  - (B) Definitions of certain terms specified in this rule, other than those defined in subsection (2)(A) of this rule, may be found in 10 CSR 10-6.020.
- (3) General Provisions. The following references to 40 CFR 60.5085 through 60.5225, 40 CFR 60.5240 through 60.5245, and 40 CFR 60, Subpart M Tables 1 through 6, promulgated as of July 1, 2011, shall apply and are hereby incorporated by reference in this rule, as published by the Office of the Federal Register, U.S. National Archives and Records, 700 Pennsylvania Avenue NW, Washington, DC 20408. This rule does not incorporate any subsequent amendments or additions.
  - (A) Increments of Progress—40 CFR 60.5085 through 60.5125;
  - (B) Operator Training and Qualifications—40 CFR 60.5130 through 60.5160;
  - (C) Emission Limits, Emission Standards, and Operating Limits and Requirements—40 CFR 60.5165 through 60.5181;

- (D) Initial Compliance Requirements—40 CFR 60.5185 through 60.5200;
  - (E) Continuous Compliance Requirements—40 CFR 60.5205 through 60.5215;
  - (F) Performance Testing, Monitoring, and Calibration Requirements—40 CFR 60.5220 through 60.5225;
  - (G) Title V Operating Permit—40 CFR 60.5240 through 60.5245; and
  - (H) Table 1 through Table 6. The compliance dates for the increments of progress are—
    - 1. For Increment 1, submit final control plan within one (1) year of the effective date of this rule; and
    - 2. For Increment 2, final compliance by March 21, 2016.
- (4) Reporting and Record Keeping. The provisions of 40 CFR 60.5230 through 40 CFR 60.5235, promulgated as of July 1, 2011, shall apply and are hereby incorporated by reference in this rule, as published by the Office of Federal Register, U.S. National Archives and Records, 700 Pennsylvania Avenue NW, Washington, DC 20408. This rule does not incorporate any subsequent amendments or additions.
- (5) Test Methods. *(Not applicable)*

*AUTHORITY: section 643.050, RSMo Supp. 2011. Original rule filed August 27, 2012.*



# APPENDIX D

## Tables:

### Source Inventory:

| State | FIPS | PLANT | Facility Name                         | Site Name                        | Facility ID    | OwnerName                             | Address                | City,State,Zip         | County           | #ofUnits | Process Type    |
|-------|------|-------|---------------------------------------|----------------------------------|----------------|---------------------------------------|------------------------|------------------------|------------------|----------|-----------------|
| 29    | 095  | 0039  | Blue River Treatment Plant            | Hawthorne                        | MOBigBlueRiver | City of Kansas City (MO)              | 7300 Hawthorn Rd       | Kansas City,MO 64120   | Jackson          | 3        | Multiple Hearth |
| 29    | 510  | 0053  | Metropolitan St. Louis Sewer District | Bissell Point WW Treatment Plant | MOBissellPoint | Metropolitan St. Louis Sewer District | 10 East Grand Avenue   | St. Louis,MO 63147     | St. Louis City   | 6        | Multiple Hearth |
| 29    | 189  | 0217  | Metropolitan St. Louis Sewer District | Lemay WW Treatment Plant         | MOLemay        | Metropolitan St. Louis Sewer District | 201 Hoffmeister Avenue | St. Louis,MO 63125     | St. Louis County | 4        | Multiple Hearth |
| 29    | 095  | 0150  | Rock Creek Treatment Plant            | Independence                     | MORockCreek    | City of Independence                  | 9600 Northledge        | Independence, MO 64053 | Jackson          | 1        | Fluidized Bed   |

### 2011 Emission Factors:

Emission Factors as used in annual emission calculations; site specific data is indicated by a shadowed box and bold, italicized font.

| 2011 Emission Factors (lb pollutant/ton sludge) |                 |              |                  |       |       |                 |      |              |              |               |
|-------------------------------------------------|-----------------|--------------|------------------|-------|-------|-----------------|------|--------------|--------------|---------------|
| Pollutant/Site/EF                               | Process Type    | PM           | Pb               | Cd    | Hg    | PCDD/PCDF (TMB) | HCl  | NOx          | SO2          | CO            |
| Blue River (095-0039)                           |                 |              |                  |       |       |                 |      |              |              |               |
| Emission Factors - EP001                        | Multiple Hearth | <b>0.640</b> | 0.060            | 0.037 | 0.004 | 9.30E-06        | 0.02 | <b>5.210</b> | 0.2*         | <b>0.600</b>  |
| Bissell Point (510-0053)                        |                 |              |                  |       |       |                 |      |              |              |               |
| Emission Factors - EP03                         | Multiple Hearth | <b>0.362</b> | <b>0.002</b>     | 0.037 | 0.004 | 9.30E-06        | 0.02 | <b>4.274</b> | <b>0.111</b> | <b>21.122</b> |
| Emission Factors - EP04                         | Multiple Hearth | <b>0.294</b> | <b>0.002</b>     | 0.037 | 0.004 | 9.30E-06        | 0.02 | <b>4.197</b> | <b>1.069</b> | <b>25.766</b> |
| Emission Factors - EP05                         | Multiple Hearth | <b>0.330</b> | <b>0.001</b>     | 0.037 | 0.004 | 9.30E-06        | 0.02 | <b>4.483</b> | <b>0.502</b> | <b>33.317</b> |
| Emission Factors - EP06                         | Multiple Hearth | <b>0.330</b> | <b>0.000</b>     | 0.037 | 0.004 | 9.30E-06        | 0.02 | <b>4.488</b> | <b>0.138</b> | <b>24.697</b> |
| Emission Factors - EP07                         | Multiple Hearth | <b>0.600</b> | <b>0.002</b>     | 0.037 | 0.004 | 9.30E-06        | 0.02 | <b>4.015</b> | <b>1.396</b> | <b>35.914</b> |
| Lemay (189-0217)                                |                 |              |                  |       |       |                 |      |              |              |               |
| Emission Factors - EP 1-4                       | Multiple Hearth | 0.220        | 0.003            | 0.037 | 0.004 | 9.30E-06        | 0.02 | 5.000        | 0.200        | 31.000        |
| Rock Creek (095-0150)                           |                 |              |                  |       |       |                 |      |              |              |               |
| Emission Factors - EP1                          | Fluidized Bed   | 0.440        | <b>5.189E-05</b> | 0.004 | 0.003 | 1.38E-08        | 0.1  | 1.700        | 0.300        | <b>0.381</b>  |

*Shadowed Boxes with bolded, italicized values are Stack test/CEM derived , \* - WebFire derived*

## AP-42 Emission Factors

Applicable Emission factors, an excerpt from EPA's AP-42 document, Chapter 2.2 Sewage Sludge Incineration, (Jan, 1995):

Units of Measure: pounds of pollutant per ton of waste.

### For Multiple Hearth:

| Pollutants          | EF       | Controlled?                 | Rating |
|---------------------|----------|-----------------------------|--------|
| PM                  | 1.00E+02 | No                          | B      |
| CO                  | 3.10E+01 | No                          | C      |
| Cd                  | 3.70E-02 | No                          | B      |
| Pb                  | 1.00E-01 | No                          | B      |
| Hg                  | 4.42E-03 | average controls            | E      |
| SO <sub>2</sub>     | 2.80E+01 | No                          | B      |
| NO <sub>x</sub>     | 5.00E+00 | No                          | C      |
| HCl                 | 2.00E-02 | yes(venturi/imping/cyclone) | E      |
| Dioxins/Furans(tmb) | 9.30E-06 | No                          | E      |

### For Fluidized Bed:

| Pollutants               | EF       | Controlled?                                  | Rating |
|--------------------------|----------|----------------------------------------------|--------|
| PM                       | 4.60E+02 | No                                           | E      |
| CO                       | 2.10E+00 | No                                           | E      |
| Cd                       | 4.40E-03 | No                                           | E      |
| Pb                       | 4.00E-02 | No                                           | E      |
| Hg                       | 3.20E-03 | No                                           | E      |
| SO <sub>2</sub>          | 3.00E-01 | No                                           | E      |
| NO <sub>x</sub>          | 1.70E+00 | No                                           | E      |
| HCl                      | 1.00E-01 | Yes (venturi/imping)                         | E      |
| Dioxins-<br>Average(tmb) | 3.23E-09 | Yes/No<br>(Venturi/Impingement/Uncontrolled) | E      |
| Furans-<br>Average(tmb)  | 3.64E-08 | Yes (venturi/impingement)                    | E      |

Source: [http://www.epa.gov/ttnchie1/old/ap42/ch02/s02/final/c02s02\\_jan1995.pdf](http://www.epa.gov/ttnchie1/old/ap42/ch02/s02/final/c02s02_jan1995.pdf)

### Emission Inventory Table:

| Site/Unit ID                                | Process Type    | Annual Actual Emissions (Based on 2011 Emission Factors and Throughputs, in tons per year) |              |              |              |                  |              |                |               |                |
|---------------------------------------------|-----------------|--------------------------------------------------------------------------------------------|--------------|--------------|--------------|------------------|--------------|----------------|---------------|----------------|
|                                             |                 | PM                                                                                         | Pb           | Cd           | Hg           | PCDD/PCDF (TMB)  | HCl          | NOx            | SO2           | CO             |
| <b>Blue River (095-0039)</b>                |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP001                                       | Multiple Hearth | <i>0.654</i>                                                                               | 0.061        | 0.038        | 0.005        | 9.506E-06        | 0.020        | <i>5.325</i>   | 0.204         | <i>0.613</i>   |
| <b>Bissell Point (510-0053)</b>             |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP02*                                       | Multiple Hearth | -                                                                                          | -            | -            | -            | -                | -            | -              | -             | -              |
| EP03                                        | Multiple Hearth | <i>1.523</i>                                                                               | <i>0.010</i> | 0.156        | 0.019        | 3.919E-05        | 0.084        | <i>18.012</i>  | <i>0.467</i>  | <i>89.015</i>  |
| EP04                                        | Multiple Hearth | <i>1.000</i>                                                                               | <i>0.006</i> | 0.126        | 0.015        | 3.167E-05        | 0.068        | <i>14.290</i>  | <i>3.639</i>  | <i>87.732</i>  |
| EP05                                        | Multiple Hearth | <i>0.612</i>                                                                               | <i>0.002</i> | 0.069        | 0.008        | 1.725E-05        | 0.037        | <i>8.316</i>   | <i>0.931</i>  | <i>61.806</i>  |
| EP06                                        | Multiple Hearth | <i>0.804</i>                                                                               | <i>0.001</i> | 0.090        | 0.011        | 2.266E-05        | 0.049        | <i>10.934</i>  | <i>0.337</i>  | <i>60.166</i>  |
| EP07                                        | Multiple Hearth | <i>4.338</i>                                                                               | <i>0.017</i> | 0.268        | 0.032        | 6.724E-05        | 0.145        | <i>29.028</i>  | <i>10.093</i> | <i>259.657</i> |
| <b>Bissell Point Emission Totals</b>        |                 | <b>8.278</b>                                                                               | <b>0.036</b> | 0.708        | 0.085        | 1.780E-04        | 0.383        | <b>80.581</b>  | <b>15.467</b> | <b>558.376</b> |
| <b>Lemay (189-0217)</b>                     |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP 1-4                                      | Multiple Hearth | 1.953                                                                                      | 0.022        | 0.329        | 0.039        | 8.257E-05        | 0.178        | 44.394         | 1.776         | 275.240        |
| <b>Rock Creek (095-0150)</b>                |                 |                                                                                            |              |              |              |                  |              |                |               |                |
| EP1                                         | Fluidized Bed   | 0.302                                                                                      | <i>0.000</i> | 0.003        | 0.002        | 9.480E-09        | 0.069        | 1.167          | 0.206         | <i>0.261</i>   |
| <b>All Affected Sources-Emission Totals</b> |                 | <b>11.188</b>                                                                              | <b>0.120</b> | <b>1.078</b> | <b>0.131</b> | <b>2.701E-04</b> | <b>0.649</b> | <b>131.467</b> | <b>17.653</b> | <b>834.491</b> |

\*Bissell Point -EP02 is currently inactive. *Italicized/Bolded values are based upon site specific data.* Other values are based upon AP-42/FIRE data.

### Emission Limit Summary Table:

| Pollutant             | Units                             | Emission limit for MH incinerators | Emission limit for FB incinerators |
|-----------------------|-----------------------------------|------------------------------------|------------------------------------|
| Cd .....              | mg/dscm @ 7% O <sub>2</sub> ..... | 0.095                              | 0.0016                             |
| CO .....              | ppmvd @ 7% O <sub>2</sub> .....   | 3,800                              | 64                                 |
| HCl .....             | ppmvd @ 7% O <sub>2</sub> .....   | 1.2                                | 0.51                               |
| Hg .....              | mg/dscm @ 7% O <sub>2</sub> ..... | 0.28                               | 0.037                              |
| NO <sub>x</sub> ..... | ppmvd @ 7% O <sub>2</sub> .....   | 220                                | 150                                |
| Pb .....              | mg/dscm @ 7% O <sub>2</sub> ..... | 0.30                               | 0.0074                             |
| PCDD/PCDF, TEQ .....  | ng/dscm @ 7% O <sub>2</sub> ..... | 0.32                               | 0.10                               |
| PCDD/PCDF, TMB .....  | ng/dscm @ 7% O <sub>2</sub> ..... | 5.0                                | 1.2                                |
| PM .....              | mg/dscm @ 7% O <sub>2</sub> ..... | 80                                 | 18                                 |
| SO <sub>2</sub> ..... | ppmvd @ 7% O <sub>2</sub> .....   | 26                                 | 15                                 |

### Increments of Progress Table:

| Increments of Progress      |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| Control Plan Submittal Date | One year after effective date of State Rule, 10 CSR 10-6.191                                    |
| Final Compliance Date       | March 21, 2016 or three years after effective date of state plan approval, whichever is earlier |

# APPENDIX E

# Public Notice – Web Screenshot

## Air Pollution Control Program

### State Plan Actions

[On Public Notice](#) | [Proposed for Adoption](#)



#### On Public Notice

Clean Air Act Section 111(d)/129 State Plan Revision — Section 111(d)/129 State Plan for Implementation of the Sewage Sludge Incinerator Emission Guidelines for Missouri

This plan was developed to demonstrate that the state of Missouri has the legal authority and enforceable mechanism in place to implement and enforce the Emission Guidelines and Compliance Times as set forth by the EPA in 40 CFR 60, Subpart MMMM for existing Sewage Sludge Incinerators. The plan references legal authority established in chapter 536 of the Revised Statutes of Missouri (RSMo) and the enforceable mechanism provided by the proposed new state rule, 10 CSR 10-6.191 Sewage Sludge Incinerators. This plan provides source and emission inventories of affected existing sewage sludge incinerators in the state. It also establishes emission limits, operating requirements and compliance times that are consistent with the federal emission guidelines as promulgated.

Clean Air Act Section 111(d)/129 State Plan Revision  
Appendix A  
Appendices B through F

[Submit Comments Now](#)

#### Proposed for Adoption

None at this time.

### Program Links

- [Program Home Page](#)
- [Air Conservation Commission](#)
- [Air Quality Data System](#)
- [Air Pollutants](#)
- [Air Program Advisory Forum](#)
- [Asbestos](#)
- [Ethanol Plants in Missouri](#)
- [Forms and Applications](#)
- [Gateway Vehicle Inspection Program](#)
- [Laws and Regulations](#)
- [Ozone](#)
- [Permits](#)
- [Publications and Reports](#)
- [Public Notices-Comment Periods](#)
- [Small Business Assistance](#)
- [State Plans](#)
- [Vapor Recovery Information and Compliance Requirements](#)
- [Workgroups](#)

### Contact

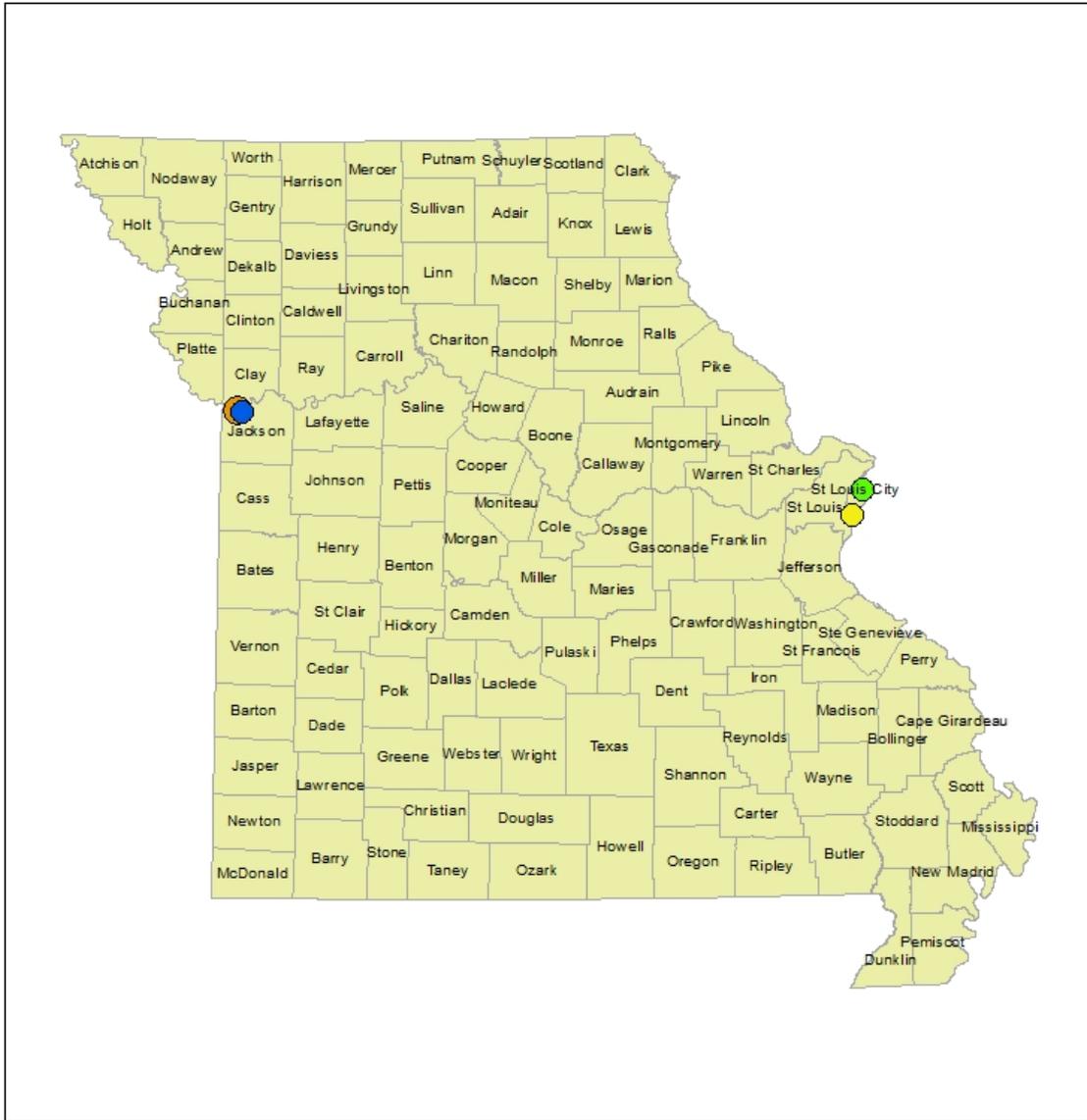
**Air Pollution Control Program**  
P.O. Box 176

[Back to top](#)

# APPENDIX F

Maps showing locations of affected sources:

Affected Sewage Sludge Incinerators in Missouri

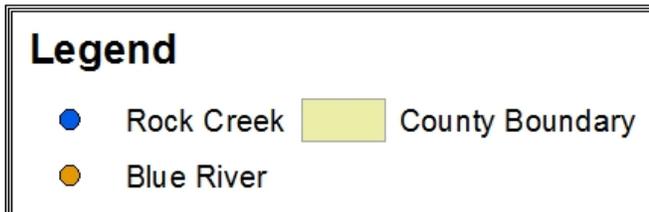
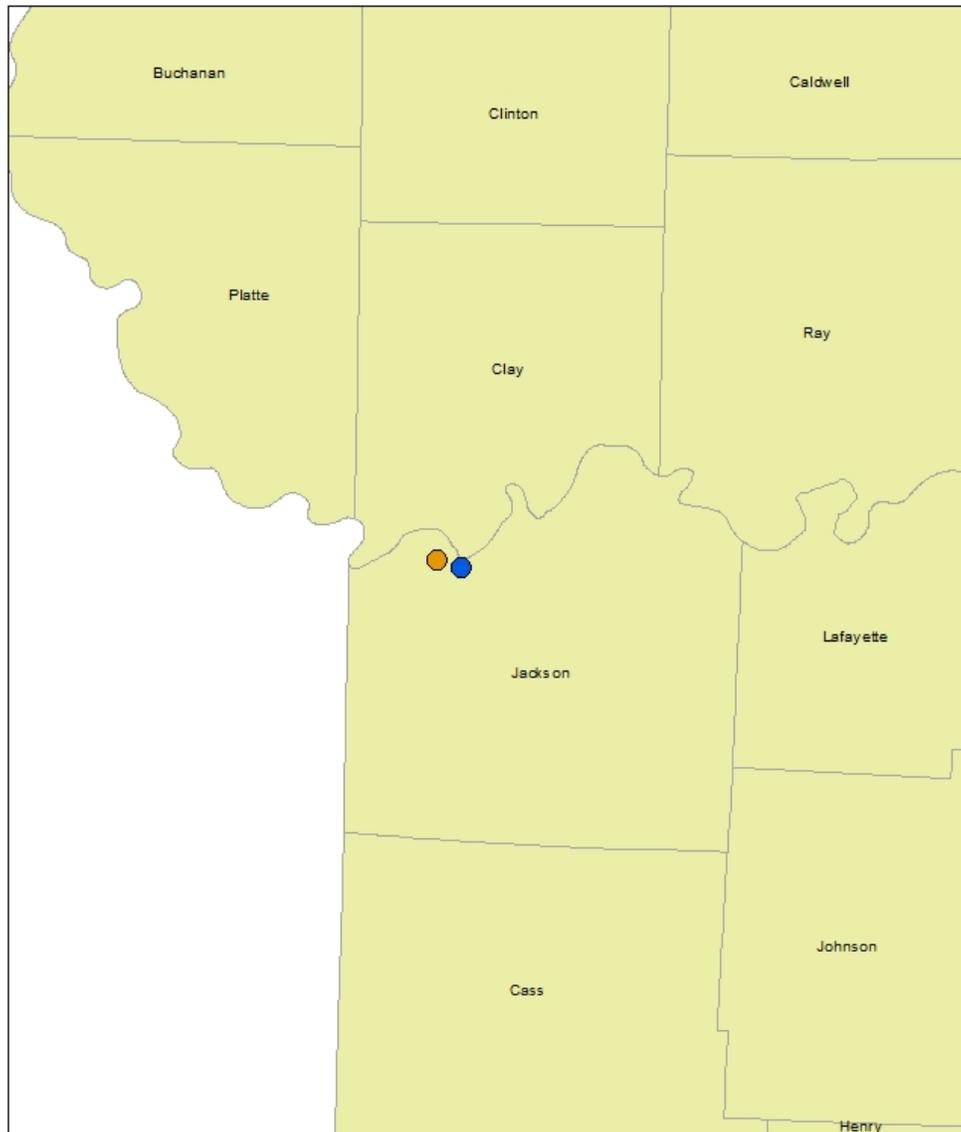


**Legend**

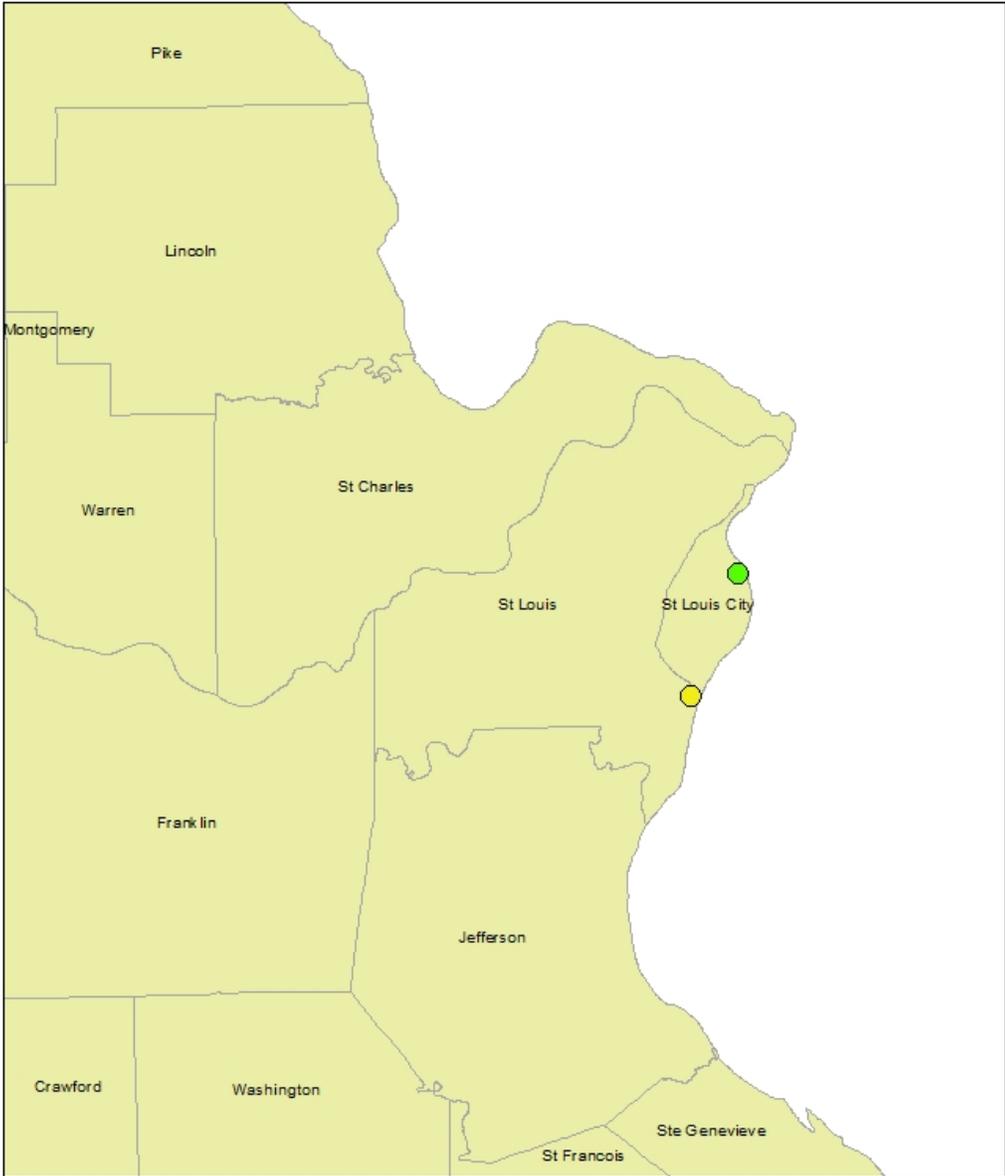
|                                                                                     |            |                                                                                     |               |                                                                                     |                 |
|-------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------|-----------------|
|  | Rock Creek |  | Bissell Point |  | County Boundary |
|  | Lemay      |  | Blue River    |                                                                                     |                 |



## Affected Sewage Sludge Incinerators in Missouri - Kansas City Region



# Affected Sewage Sludge Incinerators in Missouri - St. Louis Region



**Legend**

-  Lemay
-  Bissell Point
-  County Boundary

